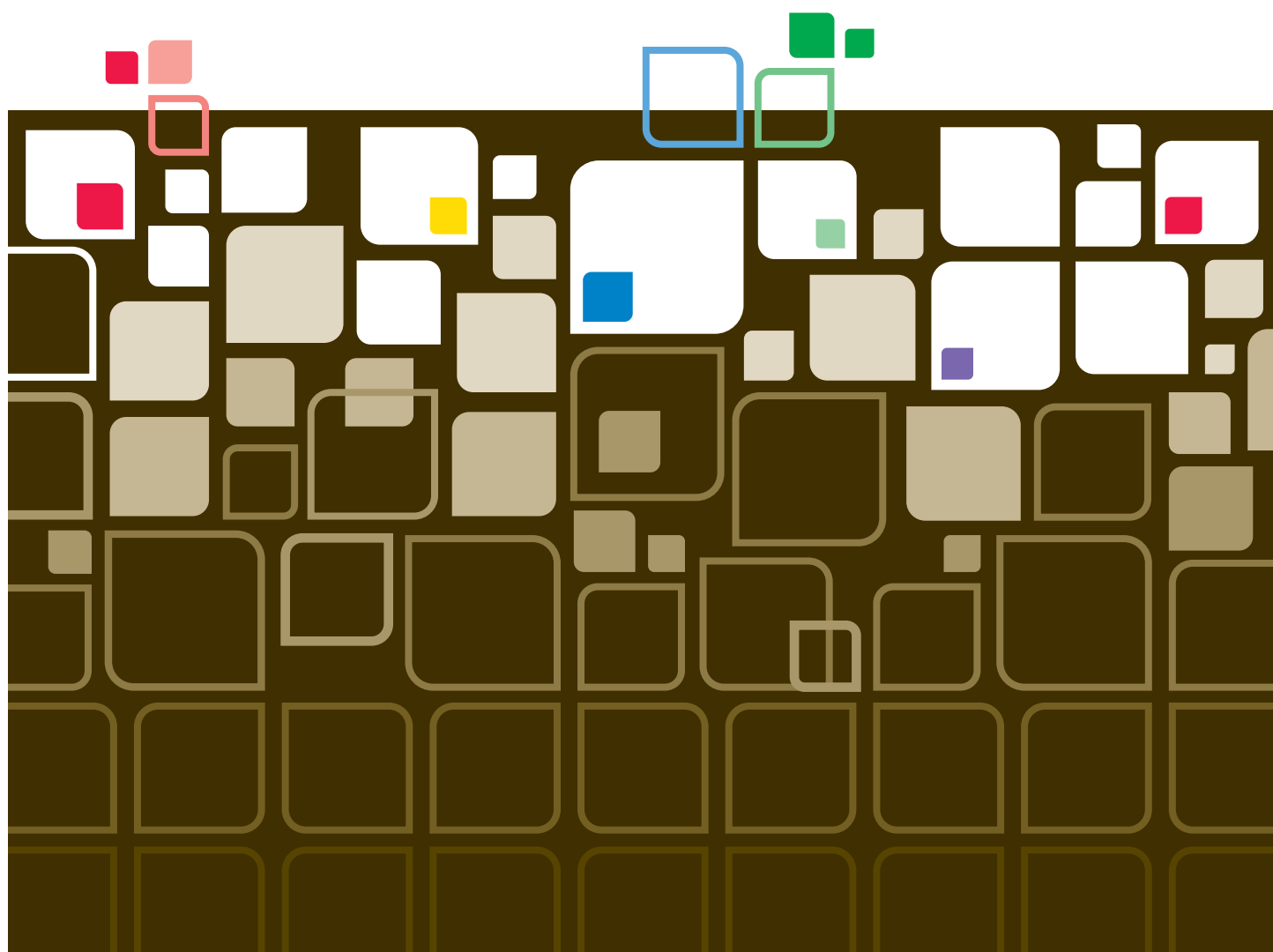


SUSTAINABLE CLEVELAND 2019

Action **AND** Resources Guide

BUILDING AN ECONOMIC ENGINE TO EMPOWER

A GREEN CITY ON A BLUE LAKE



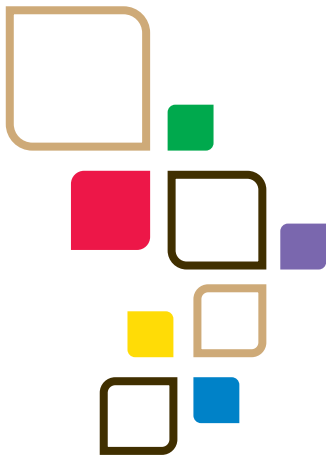


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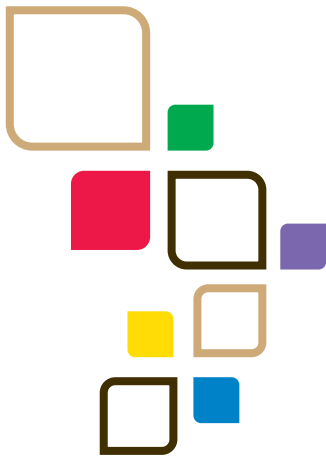


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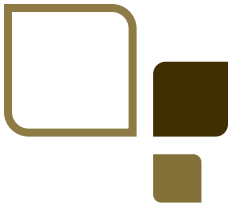
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EXECUTIVE SUMMARY

On June 22, 1969 the eyes of the world turned to Cleveland. That moment of attention triggered a mindshift across the US and around the world. The infamous Cuyahoga River fire did two things – it tragically tarnished Cleveland’s reputation, but more important, it generated the Clean Water Act and mobilized the modern environmental movement.

*“In the middle of difficulty
lies opportunity” – Einstein*

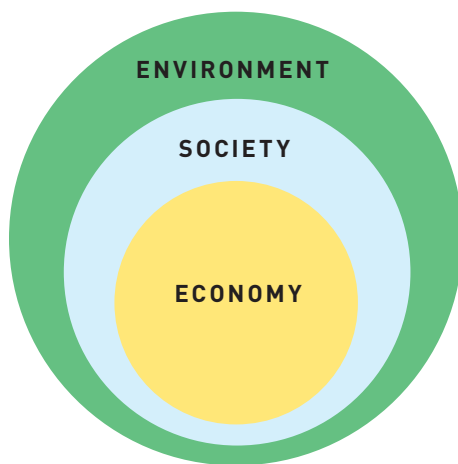
50 years later in 2019 – when the world looks to Cleveland for a sensational retrospective of the fire – like a phoenix reborn from the fire, Cleveland has the opportunity to surprise, amaze, and inspire the world with its transformation to a bright green city on a blue lake.

The ambition of this strategy and action guide is to catalyze action throughout the city. It is a path to transform Cleveland’s economic foundations into healthy fertile soil that will create the conditions for health, wealth, and prosperity for all.

It is dynamic and should change and evolve over time. It is meant to support the many people who are already working with diligence, intelligence, and passion, and it is meant to attract and to invite new voices and new partnerships to the journey. It aims to focus and clarify, and to align and activate.



Sustainability is a process and a way of thinking that helps us make better decisions about how to meet our needs. It helps us consider the long-term implications of our actions. It helps us appreciate the interdependence of a strong economy, a healthy environment, and vibrant society. It helps us develop a more resilient society that can adapt to a dynamic, changing world.



The economy is a subsidiary of the environment and society. Financial transactions and trade take place within the carrying capacity of nature and within the values and institutions created by society.

WHAT IS A SUSTAINABILITY ECONOMY?

A sustainable economy integrates the goals of economic prosperity, environmental health and social vitality. Industrial Era trade-offs between environmental degradation, economic growth and equity are no longer necessary. The social fabric of the community is strong enough that all people can take advantage of changing economic landscapes over time. Businesses are more innovative, efficient, and competitive, nationally and globally.

Sustainable economic development is a lens through which to see new economic opportunity in the challenges we face as a community, as a nation, and as a planet. A sustainable economy serves the greater goal of a high quality of life. It supports good jobs and career pathways, it supports healthy communities, and it supports increasing prosperity over time.

PURPOSE OF THE SC2019 RESOURCE AND ACTION GUIDE

The core purpose of this guide is to support and empower leaders from all walks of life to make tangible progress on matters that are of interest and importance to them. It provides a framework in which conversations and actions can take place in a way that aligns with a greater vision of a sustainable economy.

In essence, it is a road map. A map gives an abstract picture and overview of the landscape, but doesn't capture the actual experience of the journey or the adventures and challenges along the way.

A WAVE OF CHANGES

SC2019 will help define and launch actions that will enable Cleveland to achieve a high performing sustainable economy for all. As the actions proposed are carried out, elected officials, business leaders, and community members will benefit from a wave of incremental change. This wave of small changes in policies and practices will achieve three outcomes fundamental to sustainability:

ECONOMIC PROSPERITY

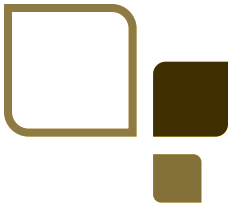
A resilient local economy that builds prosperity over time. *Measured by increased opportunities, above-average employment and household wealth, and reduced income disparities.*

ENVIRONMENTAL HEALTH

A clean and attractive environment that sustains healthy people and a strong economy. *Measured by reductions in per capita energy use, reductions in use of non-renewable resources, improvement in air and water quality, waste reduction, and improved habitat quality for wildlife.*

SOCIAL VITALITY

A diverse and inclusive community where every person has access to the resources and opportunities needed for success. *Measured by reductions in educational and health disparities, increasing levels of safety and community involvement, and the regeneration of the urban core and neighborhood centers.*



PATH TO SC2019

In order to create a bold economic transformation that will be a global inspiration, everyone must work together to restore and regenerate the foundations of the economy.

SC2019 IS A COLLABORATIVE EFFORT THAT AIMS TO:

SUPPORT AND ENHANCE EXISTING PROJECTS AND INITIATIVES

.....
ENGAGE NEW VOICES

.....
IMPLEMENT NEW TRANSFORMATIONAL PROJECTS AND ACTIVITIES

SUSTAINABLE CLEVELAND 2019

SC2019 is a 10 year initiative to catalyze action and to create a vibrant sustainable economy. It aims to support conditions that will grow jobs, improve health, and increase wealth in a way that fosters equity and community, and improves the natural environment. Although Cleveland faces many complex economic, social and environmental challenges, determined people from all walks of life have been working diligently to turn the tide – there is broad momentum toward a creating a sustainable economy.

SC2019 germinated from the Sustainable Cleveland 2019 Summit hosted by Mayor Jackson in August 2009. At this summit, nearly 700 participants launched the SC2019 initiative and they have continued to advance the work and champion the process throughout the past year.

THE PATH TO 2019

1) IMPLEMENT THE SC2019 CELEBRATING PROGRESS ACTION PLAN

Celebrating progress toward Sustainable Cleveland 2019 – a yearly community wide celebration to increase momentum, create new collaborations, and tell the story of Cleveland's transformation

2) ALIGN WITH THE SET OF PRIORITIES AND GOALS IN THE SC2019 STRATEGIC FRAMEWORK

Business, community, and government come together to focus on target outcomes and actions to strengthen our economic foundations

3) UNDERSTAND FORCES THAT ARE SHAPING SUSTAINABLE ECONOMIES AROUND THE WORLD & HERE IN CLEVELAND

Economic, social and environmental context that informs the conversation and inspires proactive & innovative responses

4) USE THE 2019 SUPPORTING STRUCTURES & TOOL KIT

Stewardship Structure, Measuring Progress Framework, Initiative Design Framework

5) TAKE ACTION IN A WAY THAT IS UNIQUELY YOUR OWN

SC2019 actively encourages the creative chaos and experimentation that is the hallmark of American freedom and our entrepreneurial spirit.

“In order for us to create a sustainable, green economy, it has to be an integral part of what we do every day. It has to be what we do as a community. How we plan, how we invest, how we make money, how we spend money.”

– Mayor Frank Jackson

A sustainable economy helps people to save money, make money, and invest money in ways that create long term value and a high quality of life.

AT EVERY POINT ALONG THE JOURNEY, CLEVELANDERS MUST STOP AND ASK:

How does sc2019 relate to the things I care about?

How does this make my life better? What can I do to be involved?

WHAT HAS LED CLEVELAND TO THIS GUIDE?

In August 2009, Mayor Frank Jackson convened the Sustainable Cleveland 2019 Summit to bring together hundreds of people interested in applying the principles of sustainability to the design of the local economy. The Summit generated tremendous enthusiasm. It inspired hundreds of ideas in areas such as advanced energy, green building, local food, water, transportation, sustainable business, vacant land re-utilization, and more.

Groups of active community leaders and business leaders have been working toward creating a sustainable economy within sustainability networks, communities of practice, summit Working Groups, and within individual businesses and homes.

This Action Guide was commissioned to provide an alignment point, a support, and a stronger conceptual framework for the ideas generated by the Summit, many of which are already being put into action by existing businesses, organizations, government bodies, and volunteers.

Additionally, there are already many great economic development plans in the Cleveland Area that have embedded the principles of sustainable economic development. The SC2019 Action Guide is aligned with these plans, and is not meant to replace or to change them, but rather to provide another arrow in the quiver and a point of connection. The SC2019 Initiative will be a hub of information about all activities that are accelerating Cleveland’s economic transformation.

Cleveland has reached a tipping point and is ready to implement a type of economic development that has the principles of sustainability woven into the fabric of our actions.

HOW TO READ THIS GUIDE:

This action guide is intended to be a framework for guiding future action in a changing world. ***It offers an approach for applying the principles of sustainability to find economic opportunities.***

While this general approach will remain consistent in the future, the lists of specific goals and initiatives in the following pages are just a snapshot of the kinds of actions that make sense today and they are illustrations of the current possibilities. Recommendations and promising practices will change as conditions change — in fact, they *must* change if we are to have an adaptive, resilient economy.

This plan is a dynamic work in progress. It should be updated continually between now and 2019.

PURPOSE AND MANDATE OF THE PROJECT

The priority for this guide is to create an overall structure to align and guide SC2019 activities. It defines a clear path for moving forward as SC2019 deepens its organizational capacity and moves toward formal implementation.

The Action Guide creates a language that helps support, accelerate, and align strategies that are already being implemented with intelligence and diligence and to inspire new activities. It provides a framework for more focused stakeholder engagement and the development of detailed strategies as a key next step

The Sc2019 Action Guide engages the fundamental questions: How is sustainable economic development different than traditional economic development? How can we re-frame the foundations of the economy in a way that truly integrates sustainability? What role does the local economy play? How do quality of place and vibrant neighborhoods play a role? What are the key forces at play and how do they create both opportunities and risks for Cleveland? How can both a structured approach and a “creative chaos” approach to transformation be harmonized and harnessed?

- PURPOSE** To offer a transformational path toward a new economic future – a guide for action and tools to accelerate momentum
- QUALITIES** Dynamic and evolving over time. Accessible to all stakeholders.
- MANDATE** To create a resource and action guide that will support Cleveland as it moves toward a more sustainable economy. Community Leaders, Government Leaders, and Business Leaders, and Households can use this guide to independently align with SC2019 goals and priorities.

METHODOLOGY

SYNTHESIZE

The Action Guide synthesizes information from 17 different economic development reports from Cleveland. It includes initiatives and policy recommendations from past reports, Summit Working Groups, City government, and business leaders.

LISTEN

In the process of defining the priorities and context for SC2019, over 100 stakeholder interviews were conducted. Survey data was collected from city departments, from the business community, and from the broader Cleveland community.

BUILD

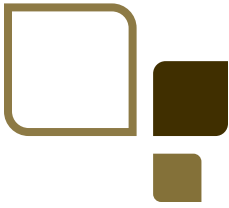
The Action Guide builds on existing activities and momentum in Cleveland.

BRING PERSPECTIVE

The Action Guide is informed by professionals with extensive global experience in hands-on regional economic development. Local and national experts in sustainability, creative cities, local economies, and economic development were engaged to create an innovative model and framework tailored specifically to Cleveland.

RESEARCH

The Action Guide is further informed by sustainability and sustainable economic development plans from cities across the United States and promising practices from around the world.



VISION – MISSION – VALUES

*“A good wind blows in
favor of a ship with a
clear direction”*

VISION

the star that guides you

MISSION

the boat that takes you on your journey

VALUES

how you will behave along the way

VISION

Cleveland will surprise, amaze, and inspire the world with its transformation to a bright green city on a blue lake.

Determined people from every walk of life will work together to shape vibrant livable communities, innovative businesses, and a flourishing natural environment that will result in health, wealth, creativity, and economic opportunities for all.

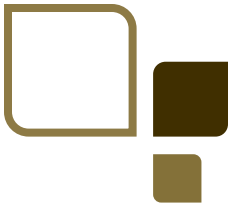
MISSION

Sustainable Cleveland 2019 is a 10-year initiative that engages everyone to work together to design and develop a thriving and resilient Cleveland region that leverages its wealth of assets to build economic, social, and environmental well-being for all.

It supports and aligns efforts that are already being championed with intelligence and passion throughout the region and it activates new efforts and new leadership along the way.

VALUES

- Dynamic and cumulative
- Combines a sense of urgency for action with positivity and kindness
- Inclusive, accessible, and welcoming
- Encourages persistence, determination, courage, and boldness
- Promotes creativity, innovation, and execution



CONTEXT FOR ACTION: THE SUSTAINABILITY IMPERATIVE

THE CONVERGENCE IS DUE TO THE IMPACT OF THREE FORCES:

Markets—rising energy and associated resource costs and consumer demand for safe and healthy products

Policy—increasing probability of climate change intervention (carbon taxes) and environmental regulation (energy standards, emissions control and chemical content disclosure requirements)

Community—pressure to minimize environmental impacts of water, air and soil on health and family

Sustainable Cleveland is about achieving an ongoing flow of incremental improvements that will become waves of positive change.

CONVERGENCE

There is a “convergence” taking place globally that Cleveland must recognize and take advantage of locally.

Economic, Environmental, and Social challenges are no longer understood separately; around the world there is a rapidly accelerating focus on achieving a high-performance economy through careful attention to all three arenas. In order to be competitive in the future global economy, economic development must take place at the point of overlap – **this convergence point is the heart of sustainability.**

This sustainability convergence is causing regions to look for their own “triple bottom-line” outcomes: prosperity, environmental sustainability, and equity. These outcomes are how public officials, community, and business leaders are increasingly measuring “success.”

Achieving the outcomes which will shape a sustainable Cleveland involves rethinking and strengthening how the region wrestles with challenges in four key areas: The Personal and Social Environment, the Natural Environment, the Built Environment, and the Business Environment.

PERSONAL &
SOCIAL
ENVIRONMENT

NATURAL
ENVIRONMENT

BUILT
ENVIRONMENT

BUSINESS
ENVIRONMENT

These four areas can be understood at the foundations of a sustainable economy and they are basis for the SC2019 Strategic Framework.

SOCIAL & PERSONAL ENVIRONMENT

How our community creates, adapts to and benefits from the challenges of a sustainable economy

NATURAL ENVIRONMENT

How we restore and harness our natural capital, from brownfields to waste and renewable energy, through leveraging their economic and social value in new ways

BUILT ENVIRONMENT

How our neighborhoods, institutions, industries, and city infrastructures successfully integrate sustainability into their built environments

BUSINESS ENVIRONMENT

How our region’s economic engines adapt to market changes while “greening” their supply-chain and accelerating innovation in clean technologies.

DYNAMICS:

1) SUSTAINABILITY IS A TRANSFORMATION, NOT A TREND

2) THE GLOBAL MARKET IS IN A VOLATILE AND INNOVATIVE PERIOD

3) NEW INNOVATION & ECONOMIC GROWTH WILL COME FROM SUSTAINABILITY SOLUTIONS

DYNAMICS INFORMING THE ECONOMIC SUSTAINABILITY IMPERATIVE

Sc2019's proactive response to the sustainability imperative considers the following dynamics...

1) SUSTAINABILITY IS A TRANSFORMATION, NOT A TREND:

Focus on Reinforcing the Foundations: Cleveland must shore-up and transform the foundations of the economy in a way that creates economic value in the short term and sets the stage for long term resilience and growth.

Whole Systems Accounting: A sustainable economy will take into account full costs and impacts of economic activities, as well as multiple positive benefits.

Mindshift: "Culture eats strategy for breakfast." Culture is a key challenge in accelerating change. Without a culture change that embraces sustainability, inertia will trump the best laid strategies and business will continue as usual – which is not good for Cleveland's economy.

Trends, Risks, Leakages, and Opportunities: In order to be competitive in the new economy, leaders must be aware of and constantly evaluate market and regulatory trends and risks, assess where there are the greatest wealth and resource leakages in the community, and look for opportunities to save money, make money, and invest money.

2. THE GLOBAL MARKET IS IN A VOLATILE AND INNOVATIVE PERIOD:

Resilience: A sustainable economy is not built around a few large industries, but is made up of more industries in multiple sectors.

No Silver Bullet: Demand is growing for products and services that respond to sustainability challenges and opportunities. In addition to investing in specific industries, Cleveland must also prepare the foundations of its economy in order to be competitive within a global market that is still taking shape.

Local Demand is a Driver: A strategic focus on certain facets of the local economy that can improve Cleveland's ability to compete in the global economy.

3. NEW INNOVATION & ECONOMIC GROWTH FROM SUSTAINABILITY SOLUTIONS:

Support entrepreneurs: Growth will come from entrepreneurs who provide solutions to environmental & social challenges.

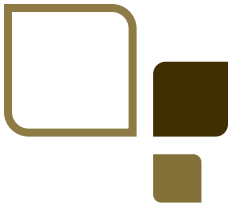
Transition: Businesses must transition to sustainable production methods, practices, and products.

Attract new businesses: A focus on fostering a high quality of life and an environment that supports innovation will attract new businesses to locate in Cleveland.

Increase diversity and inclusion: Diversity and inclusion are essential to increasing innovation and accelerating economic growth.

"There is a simple rule about the environment. If there is waste or pollution, someone along the line pays for it"

– Lee Scott, Chief Executive, Wal-Mart
(October 2005)



ACTION PLAN: CELEBRATING PROGRESS

START WITH ACTION & CELEBRATION

Theory and strategy come alive in the SC2019 Action Plan: Celebrating Progress.

Every year leading up to 2019, Cleveland will focus on one of the key areas fundamental to a sustainable economy. The SC2019 *Celebration Points* are designed to be accessible to all members of the community – households, neighborhoods, businesses, and institutions can all participate, either in collaboration or independently.

CELEBRATION POINTS:

2011 – ENERGY EFFICIENCY

2012 – LOCAL FOODS

2013 – RENEWABLE RESOURCES &
ADVANCED ENERGY

2014 – ZERO WASTE

2015 – CLEAN WATER

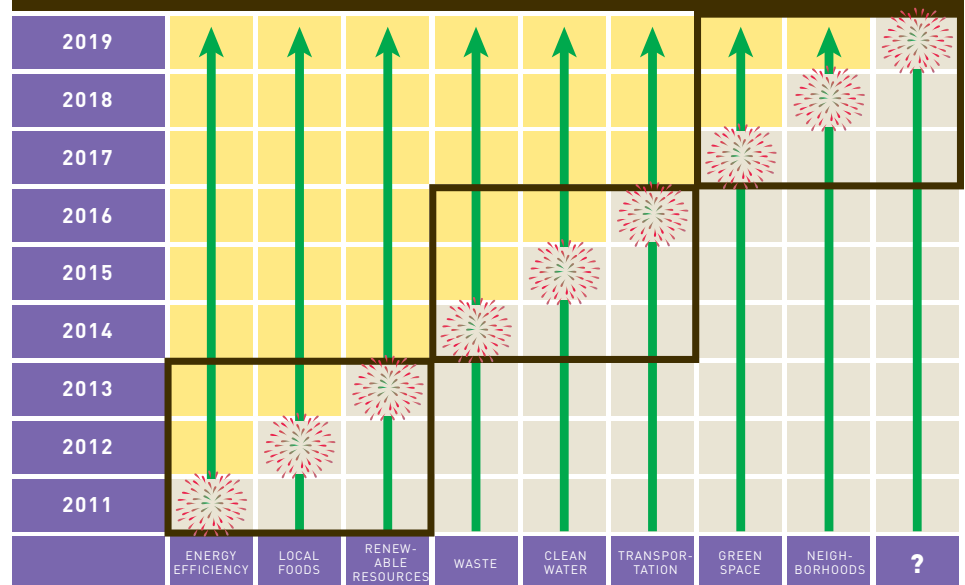
2016 – SUSTAINABLE MOBILITY

2017 – CLEAN GREEN SPACES

2018 – VITAL NEIGHBORHOODS

2019 – TBA

EMBEDDED ACTION : CELEBRATING PROGRESS TOWARD A SUSTAINABLE ECONOMY



Note: This plan is flexible! Every three years, the order will be re-set by the SC2019 Stewardship Council. The final year has been deliberately left open in order to leave room for unexpected events and emerging opportunities.

CELEBRATING PROGRESS...

HOW DOES CELEBRATING PROGRESS RELATE TO JOBS?

Celebration points focus on opportunities for economic growth - each area has the potential to:

- Create direct employment opportunities
- Foster a high quality of life that will attract new businesses and retain talent
- Stop wealth and resource outflows
- Facilitate innovation and a mindset shift that will be necessary to succeed in the new economy.
-

CELEBRATION YEARS ARE NOT A BEGINNING OR AN END...

Each Celebration Point is not an end or a beginning to the work - in order for real transformation to take place, all of the areas outlined will need a consistent focus over a long period of time.

Activities and initiatives will not start or stop during a particular year, but during each “year of” there will an emphasis on making as much progress as possible on the chosen issue. A concentrated focus will create an inspiring a sense of excitement and urgency.

CELEBRATION POINTS ARE ORDERED BASED ON...

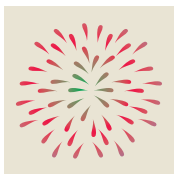
- Skills progression
- Alignment with city initiatives and existing community celebrations
- Alignment with community momentum
-

WHY CELEBRATING PROGRESS?

- Motivate action and accountability
- Align for collective impact & collaboration
- Create new connections for accelerating momentum
- Raise awareness and provide a platform for telling the stories of Cleveland’s transformation
- Provide a way for everyone to participate – with first steps or with bold actions.
- Have fun! Celebrations are key to community cohesion, to expressing and sharing unique qualities of place, and to accelerating culture shift.
-

SUMMARY OF FIRST THREE YEARS:

The following pages give an overview of the first three years of Celebrating Progress - Energy Efficiency, Local Foods, Renewable Resources and Advanced Energy. Each overview gives a brief summary of the topic organized around economic opportunities for the City, for businesses, and for the community. Also included are examples of current available funding at the national, state, and local levels, examples of current initiatives, and examples of current momentum in the Cleveland area.



CELEBRATION POINT

ENERGY EFFICIENCY (YEAR 1 - 2011)

Energy efficiency can be defined as simply “using less energy to provide the same level of energy service.” While Americans use on average more energy than any other country in the world besides China¹, the need to improve energy efficiency is not simply an environmental issue, but also an enabling factor and basic premise of a competitive and sustainable economy.

Energy efficiency offers a two-fold opportunity for Cleveland’s economy. First, **new business opportunities for Cleveland are born out of the need for an environmentally sustainable economy**, allowing Cleveland both to retain jobs and create new employment opportunities in traditional sectors such as construction, building and manufacturing. Second, energy efficiency can decrease input and operating costs for the City and Cleveland businesses, while allowing individuals to reduce their expenditures on a household level. This provides an opportunity to increase businesses’ profit margin, free up money for reducing deficit while retaining the government’s public spending allowance, and increase wealth in Cleveland communities.

¹ International Energy Agency, July 2010, <http://www.iea.org/>

While employment in construction in Ohio has declined by nearly 15% between 2000 and 2008, both regional and national statistics demonstrate a clear trend toward a growing job market in the energy-efficient construction sector, one that includes Green Building, Weatherization and Retro-fitting. Relative to conventional construction, green building has

the potential to create 3-4 more jobs indirectly or directly for every million spent. Similarly, the National Association of Home Builders suggests that energy efficient retrofit jobs of a certain capacity could generate three times more jobs than traditional residential remodeling². There are

currently more than a quarter of a million homes in Cuyahoga county that could benefit from weatherization and energy improvements, which would **both, respond to the local demand as well as provide local jobs that cannot be outsourced** reducing energy use by 25-50%.

² www.sahfnet.org/index_23_1_1.pdf

BUSINESSES AND CITIES

Not only does energy efficiency create new business opportunities and employment, it can help to reduce input and operating costs for local businesses thereby improving productivity and profit margin. Rising prices in oil and other fossil fuel markets in the last decade coupled with a growing global energy demand has led to increases of energy costs for businesses by an average of 60-70% since 2000.¹ For the most energy intensive companies, energy costs more than tripled and the U.S. Department of Energy's 2009 Annual Energy Outlook projects a 2014 price of about \$104/barrel, almost 5 times higher forecast than in the 2006 Annual Energy Outlook.² Energy efficient solutions hence allow for significant long-term energy costs reductions for businesses but also for cities, providing more opportunity for local public spending on other enabling conditions for a competitive economy, for example, infrastructure, education or green space.

COMMUNITIES

The same principal applies on a household level. As individual homes reduce their energy consumption either through a change in behavior and/or a more energy efficient living space, the impact on wealth and on poverty alleviation is substantial. While an average household in U.S. spends 5% of its income on energy bills, the average low-income household spends between 15% and 35%.³ Home weatherization can lead

to a drop in energy spending in case of average low-income households by 5-14%. Energy efficiency on a household level is extremely relevant within the Cleveland context, as the city has relatively old housing stock and a cold climate for achieving energy savings for low-income people by applying building retrofits, such as replacing windows or upgrading insulation. Homeowners and renters could save up to 4% of their income by investing in retrofits,⁴ increasing wealth and money that can be spent locally and contributing to a more resilient and prosperous economy for Cleveland.

EXAMPLES OF AVAILABLE FUNDING AT FEDERAL/STATE LEVEL

AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

The U.S. Department of Housing and Urban Development (HUD) and the Department of Energy (DOE) announced a partnership intended to streamline the assistance program for families to weatherize their homes. HUD and DOE will allocate \$16 billion in economic recovery funds to retrofit existing homes. HUD's programs include \$4.5 billion to renovate and upgrade public and Native American housing, as well as \$250 million for energy retrofits of privately owned federally assisted housing. DOE will invest \$5 billion in weatherization funds; \$3.2 billion for a new Energy and Environment Block Grant that cities and states can use to retrofit homes; \$3.1 for the State Energy Program; and other programs.⁵

The State Energy Program will enable Ohio to stimulate the creation and retention of jobs, save energy, increase energy generation from renewable energy, and reduce greenhouse gas emissions. The program is a collaboration between the Ohio Department of Development and the Ohio Air Quality Development Authority with input from additional state agencies. The total level of State Energy Program funding allocated to Ohio is \$96,083,000.⁶

The Energy Efficiency and Conservation Block Grant program is one of several energy-related programs receiving funding through American Recovery and Reinvestment Act. A total of \$84,183,300 is available to Ohio, which includes \$59,203,700 that was made available through direct allocation from the federal government to the 10 largest counties and to the 33 largest cities.⁷

ENERGY INNOVATION HUBS: ENERGY EFFICIENT BUILDING SYSTEMS REGIONAL INNOVATION CLUSTER INITIATIVE

a multi-agency funding opportunity to support an Energy Regional Innovation Cluster.⁸

1 Pew Center on Global Climate Change, From Shop Floor to Top Floor: Best Business Practices in Energy Efficiency, April 2010, http://www.pewclimate.org/docUploads/PEW_EnergyEfficiency_FullReport.pdf

2 Id.

3 Unlocking Energy Efficiency in the US Economy", McKinsey Global Energy and Materials, p. 32, July 2009, http://www.mckinsey.com/clientservice/electricpower/naturalgas/downloads/US_energy_efficiency_full_report.pdf

4 Cleveland, Ohio, Green Prosperity and Poverty Reduction", Political Economy Research Institute, University of Massachusetts, Amherst, June 2009, http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/green_prosperity/Cleveland_Green_Proprosity.pdf

5 http://portal.hud.gov/portal/page/portal/RECOVERY/transparency_resources/HUD-DOE%20Weatherization%20

Fact%20Sheet.pdf

6 http://www.development.ohio.gov/recovery/energy/fundingopportunities.htm#Energy_Efficiency_

7 Id.

8 <http://www.energy.gov/hubs/eric.htm>

CITY INITIATIVES

SHAKER HEIGHTS – GREEN ENERGY PROGRAM

grants toward energy efficiency work in homes.

THE CITY OF CLEVELAND – LED (LIGHT EMITTING DIODE) LIGHTING INITIATIVE⁹

This initiative is an effort to change out our lighting including streetlights, traffic lights, and indoor incandescent and fluorescent lighting replacements. The effort uses the City's purchasing power to create jobs, attract business investment, save the city money, reduce the City's energy consumption, reduce the City's carbon footprint and spur the creation of a sustainable economy in Cleveland.

GREATER CLEVELAND ENERGY ALLIANCE

This proposal is currently being developed and studied as part of a study being conducted by Clean Energy Solutions. It is to develop an energy conservation program for the private sector that allows for energy efficiency improvements at no up-front capital costs for people participating in the program.

ENERGY EFFICIENCY AND ADVANCED ENERGY SPECIAL IMPROVEMENT DISTRICTS

The City and the First Suburbs Consortium recently won the Efficient Gov.org challenge to create Special Improvement Districts for Advanced Energy and Efficiency programs. The City is seeking to develop a special improvement district that allows for the voluntary property assessment for energy and energy efficiency improvements. This is an important

program to pursue to help bring energy efficiency retrofits to scale along with solar and other advanced energy applications for private property owners.

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

STATE POLICY

Prompted by the supportive state policy of SB 221 enacted by the Ohio General Assembly in 2008, investor-owned utilities in Ohio are investing in energy efficiency to obtain a portion of their power. This could lead to innovative projects between utilities and community groups to help people save energy in their homes.

Green building — The Northeast Ohio Chapter of the U.S. Green Building Council is educating the region's building and design industries about the benefits of high-performance buildings. The City of Cleveland is phasing in tougher energy requirements for projects receiving city funding.

RETROFITS AND CODES

The Sustainable Cleveland 2019 Green Building Work Group is promoting an aggressive program of building retrofits to save energy and create jobs, as well as new building codes with tougher energy requirements.

DEEPER RETROFITS

Environmental Health Watch's Green and Affordable Housing Program is piloting "deep energy retrofits," which can turn ordinary homes into near zero-energy homes.

ENGINE TECHNOLOGY

Ford is manufacturing some of its most efficient engines in Northeast Ohio.

LIGHTING TECHNOLOGY

Northeast Ohio is a center of advanced lighting research with companies such as GE and TCP.

DONATIONS FOR CARBON REDUCTION

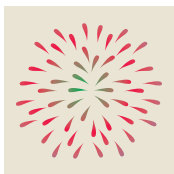
The Cleveland Carbon Fund accepts donations and invests in projects, such as light bulb replacement efforts, that reduce carbon emissions while creating jobs in Cleveland neighborhoods.

ENERGY EFFICIENCY TECHNOLOGIES

Companies such as Ford, Eaton Parker Hannifin and others are developing technologies that are creating some of the most efficiency engine technologies available



⁹ http://www.city.cleveland.oh.us/clnd_images/PDF/Mayor/LED_Initiative.pdf



CELEBRATION POINT

LOCAL FOOD (YEAR 2 - 2012)

Local food is defined as the “production, process, distribution and consumption of food within a specific region, often defined as 100 miles from farm to fork.” A focus on local food is not only essential for a sustainable economy in Cleveland due to its environmental benefits, but is also an important economic driver. While a focus on local foods can lead to a significant improvement in air and soil quality and a reduction of the city’s carbon footprint, it also represents an economic sector whose resilience can significantly increase local wealth, create new jobs that cannot be outsourced and provide diverse business opportunities for value-added product and services that are imperative for the city’s competitive economic future.

CITY

The local food sector rests at the very foundation of a competitive self-help economy and is grounded in a large local market and strong local supply capacity. At present, the local demand for food is satisfied through imports from other states and only 5% of food is supplied from locally grown and produced products.¹ The remaining 95% spent on food outside of the community represents a significant leakage of resources and revenue, as it leaves the economy and is not circulated back into the local economy. Local spending also has a very high multiplier effect. According to a study by the New Economics Foundation in

London, a dollar retained and spent in the local economy has the potential to generate twice as much revenue within the local economy, increasing income for local businesses and city revenue that has steadily declined due to a decreasing population.² On the whole, Ohioans devote 11% of total consumer spending to food. Following the findings of Ohio Department of Agriculture, localizing only 10% of consumer spending could result in an additional \$10 billion per year in the state economy, based on conservative economic multipliers.³

² “10 Reasons to Eat Local” http://fogcity.blogs.com/jen/2005/08/10_reasons_to_e.html

³ Economic Analysis of an Ohio County Local Food System Offers Blueprint for Nation, November 2009, http://www.extension.org/pages/Economic_Analysis_of_an_Ohio_County_Local_Food_System_Offers_Blueprint_for_Nation

The local food sector provides a concrete opportunity to increase local jobs that cannot be outsourced. The Northeast Ohio Local Food Assessment plan cites high potential for Cleveland’s surrounding areas, demonstrating that 25% food localization would provide 10,000 new jobs, produce \$346 million in earnings, and create \$1.4 billion in output. Employment opportunities include, but are not limited to, food production, farming services, food distribution, food manufacturing, meat processing, and food tourism, as well as entrepreneurial opportunities for organic, value added products that can enter into – and command a high price – on a national market.

¹ Id.

BUSINESSES AND COMMUNITY

In addition to presenting new business and employment opportunities, a focus on local foods leads to positive economic externalities, which underpin and sustain a competitive and prosperous economy. Improving community health and wellness will reduce costs for employers in the private and public sector, as they provide health insurance for employees and cover health related costs for Cleveland residents. According to the U.S. Chamber of Commerce, at 12%, healthcare is the most expensive benefit paid by U.S. employers.¹ Healthy employees lead to both higher productivity, less sick days and lower labor costs for the public and private sector in Cleveland.

Another important positive externality resulting from a focus on local food is the consequent increase in urban gardens and agriculture, which not only improve air quality and reduce green house gas emissions, but also provide more green space and immediate access to nature, two essential principles to a higher quality of place, an essential factor in establishing a competitive and prosperous economy and a “driver of prosperity” in the emerging economy

EXAMPLES OF AVAILABLE FUNDING AT A FEDERAL LEVEL

THE COMMUNITY FOOD PROJECTS COMPETITIVE GRANTS PROGRAM

by the Department of Agriculture, National Institute of Food and Agriculture is designed to increase food security in communities by

bringing the whole food system together to assess strengths, establish linkages, and create systems that improve the self-reliance of community members over their food needs. \$4.8 million were set aside for 2010.

USDA GRANTS FOR LOCAL AND REGIONAL FOOD SYSTEMS¹⁶²

designed to develop food systems that are economically, environmentally, and socially sustainable

CITY INITIATIVES

CITY'S LOCAL AND SUSTAINABLE PURCHASING ORDINANCE

The City's Ordinance promotes the purchasing of local and sustainably produced products, goods and services. For example, the city offers a 5% discount to local food businesses bidding for city contracts aimed at local businesses certified Local Sustainable Business.³

CLEVELAND-CUYAHOGA COUNTY FOOD POLICY COALITION

The coalition is developing working groups on Community Food Assessment, School Nutrition, Land Use and Planning, Institutional Purchasing, Food Waste Recovery, and Rural/Urban Interface with the goal to develop a more equitable, healthy, and sustainable food system.⁴

INSTITUTIONAL SUPPORT OF THE LOCAL FOOD MOVEMENT through developing policies supporting local food production, expanding access to local produce through community

gardens, greenhouses and local farmer's markets throughout the City of Cleveland and the region.

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

IN 2008 SUSTAINLANE RANKED CLEVELAND AS THE SECOND BEST CITY IN THE NATION FOR ITS LOCAL FOODS/AGRICULTURE MOVEMENT.

LOCAL FOOD CLEVELAND NETWORK⁵

EXAMPLES OF THE LOCAL FOOD MOVEMENT ARE SEEN THROUGHOUT THIS ACTION GUIDE

(see local food case study in chapter 4, Strategic Framework: Restore & Regenerate Priority Area, Chapter 2)



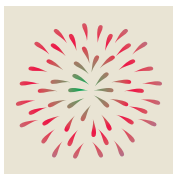
¹ Council on Foreign relations, http://www.cfr.org/publication/13325/healthcare_costs_and_us_competitiveness.html

² <http://sustainableagriculture.net/wp-content/uploads/2010/06/6.18-FINAL-Food-System-Funding-Guide2.pdf>

³ <http://www.gcbl.org/blog/marc-lefkowitz/cleveland-adopts-local-food-incentives>

⁴ <http://www.gcbl.org/food/regional-agenda/cleveland-cuyahoga-county-food-policy-coalition>

⁵ <http://www.localfoodcleveland.org>



CELEBRATION POINT

RENEWABLE RESOURCES AND ADVANCED ENERGY (YEAR 3 - 2013)

RENEWABLE AND ADVANCED ENERGY

Energy use and production is one of the largest sources of carbon emissions in the U.S., as well as one of the most costly inputs for businesses and highest expenses for American households. Ohio's extremely high carbon footprint due to its history of heavy manufacturing – the fourth highest in the country – is paired with a high level of dependence on regional coal and foreign fossil fuel production. The state currently sends \$1.7 billion each year to other states to purchase coal as an energy input for power plants, largely from Michigan, Iowa and Indiana, while the rising price of oil puts Ohio in a vulnerable position and undermines productivity and competitiveness amongst local industry.

A continued focus on traditional, non-renewable energy sources not only ensures high economic and environmental costs for Cleveland, it also represents a missed opportunity for innovation, economic growth, and renewed competitiveness. Advanced sources of energy – wind, solar, biomass and fuel cells – leverage Cleveland's competitive advantage in manufacturing and respond to the strong local demand, a perfect context in which to develop new business and employment opportunities, as well as cut costs, enhance sector productivity and increase community wealth.

Advanced energy represents a quickly emerging industry and grew more

than three times as fast as the overall economy between 2006 and 2007. Substantial job growth for Cleveland can result from a focus on renewable energy, as renewable energy creates four times as many jobs per megawatt of installed capacity as natural gas and creates 40% more jobs per dollar invested than coal-fired plants.¹ Ohio's Department of Development estimates that there are already over 60,000 specialized workers supporting the state's advanced energy industries, in wind, solar, biomass and fuel cell development. Recognizing these

opportunities, Ohio has made first strides toward expanding advanced energy use in the state and passed a law that requires electric utilities to obtain at least 25% of their power requirements by 2025 from advanced energy and energy efficiency sources. Half of this requirement must be renewable energies. The Renewable Energy Policy Project has estimated that a federal renewable energy portfolio standard mandating a 25% reduction in CO₂ by 2025, would create 51,269 wind, solar, geothermal, and biomass manufacturing jobs in Ohio. Securing 30% of that opportunity would result in more than 15,000 new jobs in Northeast Ohio (Pre – Summit Briefing, pp.32).

¹ "New Energy America", 2004 Apollo Alliance Report, p. 10. http://www.apolloalliance.org/downloads/resources_ApolloReport_022404_122748.pdf

WIND

Wind power has captured the imagination of many Clevelanders and a large wind turbine gracefully generates electricity near the Cleveland Browns Stadium and Lake Erie.

This economic sector has already produced more than 220 businesses and research institutions which are involved in Ohio's wind energy supply chain, and more than 1,000 companies have been identified as eligible to transition into manufacturing components for the wind energy supply chain. Cleveland's unique position as a potential pioneer in offshore wind technology could thrust it into the national or global market, as the city and industry garner expertise and develop technology that can be used to produce offshore wind turbines to withstand harsh Midwestern winters and Lake Erie's frozen surface.

SOLAR

Despite Cleveland's overcast and long winters, solar represents another possible economic driver and there are currently more than 115 businesses and research institutions involved in the solar energy supply chain in Ohio, many of which are located in Cleveland (e.g. Ohio Cooperative Solar, Repower Solutions, Cleveland Solar and Wind etc). Solar innovation harnesses institutional knowledge that stems from a historic manufacturing sector and represents a growth opportunity that responds directly to rapidly growing national demand. The solar photovoltaic's is projected to grow from a \$29.6 billion industry in 2008 to \$80.6 billion by 2018, a prediction premised on that fact that for the past 15 years, the industry has experienced annual growth rates of 30 to 40%. Among the renewable energy technologies, solar photovoltaic

systems (PV) create the most jobs per unit of electricity output and are believed to generate almost eight times as many job-years/GWh as natural gas or coal.¹

As far as benefits of solar energy for households regards, real life cases demonstrate that there is a high potential of money savings. Although different solar technologies as well as their size, location or amount of sunlight entail different benefits, household solar technologies have proven their ability to cut hot water bills by 50% or generate 70% of annual electricity costs.²

BIOMASS AND FUEL CELLS

Energy derived from biomass and the production of fuel cells represents another opportunity for innovation amongst existent Cleveland businesses and new entrepreneurial activity. There are currently more than 60 businesses and research institutions in Ohio that are involved in the biomass industry and over 1,300 wood manufacturing companies in Ohio produce residues that are capable of being converted into biomass energy. Fuel cell technology represents a similarly exciting opportunity for Cleveland and Ohio is cited as among the top 10 states in battery technology, fuel cell technology patents. There are currently more than 115 businesses and research institutions in the state are involved in the fuel cell industry. Ohio's Third Frontier Fuel Cell Program has resulted in the creation or retention of 295 jobs with an average

salary of \$61,651. They also report a leverage ratio of 4.5, meaning that for every dollar spent the state attains \$4.50 in benefits.³ On a national level there is large growth potential for the production of fuel cells, particularly in the areas of heating, ventilation, and air-conditioning (Automotive Electric power generation).

Cleveland is positioned to enter as a highly competitive and productive supplier or part of the supply chain within the Advanced Energy sector, which can also lead to lower energy input costs for Cleveland businesses and households. According to a Deloitte survey, 80% of survey respondents reported that energy costs are a problem for their business' competitiveness while households spend between 5-15% of their income on energy. Lower cost advanced energy produced in Cleveland could lower operating costs for businesses and prevent wealth leakage within communities, helping to alleviate poverty and strengthen the fabric of resilience at the very foundation of a competitive and sustainable economy.

1 Wei, M; Patadia, S.; Kammen, D. (2010), "Putting Renewables and Energy Efficiency to Work: How Many Jobs Can the Clean Energy Industry Generate in the U.S.?" Energy Policy, volume 38, p. 919-931. <http://rael.berkeley.edu/greenjobs>.

2 Costs and Savings of Domestic Solar Energy Systems: Some Facts, May 2010, <http://energy-conservation.suite101.com/article.cfm/costs-and-savings-of-domestic-solar-energy-systems-some-facts>

3 <http://www.fuelcells.org/stateintro.pdf>

EXAMPLES OF AVAILABLE FUNDING AT FEDERAL LEVEL

U.S. DEPARTMENT OF ENERGY

Energy Innovation Hubs⁴

U.S. DEPARTMENT OF TREASURY RENEWABLE ENERGY GRANTS

Granted under the American Recovery and Reinvestment Act and cover up to 30% of the costs for solar, fuel cells, small wind turbines, geothermal heat pumps, microturbines, combined heat and power projects undertaken by tax-paying entities.⁵

FEDERAL ACCELERATED DEPRECIATION, RESIDENTIAL FEDERAL TAX CREDIT

and other tax incentives.⁶

EXAMPLES OF AVAILABLE FUNDING ON A STATE LEVEL

STATE ENERGY PROGRAM⁷

ADVANCED ENERGY FUND

The Ohio Department of Development's Energy Resources Division administers the Advanced Energy Fund, which has so far made more than \$41.9 million in investment in nearly 400 advanced energy projects.⁸ Another funding opportunity administered by the state is the Ohio Bipartisan Job Stimulus Package – Advanced Energy Component approved in June 2008

(\$150 million) for increasing the development, production, and use of advanced energy technologies in the state.⁹

CITY INITIATIVES

GREEN TECHNOLOGIES BUSINESS GRANT PROGRAM¹⁰

This program is designed to attract and cultivate 'GreenTech' businesses. The grants are targeted toward companies with proprietary technologies who have strong growth indicators and can meet the unique needs of the energy, transportation and electronic industries. Eligible applicants include alternative energy companies, green building product manufacturers, recycled product manufacturers, renewable fuels producers, and others. Approved companies will receive up to \$50,000 per year for three years. The program is available to new and existing green technology businesses that create five or more new jobs in the City.

THE CITY & COUNTY OFFSHORE WIND ENERGY PROJECT BEING LED BY LEED-CO.

This is an important initiative to promote the development of offshore wind projects and to build additional manufacturing capacity within the region around offshore wind capacity and other wind related economic development opportunities. Connects to advanced energy, economic development, manufacturing, R&D, and Operation and maintenance, to get our power through power resources and harnessing our natural resources

sustainably. Estimated costs are \$105,000,000

THE CITY LED MUNICIPAL SOLID WASTE TO ENERGY (MSWE) INITIATIVE

This project is an important economic development, reducing the waste that goes to the landfill, reduces the costs of disposing our waste, and increasing our recycling rate in the City of Cleveland and participating communities from the region. This is a large development project that allows for the development of a large municipal waste recycling and waste to energy facility at the Ridge Road Transfer Station in the City of Cleveland.

ENERGY EFFICIENCY AND ADVANCED ENERGY SPECIAL IMPROVEMENT DISTRICTS

The City and the First Suburbs Consortium recently won the Efficient Gov.org challenge to create Special Improvement Districts for Advanced Energy and Efficiency programs. It is seeking to develop a special improvement district that allows for the voluntary property assessment for energy and energy efficiency improvements. This is an important program to pursue to help bring energy efficiency retrofits to scale along with solar and other advanced energy applications for private property owners.

⁴ <http://www.energy.gov/hubs/>

⁵ http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US53F&re=1&ee=1

⁶ Global Solar Center, http://www.globalsolarcenter.com/government_incentives/

⁷ <http://development.ohio.gov/Energy/Incentives/GrantsLoans.htm>

⁸ <http://development.ohio.gov/Energy/Incentives/AdvancedEnergyFundGrants.htm>

⁹ <http://development.ohio.gov/Energy/Incentives/GrantsLoans.htm>

¹⁰ <http://www.city.cleveland.oh.us/portal/page/portal/CityofCleveland/Home/Government/CityAgencies/EconomicDevelopment/EconomicDevelopmentTechnology/GreenTechnologies>

ADDITIONAL POLICIES supporting the advancement of renewable and advanced energy including additional policies around offshore wind development such as a requirement that a portion of the energy supplied in the statewide Advanced Energy Portfolio Standard (AEPS) be achieved through offshore wind. Cleveland's AEPS is 15% by 2015, 20% by 2020 and 25% by 2025

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

(FROM CLIMATE OVERVIEW)

SOLAR PANEL INSTALLATION JOBS

Ohio Cooperative Solar, one of the Evergreen Cooperatives supported by The Cleveland Foundation, is installing solar power on institutional buildings while building a business with Cleveland residents.

ENERGY STORAGE

The Great Lakes Energy Institute at Case Western Reserve University is researching a variety of renewable energy and energy storage technologies to promote sustainable energy. The Ohio Fuel Cell Coalition is promoting Ohio as a center of fuel cell development.

INNOVATIVE START-UP COMPANIES

Local companies are exploring new approaches to clean energy, such as Tremont Electric's approach to kinetic energy generation.

SC2019 STRATEGIC FRAMEWORK: COORDINATING AND ALIGNING INITIATIVES

The Celebrating Progress Action Plan catalyzes action and the Strategic Framework provides a structure to communicate, coordinate, prioritize, and measure progress as action takes place.

PERSONAL &
SOCIAL
ENVIRONMENT

NATURAL
ENVIRONMENT

BUILT
ENVIRONMENT

BUSINESS
ENVIRONMENT

Within each of the four foundations of a sustainable economy, SC2019 has identified two priority areas and three key goals. Taking action toward each targeted goals and priorities will strengthen the foundations and create a fertile soil for economic growth. The strategic framework will define the structure for measuring progress (SC2019 Metrics Framework - Chapter 5.4) and for coordinating activities (as shown in the SC2019 Initiative Design Framework - Chapter 5.3)

THE STRATEGIC FRAMEWORK CAN CONNECT AND ALIGN ACTIONS AND INITIATIVES THAT ARE ALREADY UNDERWAY

The strategic framework provides a structure through which to emphasize strategic priorities, to measure progress, and to highlight both the “how” and the “what” of a sustainable economy. The framework is purposefully broad because strengthening Cleveland’s economic foundations will require work by many people coming from many different perspectives. A challenge this big requires a “by land, by sea, by air” approach.

As SC2019 maps out projects and initiatives that are happening within each of these areas, there can be clear public accountability for what is actually happening, what gets accomplished, and what areas still need work. Stories can be told about what is happening to progress toward each goal, and indicators can be identified that will measure progress.

Chapter 2 goes into more detail about the SC2019 Strategic Framework, including economic context, examples of specific strategies, local projects, and promising practices

KEY NEXT STEP FOR SC2019 STRATEGIC FRAMEWORK

FLESH OUT AND DEFINE STRATEGIES FOR REACHING GOALS IN COLLABORATION WITH KEY STAKEHOLDER GROUPS AND THE SC2019 STEWARDS

STRATEGIC FRAMEWORK

PRIORITY AREAS AND GOALS

Priorities and goals were identified through interviews, through synthesis of existing development plans, through documentation from SC2019 working groups, and through their relevance to Cleveland's key economic challenges.

PERSONAL & SOCIAL ENVIRONMENT

PRIORITY AREA

CULTURE OF COLLABORATION

GOALS

Alignment & Cross-Pollination
Communicate Progress & Stories
Collaborative Governments

PRIORITY AREA

CULTURE OF LEARNING

GOALS

Agile, resilient workforce
Sustainability learning for all
Entrepreneurial Thinking

NATURAL ENVIRONMENT

PRIORITY AREA

RESTORE AND REGENERATE

GOALS

Value & Leverage Natural Assets
Healthy, Clean, and Beautiful Environment
Urban Agriculture

PRIORITY AREA

RADICAL RESOURCE EFFICIENCY

GOALS

Optimize Renewable Energy
Systemic Energy Efficiency
Zero Waste

BUILT ENVIRONMENT

PRIORITY AREA

VIBRANT DOWNTOWN & NEIGHBORHOODS

GOALS

Vibrant Walkable Commercial Centers
Transform blighted land and buildings into assets
Responsive Local Decision Making

PRIORITY AREA

SMART GROWTH INFRASTRUCTURE

GOALS

Integrate natural systems
Healthy Buildings
Sustainable Mobility

BUSINESS ENVIRONMENT

PRIORITY AREA

DISCOVER NEW BUSINESS OPPORTUNITIES

GOALS

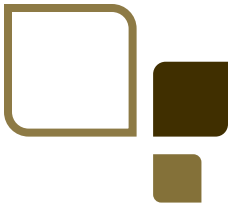
Grow New Businesses
Implement Sustainable Businesses Strategies
Strengthen Local Economy

PRIORITY AREA

RE-TOOL INCENTIVES & REGULATORY SYSTEMS

GOALS

Align Taxes, Regulations, Laws, Codes
Align & Create Incentives
Innovative Financing/Funding



INDUSTRY CLUSTERS

INDUSTRY SECTOR STRATEGIES

As the Cleveland area stretches to power up its economic engine in the age of sustainable economy, not only must its existing clusters of firms adopt and apply sustainability practices within their existing production — such as adopt energy and water conserving technologies, make more efficient use of natural resource inputs, green their supply chains, and foster economic inclusion in hiring and procurement — but existing clusters also can engage in innovating the sustainability solutions needed for the future.

A number of emerging “seed” clusters in the region also can play a key role in innovating new sustainability solutions for the world economy. Seed clusters represent the new sprouts of the economy that have the potential to grow from existing competitive advantages. These seeds can also strengthen the foundations of the economy and create new competitive advantages in the process.

The strongest economic drivers in the coming decades will come from seed clusters where there is strong research capability, there are some firms in the region poised to take commercial advantage of the research, and the cluster in some way benefits from capabilities that derive from existing, mature clusters. The full report also recommends ways that a sustainability framework can strengthen existing expanding clusters and mature clusters of firms.e.

A VISION FOR TOMORROW: “SUSTAINABLE SYSTEMS” CLUSTERS

In the future, using sustainability as a lens, industry sectors may be understood as a part of greater systems that serve to increase our quality of life. Cleveland’s clusters have the potential to evolve into “sustainable systems”. Instead of imagining each industry as a separate entity, industries can work together to create relationships and processes that are more conducive to full product life-cycle stewardship. These new cluster systems could bring together the actors from all stages of a product or service life-cycle in order to foster innovative solutions. For example, a traditional Health Cluster becomes Healthy Lifestyles, which includes prevention as well as treatment. Advanced materials and Advanced Manufacturing come together, recognizing their increasing interdependence as they search for sustainability solutions.

Each cluster “system” listed below would be made up of a diversified portfolio smaller clusters (illustrated on the following page).

Sustainable Manufacturing & Materials

Sustainable Energy Systems

Regenerative Building & Infrastructure

Healthy Lifestyles Industries

KEY STRATEGIES FOR GROWING SUSTAINABLE INDUSTRIES:

Grow, capture, and harness assets and opportunities

Use local demand as a driver

Respond pro-actively and creatively to risks, leakages, opportunities

Aggregate demand for sustainable products and services

Bring supply and demand-side together to work toward innovative solutions

Lobby at the local, state, and national level for proactive legislation that supports sustainability transitions

Leverage collaboration and new voices

Leverage and support local economy

Develop and report on strategic plans for sustainability

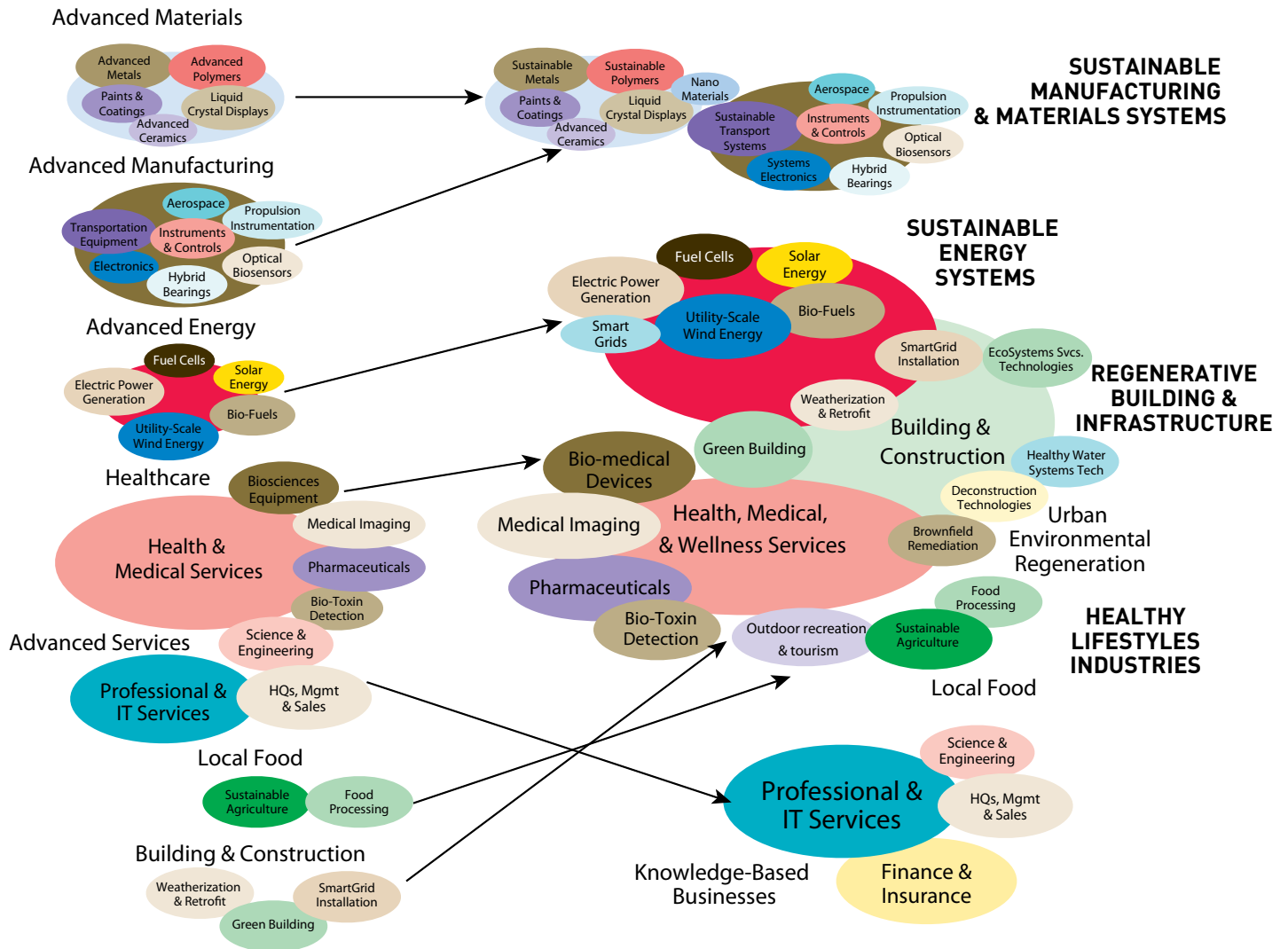
Engage employees in sustainability transition processes

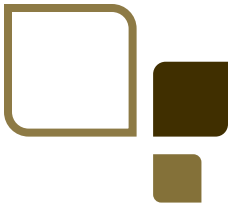
Sections 1.4 and 4.1 include a more detailed description of the evolution of Cleveland’s Clusters and outline some key recommendations.

Evolution of Cleveland's Clusters

MODERN CLUSTERS

TOMORROW'S SUSTAINABLE SYSTEMS CLUSTERS





LOCAL ECONOMY

WHAT IS THE ROLE OF THE LOCAL ECONOMY?

WHAT IS LOCAL?

A local economy can be defined as the sum of transactions conducted by people in a given area with sources as close as possible to where they reside, that satisfy their needs and wants.

WHAT IS A LOCAL BUSINESS?

A business that is owned by Clevelanders and serves primarily local demand

A business that is owned by Clevelanders, but serves primarily national or international markets

A nationally or internationally owned business that manufactures products or produces services here in Cleveland

LOCAL ECONOMY

1) Unique, locally owned businesses create a distinct sense of place and the context of where people eat, work, and play. They contribute to the basic building blocks of a high quality of life.

2) Strategies that stimulate a steady demand for clean, green, sustainable products and solutions innovated for the local market will create an environment in which these solutions can be incubated, perfected, and then supplied to global markets.

3) Appropriate local import substitution keeps money circulating within the region, which supports greater prosperity and growth of local businesses. In particular, supporting place-based products and products that supply basic needs such as food, energy, and shelter can strengthen regional resilience.

Regardless of the ups and downs of the global economy, a lot can be done to build a local economy that is more resilient and sustainable by virtue of being rooted in the local community. A local focus should include activities that save people money or activities that encourage people to buy local goods and services. Examples include retrofitting buildings for energy efficiency, implementing new waste management solutions that reuse or recycle materials, implementing ecological restoration projects, and pursuing profit enhancing sustainability strategies within local businesses.

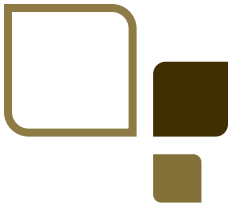
Local economic development activities don't always bring new dollars into the economy (in contrast to developing new businesses that export goods outside the region), but they do keep existing dollars circulating locally. Households in Northeast Ohio spend around 63% of their budgets on housing, energy, transportation, and food - it is not hard to imagine how shifts in spending patterns on those big items can influence the flows of billions of dollars within the region.

A focus on local "self-help" strategies should balance more traditional economic development strategies that are focused on serving global markets. From local food to renewable energy, initiatives are already underway to meet local needs. In addition to the economic standpoint, local strategies also have a high potential to produce social and environmental benefits.

LOCAL FOOD ECONOMY

Through its robust local foods movement, Cleveland is on the way to recognizing co-benefits of local economy by way of better health and wellness and blighted land turned into assets. Urban food deserts will disappear in the wake of flourishing gardens that restore and regenerate air and soil while producing much needed access to fresh fruits and vegetables. Cleveland's nationally-known local chefs and restaurateurs are finding competitive advantage over their national chain counterparts because their menus include local food. Opportunity to transform other need-based value chains such as energy and shelter remain on the horizon for Cleveland and its economy.

A more detailed analysis of the local economy and case study describing the economic potential of the local foods movement can be found in Chapter 4.2



CLIMATE CHANGE AS A DRIVER

How do GHG reduction Strategies fit into SC2019 Celebrating Progress (CP) and the Strategic Framework Priority Areas (PA)?

PROMOTE ENERGY EFFICIENCY

Energy Efficiency (CP)

Resource Efficiency (PA)

Smart Growth Infrastructure (PA)

TRANSITION TO RENEWABLE RESOURCES

Renewable Resources (CP)

Resource Efficiency (PA)

IMPLEMENT SUSTAINABLE MOBILITY OPTIONS

Sustainable Transportation (CP)

Smart Growth Infrastructure (PA)

Downtown & Neighborhood Centers (PA)

CONSIDER SEQUESTRATION OPPORTUNITIES

Green Space (CP)

Restore & Regenerate (PA)

REDUCE WASTE

Zero Waste (CP)

Resource Efficiency (PA)

REDUCE SPRAWL

Vital Neighborhoods (CP)

Smart Growth Infrastructure (PA)

Incentives & Regulatory Structure (PA)

Collaborative Governments (PA)

“The battle against climate change will be won or lost in cities”

– Nicky Gavron, Deputy Mayor of London (2004-2008)

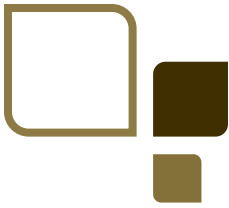
Climate Change is a defining issue of the 21st century. There is an overwhelming scientific consensus that climate change is real and poses a serious threat to the future. Global institutions such as The World Bank, The World Trade Organization, and The United Nations all agree that addressing climate change must be an urgent priority. Global businesses are rapidly becoming advocates for action on reducing Green House Gas (GHG) emissions – they are acting unilaterally to lessen their own carbon footprints and are actively calling on regulators for urgent policy shifts to accelerate market demand for lower carbon products. In the coming years there will be legislation and increasing market pressures around GHG reduction; businesses and local economies that are prepared to meet this challenge pro-actively will have a significant competitive advantage.

Climate change mitigation activities should be at the center of the region’s sustainability planning. If we all do our part and work steadily in the coming years and decades, our cumulative actions will add up to transformational change.

The SC2019 Resource and Action Guide is not specifically a climate action plan, however, embedded in all the celebration points, the priority areas, and the goals are strategies to reduce green house gases. As SC2019 moves forward and strategies, initiatives, and targets are solidified, a Climate Prosperity Action Plan that aligns with SC2019 should be developed.

“Policy makers worry that climate action may cost too much, hurt the economy, eliminate jobs, and become politically unpopular. Yet many of those who are currently working to reduce emissions inside companies and in governments find they are saving money and fostering economic opportunity and competitiveness. Real-world experiences and lessons suggest that we now have win-win options for climate policy that can minimize economic harm and produce significant benefits by generating increased prosperity and improved quality of life.”¹

¹ “The Economic Benefits of Climate Action” November 2007. Convened by the Rockefeller Brothers fund and Global Urban Development in Pocantico Hills, New York



IMPLEMENTATION TOOLBOX: INITIATIVE DESIGN FRAMEWORK

SHAPING INITIATIVES AND SETTING PRIORITIES

In order to align SC2019 initiatives with a common language and a common definition of what is important, the Initiative Design Framework is a useful starting place. It provides a structure that can be used by individuals and organizations to develop their projects in-line with SC2019 values and priorities. It can help existing projects expand their perspective of what is possible.

SC2019 emphasizes not only the “what” of projects, but also the “how.” This focus is key to facilitating the mindset shift that will underpin Cleveland’s transition to a high performance economy that works hand in hand with creating a high quality of life for all.

At the Sustainable Cleveland 2019 Summit in 2009 — and in many other community forums in recent years — the Greater Cleveland community has proposed hundreds of ideas for developing a more sustainable economy.

In a time of limited resources, how does one decide which ideas to pursue? How does one evaluate which ones will have greatest impact. And how does one assure that an idea will be sustainable — advancing economic, social, and environmental goals together?

To fully answer these questions, an evaluation process must be finalized by the SC2019 Stewardship Team. A formalized process will provide a starting point for conversation and a transparent methodology for prioritization. However, community will and subjective interpretation will continue to play a key role in the final prioritization process.

To accelerate the transformation to a more sustainable economy, the implementation tool box includes:

Initiative Design Framework

Metrics Framework

Communication & Branding Guide

INITIATIVE DESIGN & EVALUATION OUTLINE:

The primary questions that need to be asked and answered when designing and evaluating a project or initiative are the following:

1) HOW WELL DOES IT ALIGN WITH SC2019?

- Does it align with the Celebrating Progress Year?
- Does it fit into our strategic framework?
 - Does it support an economic foundation?
 - Is it in alignment with one of the priority areas?
 - Does it help us to achieve a stated goal?

2) WHAT IS THE OVERALL IMPACT ON A SUSTAINABLE ECONOMY?

- What is the environmental impact?
- What is the social impact?
- What is the economic impact?
- How is the project/initiative transformational?

3) WHAT IS THE RETURN ON INVESTMENT?

- Investment: time, money, energy, effort, reputation
- Return: Impact

4) DOES IT HAVE COMMITTED LEADERS AND GOOD PARTNERSHIPS

- Does it have a technical leader and an influence leader?
- Does it leverage interesting partnerships?

For more information on the Initiative Design Framework, see Chapter 5.3

INITIATIVE DESIGN FRAMEWORK SUMMARY

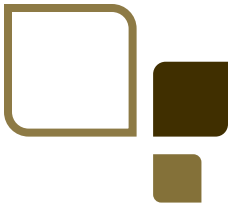
INITIATIVE “POST CARD” FORMAT

FOUNDATION	Which Foundation or Foundations does it fall under?
CELEBRATION POINT	Does it relate specifically to a Celebration Point?
PRIORITY AREA	What priority Area or Areas does it address?
INITIATIVE SUMMARY	Short Description (up to 300 characters)
PRIMARY GOAL AREA	What goal or goals does it address?
UPFRONT COST	Initial Start-up cost
ANNUAL COST	Yearly Maintenance
TYPE	What initiative types is it? (see Descriptions)
TIME FRAME	When will benefits be realized? Quick-win, Medium term, Long term, On-going?(see Descriptions)
EFFORT REQUIRED	Soft Effort (not money) (See Descriptions)
CHAMPIONS	Technical Leader, Leader of Influence
PARTNERS/ COLLABORATORS	Partnerships
POTENTIAL FUNDING	Creative Sources of Funding
CO-BENEFITS	Priority Areas or Goals
TRANSVERSAL	Equity, Carbon, Health
POTENTIAL IMPACTS	(See Descriptions)
BUSINESS OPS	Potential for Entrepreneurial Activities
ADDITIONAL QUESTIONS	Longer Descriptions of how it effects the following areas:
SOCIETY	How does it improve the strength of the community?
ECONOMY	How does it improve the economy?
ENVIRONMENT	How does it improve the environment?
PROCESS	How is the process transformational?

EXAMPLE POST CARD

COLLABORATIVE CAMPUS NEIGHBORHOOD PROJECT

FOUNDATION	Personal & Social Environment
PRIORITY AREA	Culture of Learning
INITIATIVE	Facilitate sustainability awareness, applied learning opportunities, school-to-career and policy enrichment in the Preschool, K-12 and 12-16 education sector in order to create sustainable neighborhoods.
GOAL	Sustainability learning for all
TYPE	Learning
TIME FRAME	Up to 5 years with milestones to be met every 12-months
EFFORT REQUIRED	As an idea, this initiative requires significant commitment among leaders to fully develop a business model for this idea – and then to implement the plan.
CHAMPIONS	Michael Schoop, Tri-C Metro Compus and Terrell Pim, CWRU
PARTNERS/ COLLABORATORS	Roger Saillant, Fowler Center for Sustainable Value, Peter Whitehouse CWRU, Nancy Meyer-Emerick CSU
POTENTIAL FUNDING	County/state/federal government and foundation grants
CO-BENEFITS	Vibrant Downtown & Neighborhoods; Agile Workforce
TRANSVERSAL	Equity, Carbon, Health
BUSINESS OPS	Curriculum that can be resold



IMPLEMENTATION TOOLBOX: METRICS AND COMMUNICATION

METRICS FOR MEASURING PROGRESS

Even after selecting the most promising ideas in the coming years, how will SC2019 participants know that initiatives are indeed achieving intended outcomes and strengthening the foundations for a vibrant city and economy? A system for monitoring and reporting will be needed to track progress and provide feedback for future decisions.

The SC2019 Action Guide recommends three levels of measurement to track progress toward a sustainable economy.

1) Over-all Cleveland Sustainable Economy Indicators: Is the economy improving, are peoples lives improving, is the environment improving, is Cleveland's carbon footprint decreasing? Are Cleveland businesses reporting on their progress toward sustainability? How does Cleveland communicate its progress?

2) SC2019 Indicators: Is Cleveland making progress toward achieving goals within each priority area of the strategic framework? What types of indicators make sense? How is progress toward each goal linked to the big picture? How does SC2019 communicate its progress?

3) Project Indicators: Are SC2019 projects successful by their own criteria? How many projects have been completed, how many have been successful? What are the lessons learned? How are the successful projects impacting SC2019 goals and priorities?

Choosing the right indicators and the right targets must be a participatory process and must be convened and finalized by the SC2019 Stewardship structure.

CLEVELAND SUSTAINABLE ECONOMY INDICATORS

There are a number of existing and emerging sets of sustainability indicators. For example, one of the most promising new systems for local governments is the STAR Community Index, which is being developed by ICLEI (ICLEI.org)—Local Governments for Sustainability in conjunction with the U.S. Green Building Council. In addition, SC2019 must develop a rigorous capacity for tracking carbon emissions, both for city operations and the larger community. Finally, SC2019 process should encourage more businesses to participate in voluntary sustainability reporting using tools such as the Global Reporting Initiative (GRI).

SC2019 INDICATORS

The indicators should be selected by an open, participatory process. They should be easy to understand, have data readily available, and should be reliable bellwethers of key sustainability trends. Ideally, it will be possible to collapse the indicators into a single index or number, so the public can easily track progress being made toward each goal.

Measuring Progress is discussed in more detail in Chapter 5.4 and examples are included in the appendix

NEXT STEPS:

1) SELECT RELEVANT INDICATORS FOR SC2019

Assign accountability, find data partners, design & facilitate democratic process, collect data, use starter-kit templates (see Metrics Appendix)

2) DESIGN A DISPLAY AND REPORTING MECHANISM (DASHBOARD)

Design innovative displays, create benchmarks against other cities

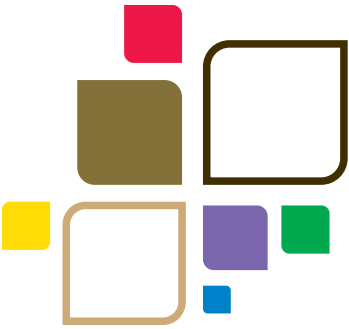
3) SUPPORT AND INCENTIVIZE GOVERNMENT, BUSINESSES, INDUSTRIES TO CREATE PUBLIC SUSTAINABILITY REPORTING PROCESSES

Support Government Collaboration Toward Comprehensive Sustainability Reporting

Support Organizations developing their own Environmental Management Systems

Track Carbon Emissions through the Supply Chain

Promote Corporate Social Responsibility Reporting



The Brand Elements are the cornerstone of the Sustainable Cleveland brand. The iconic shape is symbolic of both the seeds we plant and the life that emerges from them. Working together, they can create endless combinations, depicting root systems, plantlife, ecological systems, urban plans. They can work together to describe life, growth, creativity and expressions of freedom. The Brand Element system may take on one primary form to become the SC2019 Initiative logomark, or it may choose to work freely, allowing the power of the color and shapes to represent the brand while remaining in a state of constant evolution.

COMMUNICATIONS AND BRANDING

Sustainable Cleveland 2019 is an opportunity to involve more people in shaping the future of the city, as well as an opportunity to redefine Cleveland's image and dispel the negative images of the past.

To succeed in reaching out to a broad audience, it will require a compelling brand identity that resonates with people's vision for a new city, and a web-based clearinghouse of information about all the activities related to the SC2019 process, and a creative outreach plan that communicates with a wide range of stakeholder groups. The complete strategic plan report provides guidance on the development of each of these items.

KEY ACTION STEPS FOR COMMUNICATION:

1. ESTABLISH CLEAR AND EFFECTIVE PORTALS FOR COMMUNICATION AND RESOURCES

.....
Create community dashboards to communicate progress

.....
Improve a website for communication

2. DEVELOP AND LAUNCH A BOLD PR CAMPAIGN (INCLUDING A MULTICULTURAL FOCUS)

3. ALIGN & MOBILIZE CHAMPIONS AND AMBASSADORS

.....
Design & Host Action Alignment workshops to align stakeholder groups with the SC2019 Action guide

.....
Continue to update and compile 2019 Aligned Initiatives

.....
Recruit and train Ambassadors

4. DEEPEN & INTEGRATE BRANDING

5. DEVELOP AND IMPLEMENT COMPREHENSIVE PLAN FOR CELEBRATING PROGRESS

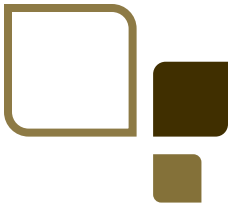
RECOMMENDED NEXT STEPS FOR IMPLEMENTATION

In the two and a half months allotted for the development of this strategic action guide, it was possible to develop only the general outline of the implementation strategy. Thus, a lot of work remains to flesh out the details. In the coming months, it is recommended that 2019 participants:

1. FINALIZE THE SC2019 STEWARDSHIP STRUCTURE

2. FINALIZE CRITERIA FOR SHAPING AND PRIORITIZING INITIATIVES

3. FINALIZE METRICS SYSTEM FOR TRACKING PROGRESS



SC2019 SUPPORTING STRUCTURES

POINTS OF ENTRY & ACTION

- 1) Participate in SC2019 Celebrating Progress Events
- 2) Learn about SC2019 principles, priorities, and goals; align your efforts, make a commitment, communicate your activities
- 3) Join one of the SC2019 Stewardship Networks (there is a place for everyone)
- 4) Share your story, tell your friends, be an advocate

NEXT STEPS FOR VARIOUS STAKEHOLDER GROUPS ARE ORGANIZED AROUND THE FOLLOWING THEMES:

- Participate in Celebration Points
- Lead by Example
- Collaborate
- Use Purchasing Power
- Learn
- Make it fun

OFFICE OF SUSTAINABILITY

City Department with a mandate to support sustainability within the city government and in Cleveland in general.

THE STEWARDSHIP COUNCIL & THE EXECUTIVE STEWARDSHIP TEAM

This group of business leaders, institutional leaders, and community leaders will advise, support, and maintain focus on the journey to 2019.

SC2019 COLLABORATIVE

The Collaborative consists of all components of SC2019: both the formal and informal structures, and all of the projects that are sponsored by SC2019 and those that are endorsed as projects aligned with SC2019.

SC2019 INTEGRATION TEAM

A nimble staff that will be masters of SC2019 information and collaboration. A point of connection and integration.

STEWARDSHIP NETWORKS

Networks that focus on one of the four foundations of the strategic framework: Personal & Social Environment, Natural Environment, Built Environment, and Business Environment. They will work together to support, track, and report on progress within each of these areas.

CELEBRATING PROGRESS COMMITTEES

Every Celebration Point will have a go-to committee that will be coordinating events, media, participation, etc.

SC2019 WORKING GROUPS

The SC2019 working groups are communities of practice which originated from the 2009 SC2019 Summit. They are focused on specific topics and vary in structure depending on the need. They are dynamic and can change based on momentum and specific objectives. They can be both a resource for collaboration and a support system for specific projects championed by individual Working Group members.

STEWARD ORGANIZATIONS & INSTITUTIONS (NGOS)

There are many organizations and institutions in the Cleveland area that are already working effectively on sustainability issues; they can provide resources and points of participation and collaboration.

BUSINESS CHAMPIONS

Many businesses in Cleveland have been leaders sustainability for years, and many more excited to take part in the transformation. As businesses endorse SC2019, they will become SC2019 Champions both as leaders and as learners.

SC2019 POINTS OF ENTRY & ACTION

SC2019 is for every individual and organization interested in joining the effort to create a new sustainable economic engine that works for everyone – and there are many ways to get involved depending upon what your interest may be.

CELEBRATING PROGRESS AND ACCOMPLISHMENT

If you are interested in events that spotlight and celebrate the on-going progress and accomplishments of SC2019, join or create a Celebration Committee and be part of what creates a culture of pride in Cleveland. Open to all, these adhoc committees will help organize and conduct a variety of celebration points over the course of SC2019.

Yearly Celebration Points focus on “year of” points and are forums for communicating and celebrating accomplishment and for promoting the conversations and stories about Cleveland that will transform the City.

Structure of Celebrating Progress events — anyone is welcome to create their own spin-off events and give voice to potentially game-changing ideas and perspectives that are on the fringe of mainstream.

Bi-annual summits are forums to align vision, focus actions, and engage new individuals and organizations.

LEARN & CONTRIBUTE EXPERTISE

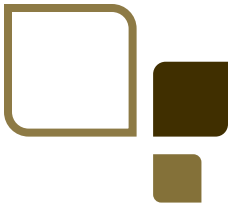
If you are interested in being an active member of an action learning community and deepening and contributing your expertise to SC2019, join a community of practice. Connected with the four sustainability foundations (human & social environment, built environment, natural environment, and business environment), communities of practice provide a forum to share your expertise and to learn and grow in ways that benefit you.

SPREAD THE WORD

If you are interested in helping spread the word about SC2019 within your community, contact the Integration team to see if you can become part of an Ambassador Team. These two-person teams will have a deep understanding of the Initiative and how it is relevant to different stakeholders and act as ambassadors of the Initiative to their communities and organizations.

SHARE YOUR STORIES

If you are interested in sharing your story, contact the Integration Team or visit the SC2019 website.



A ROLE FOR EVERYONE...

CONCLUSION...AND A ROLE FOR EVERYONE

This resource and action guide is intended to be a framework for guiding future action in a changing world. It offers an approach for applying the principles of sustainability to find economic opportunities.

While this approach should remain consistent in the future, it's important to realize that the lists of specific goals and initiatives in the plan are just a snapshot of the kinds of actions that make sense today — illustrations of the current possibilities. Such lists of recommendations will change as conditions change — and should change if we are to have an adaptive, resilient economy. So this plan should be seen as a dynamic work in progress. It should be updated continually between now and 2019.

Finally, it is hoped that everyone in Cleveland and throughout the region will find elements in this plan that are relevant and inspiring at home, at work, or as an engaged citizen in any capacity. The ideal is for everyone to align their determined efforts with vision of a prosperous economy based on a high quality of life, an improving environment, and human health and well-being.

WHAT EVERYONE CAN DO...

PARTICIPATE IN CELEBRATION POINTS

LEAD BY EXAMPLE

COLLABORATE

USE PURCHASING POWER

LEARN

MAKE IT FUN

GOVERNMENT

PRIORITIZE GREEN PROJECTS

LEAD BY EXAMPLE

USE POWER OF PROCUREMENT
TO FOSTER STEADY DEMAND FOR
SUSTAINABLE SOLUTIONS AND
BUSINESSES

USE SOCIAL CAPITAL TO ENDORSE AND
PROMOTE SUSTAINABILITY EFFORTS
AT ALL LEVELS

BUSINESS

FIND NEW BUSINESS OPPORTUNITIES
IN SUSTAINABILITY SOLUTIONS

TRANSITION TO SUSTAINABLE
PRACTICES AND PRODUCTION
METHODS

ALIGN WITH SC2019 FOR EFFECTIVE
CORPORATE CITIZENSHIP

ENGAGE IN CREATIVE PARTNERSHIPS
AND COLLABORATION

REWARDS INNOVATION &
EXPERIMENTATION

COMMUNITY ORGANIZATIONS

LOOK FOR WAYS TO PARTNER AND
COLLABORATE WITH OTHER ACTORS
ON SPECIFIC SUSTAINABILITY
INITIATIVES

ALIGN ACTIVITIES WITH SC2019
VISION, ACTION PLAN, AND STRATEGIC
FRAMEWORK

HELP SHAPE INITIATIVES THAT HAVE
MULTIPLE BENEFITS AND CATALYTIC
POTENTIAL

FIND WAYS TO SUPPORT BUSINESS
GROWTH OPPORTUNITIES IN
SUSTAINABLE SOLUTIONS

HELP SUPPORT BUSINESS TRANSITION
TO SUSTAINABLE PRACTICES

FUNDERS

ALIGN WITH CELEBRATING PROGRESS
AND THE STRATEGIC FRAMEWORK

USE THE INITIATIVE DESIGN
FRAMEWORK TO HELP GRANTEEES
ALIGN WITH SC2019 WHEN SHAPING
THEIR INITIATIVES

EMPHASIZE INNOVATIVE FINANCING
MODELS – SELF-FUNDING, MICRO
FUNDING, BUNDLING UNUSUAL
FUNDING STREAMS, AGGREGATING
FOR VALUE

HOUSEHOLDS

UNDERSTAND HOW YOU CAN MAKE
MONEY, SAVE MONEY, AND INVEST

MONEY THROUGH SUSTAINABILITY

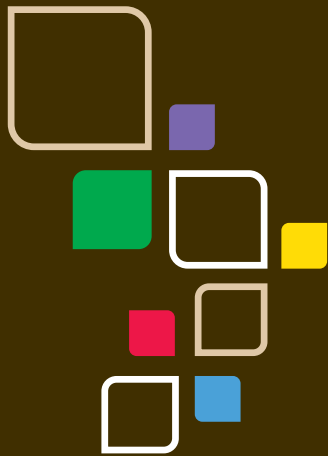
ENGAGE IN SMALL EFFORTS THAT ARE
ALIGNED WITH GREATER COMMUNITY
ASPIRATIONS

WORK TO INCREASE THE SENSE OF
NEIGHBORLINESS AND CONNECTION
TO COMMUNITY

HOLD GOVERNMENT AND BUSINESS
ACCOUNTABLE FOR PROMISES

INCREASE DEMAND AND ACTION FOR
ENVIRONMENTAL JUSTICE

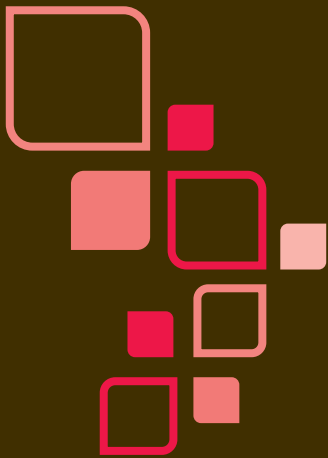
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SUSTAINABLE CLEVELAND 2019
ACTION AND RESOURCES GUIDE

SECTION 1

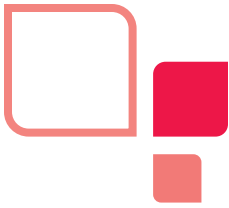
**ALIGNMENT AND
ACTION GUIDE**



CHAPTER 1.0

1.1	INTRODUCTION
1.2	SUSTAINABLE ECONOMY CONTEXT
1.3	ECONOMIC MODEL
1.4	CLUSTER OVERVIEW

CONTEXT



1.1

INTRODUCTION

On June 22, 1969 the eyes of the world turned to Cleveland. That moment of attention triggered a mindshift across the US and around the world. The infamous Cuyahoga River fire did two things – it tragically tarnished Cleveland’s reputation, but more important, it generated the Clean Water Act and mobilized the modern environmental movement.

“In the middle of difficulty lies opportunity” – Einstein

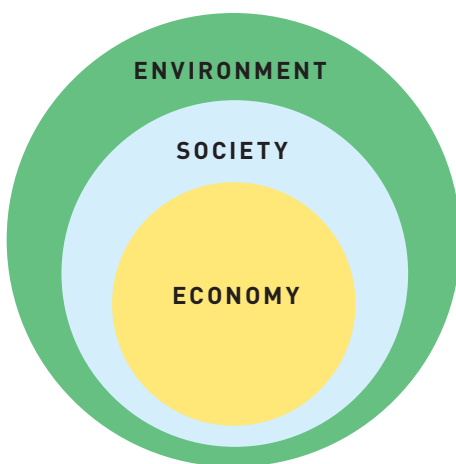
50 years later in 2019 – when the world looks to Cleveland for a sensational retrospective of the fire – like a phoenix reborn from the fire, Cleveland has the opportunity to surprise, amaze, and inspire the world with its transformation to a bright green city on a blue lake.

The ambition of this strategy and action guide is to catalyze action throughout the city. It is a path to transform Cleveland’s economic foundations into healthy fertile soil that will create the conditions for health, wealth, and prosperity for all.

It is dynamic and should change and evolve over time. It is meant to support the many people who are already working with diligence, intelligence, and passion, and it is meant to attract and to invite new voices and new partnerships to the journey. It aims to focus and clarify, and to align and activate.



Sustainability is the process — the way of thinking — that helps us make better decisions about how to meet our needs. It helps us consider the long-term implications of our actions. It helps us appreciate the interdependence of a healthy economy, environment, and society. And it provides the perspective that helps us develop a more resilient society that can adapt to a dynamic, changing world.



The economy is a subsidiary of the environment and society. Financial transactions and trade take place within the carrying capacity of nature and within the values and institutions created by society.

WHAT IS A SUSTAINABILITY ECONOMY?

A sustainable economy integrates the goals of economic prosperity, environmental health and social vitality. Industrial Era trade-offs between environmental degradation, economic growth and equity are no longer necessary. The social fabric of the community is strong enough that all people can take advantage of changing economic landscapes over time. Businesses are more innovative, efficient, and competitive, nationally and globally.

Sustainable economic development is a lens through which to see new economic opportunity in the challenges we face as a community, as a nation, and as a planet. A sustainable economy serves the greater goal of a high quality of life. It supports good jobs and career pathways, it supports healthy communities, and it supports increasing prosperity over time.

PURPOSE OF THE SC2019 RESOURCE AND ACTION GUIDE

The core purpose of this plan is to support and empower leaders from all walks of life to make tangible progress on matters that are of interest and importance to them. It provides a framework in which conversations and actions can take place in a way that aligns with a greater vision of a sustainable economy.

In essence, it is a road map. A map gives an abstract picture and overview of the landscape, but doesn't capture the actual experience of the journey or the adventures and challenges along the way.

A WAVE OF CHANGES

SC2019 will help define and launch actions that will enable Cleveland to achieve a high performing sustainable economy for all. As the actions proposed are carried out, elected officials, business leaders, and community members will benefit from a wave of incremental change. This wave of small changes in policies and practices will achieve three outcomes fundamental to sustainability:

ECONOMIC PROSPERITY

A resilient local economy that builds prosperity over time. *Measured by increased opportunities, above-average employment and household wealth, and reduced income disparities.*

ENVIRONMENTAL HEALTH

A clean and attractive environment that sustains healthy people and a strong economy. *Measured by reductions in per capita energy use, reductions in use of non-renewable resources, improvement in air and water quality, waste reduction, and improved habitat quality for wildlife.*

SOCIAL VITALITY

A diverse and inclusive community where every person has access to the resources and opportunities needed for success. *Measured by reductions in educational and health disparities, increasing levels of safety and community involvement, and the regeneration of the urban core and neighborhood centers.*

“In order for us to create a sustainable, green economy, it has to be an integral part of what we do every day. It has to be what we do as a community. How we plan, how we invest, how we make money, how we spend money.”

– Mayor Frank Jackson

A sustainable economy helps people to save money, make money, and invest money in ways that create long term value and a high quality of life.

AT EVERY POINT ALONG THE JOURNEY, CLEVELANDERS MUST STOP AND ASK:

How does sc2019 relate to the things I care about?

How does this make my life better? What can I do to be involved?

WHAT HAS LED CLEVELAND TO THIS GUIDE?

In August 2009, Mayor Frank Jackson convened the Sustainable Cleveland 2019 Summit to bring together hundreds of people interested in applying the principles of sustainability to the design of the local economy. The Summit generated tremendous enthusiasm. It inspired hundreds of ideas in areas such as advanced energy, green building, local food, water, transportation, sustainable business, and vacant land re-utilization, and more.

Groups of active community leaders and business leaders have been working toward creating a sustainable economy within sustainability networks, communities of practice, summit Working Groups, and within individual businesses and homes.

This Action Guide was commissioned to provide an alignment point, a support, and a stronger conceptual framework for many of the ideas generated by the Summit, many of which are already being put into action by existing businesses, organizations, government bodies, and volunteers.

Additionally, there are already many great economic development plans in the Cleveland Area that have embedded the principles of sustainable economic development. The SC2019 Action Guide is aligned with these plans, and is not meant to replace or to change them, but rather to provide another arrow in the quiver and a point of connection. The SC2019 Initiative will be a hub of information about all activities that are accelerating Cleveland’s economic transformation.

Cleveland has reached a tipping point and is ready to implement a type of economic development that has the principles of sustainability woven into the fabric of our actions.

HOW TO READ THIS GUIDE:

This Action and Resource Guide is intended to be a framework for guiding future action in a changing world. ***It offers an approach for applying the principles of sustainability to find economic opportunities.***

While this approach will remain consistent in the future, the lists of specific goals and initiatives in the plan are just a snapshot of the kinds of actions that make sense today and they are illustrations of current possibilities. Recommendations and promising practices will change as conditions change.

This guide is a dynamic work in progress. It should be updated continually between now and 2019.

VISION, MISSION, VALUES

VISION

Cleveland will surprise, amaze, and inspire the world with its transformation to a bright green city on a blue lake.

Determined people from every walk of life will work together to shape vibrant livable communities, innovative businesses, and a flourishing natural environment that will result in health, wealth, creativity, and economic opportunities for all.

MISSION

Sustainable Cleveland 2019 is a 10-year initiative that engages everyone to work together to design and develop a thriving and resilient Cleveland region that leverages its wealth of assets to build economic, social, and environmental well-being for all.

It supports and aligns efforts that are already being championed with intelligence and passion throughout the region and it activates new efforts and new leadership along the way.

VALUES

Dynamic and cumulative

Combines a sense of urgency for action with positivity and kindness

Inclusive, accessible, and welcoming

Encourages persistence, determination, courage, and boldness

Promotes creativity, innovation, and execution

“A good wind blows in favor of a ship with a clear direction”

This age old quote underlies the importance of having a clear, specifically articulated path to success. In this respect, the definition of success is embodied in a clear “Vision” just as the “Mission” lays out the actual path. Central to these two critical concepts are the “Values,” or how you intend to go about following the path (mission) that leads to success (vision).

These are not idle or frivolous elements; indeed, they are central to the core or what SC2019 is and should be. They provide the essential DNA by which all elements and actions can be reviewed for context, relevancy, and importance.

The vision, mission, and values here are the cumulation of on-going focus groups, and synthesis of visions from SC2019 and other plans. While by no means perfect, they provide an excellent starting point and initial compass for the SC2019 project.

WHY IS THIS IMPORTANT?

For SC2019 to have credibility in the community, these statements have to harmonize with the aspirations of Cleveland, as they guide the project through many options and pulls in various directions by a range of interests and groups. To keep a firm course requires a firm helm. These statements can provide that stability and consistency.

As various new ideas for projects present themselves, we suggest that each project or idea be held up against these statements as a way to compare what is proposed to what SC2019 committed to doing. This will help ensure a clarity and consistency of decision that will be critical for ongoing community support.

VISION

the star that guides you

MISSION

the boat that takes you on your journey

VALUES

how you will behave along the way

STRATEGIC PRIORITIES

what is important

HOW IS THE SC2019 ACTION GUIDE ORGANIZED?

Guided by: **VISION, MISSION, VALUES – THE ULTIMATE GOAL AND HOW WE GET THERE.**

If a critical mass of people share a compelling vision it becomes transformative and dramatically accelerates action and momentum in that direction. A mission simply articulates who is accountable for bringing the vision to life and how it will be done. Values chart the guiding principles.

Informed by: **CLEVELAND'S SOCIAL, ENVIRONMENTAL, AND ECONOMIC CONTEXT & KEY TRENDS.**

The SC2019 guide takes into account key global trends relevant to Cleveland, and responds to Cleveland's economic context and its social and environmental challenges.

Structured by: **A MODEL DESCRIBING A SUSTAINABLE ECONOMY**

By its nature, a model is a simplification of a highly complex system which makes it a useful tool for describing the dynamics of the economy in a way that is easy to communicate.

Grounded by: **ECONOMIC ANALYSIS**

The economic reasoning behind the SC2019 Action Guide links the principles of sustainability to economic prosperity and shows how traditional economic analysis focused on job and business growth is a necessary but not sufficient condition for a sustainable economy. The Guide aims to clarify and simplify the connections between healthy natural systems, the built environment, personal and social assets, and the business environment in which commerce takes place.

Catalyzed by: **STRATEGY AND ACTION PLAN**

The over-all purpose of the SC2019 Action Plan and Strategic Framework is to align, streamline, accelerate, measure and communicate progress as we move from the “what” to the “how” of a sustainable economy. These structures will help various stakeholders understand where they fit into the big picture and they will help to clarify how specific initiatives fit into a broad sustainable economic development vision.

Realized by: **THE PEOPLE OF CLEVELAND!!**

This guide is only words on a page without the hearts, hands, and minds of the people of Cleveland. The key underlying goal of the Action Plan is to be useful to efforts that are already underway and that it will make the work of moving toward a sustainable economy easier and more fun. It should invite and attract more people to join in. It should be a tool for holding government, business, organizations, and individuals accountable for creating a sustainable economy and a vibrant future.

Strengthened by:

CLIMATE PROSPERITY REPORT

CLUSTERING & INDUSTRY OVERVIEW



IMPLEMENTED BY:

CELEBRATING PROGRESS FRAMEWORK

A time-line for a series of “year of” celebration points up through 2019.

STEWARDSHIP STRUCTURE

Recommendations that outline the roles, characteristics, and the accountability of both formal & informal leadership structures.

COMMUNICATIONS PLAN

A framework and specific suggestions for branding and outreach.

METRICS FRAMEWORK

A resource and starter-kit for developing a comprehensive system for monitoring and reporting progress toward SC2019 goals.

NATURE AS A TEACHER

Biomimicry (from *bios*, meaning life, and *mimesis*, meaning to imitate) is a design discipline that studies nature's best ideas and then emulates or takes inspiration from these designs and processes to solve human problems. Studying a leaf to invent a better solar cell is an example of an innovation inspired by nature. The core idea is that nature, imaginative by necessity, has already solved many of the problems people are still grappling with.

Based on nature's 3.8 billion years of R&D history, designers and engineers are developing new products, new materials, new manufacturing systems, enhancing systems flow, and creating effective distribution models... just to name a few.

Companies and initiatives adopting the Biomimicry Guilds' design methodology include: Boeing, City of Seattle, Ecotrust, General Mills, Georgia Tech, Hewlett-Packard, HOK Architects, Nike, Proctor & Gamble, Shell, Seventh Generation and many more.

During the process of creating the SC2019 Action Guide, we noted that several of Biomimicry's Life's Design Principles applied to a sustainable economy, including the need for resilience, the importance of being responsive and attuned to local context, and the wisdom of leveraging interdependence. We considered several of nature's champions asking: what does a forest ecosystem have to teach us about economies, how do we identify and support the keystone species in the regional economy, and how do we create eco-tones where more diversity and innovation can thrive. When thinking about the foundational element of people and social environment we considered the basic rules of the swarm and flock and what might the social rules of the insect community teach us.

INDUSTRIAL ECOLOGY

In a biological ecosystem, some of the organisms use sunlight, water, and minerals to grow, while others consume the first, alive or dead, along with minerals and gases, and produce wastes of their own. These wastes are in turn food for other organisms, some of which may convert the wastes into the minerals used by other primary producers, and some of which consume each other in a complex network of processes in which everything produced is used by some organism for its own metabolism.

Similarly, in the industrial ecosystem, industrial ecologists argue that each process and network of processes must be viewed as dependent and interrelated part of a larger whole. Although the analogy is

not perfect, much could be gained if the industrial system were to minimize the best feature of the biological ecosystem. The goal of industrial ecology is to redesign the current industrial practices, which exhibits characteristics of ecosystems during the developing stage, to a new state that possesses characteristics of mature ecosystems. Key design principles in industrial ecology, inspired by nature, include:¹

- use waste as resources
- diversify and cooperate to fully use the habitat
- gather and use energy efficiently
- optimize rather than maximize
- use materials sparingly
- don't foul their nests
- don't draw down resources
- remain in balance with the biosphere
- run on information
- shop locally

SC2019 projects, initiatives and organizational strategy can continue to learn how to apply biomimicry design strategies by participating in BiomimicryNEO, an action network powered by E4S and led by a cross-sector core group and in partnership with the Biomimicry Institute and Biomimicry Guild. The mission of this action network is to work collaboratively with multi-disciplinary leaders to put Biomimicry to work solving human challenges with nature's solution.

¹ Sui, D.Z., *Economy as Ecosystem*

WHAT CAN ECONOMIC DEVELOPMENT LEARN FROM NATURE?

SOIL & FOREST FLOOR

The soil and the forest floor are essential for productive growth. The four foundations of a sustainable economy are all key components of a healthy, balanced economic soil. If the soil is unbalanced, or if there are not enough nutrient fixing plants, nutrients can leach out of the system.

FOREST

In the forest, nothing is wasted, trees and underbrush are nurtured by the soil and work symbiotically with forest animals — from bugs to birds, to bears. All forest species, flora and fauna, give back to the soil and nothing is wasted.

Amongst acorns or saplings, it is difficult to predict which one will grow to reach the forest canopy, but it is possible to predict that a certain number will grow to maturity if the ecosystem is strong and resilient.

Healthy forest ecosystems can survive shocks such as drought and fire.

KEYSTONE SPECIES

Keystone species are essential to the health of an ecosystem. They create key points of connection between species and subsystems which optimize the ecosystem functions. Keystone species within an economy are the connectors, the network mavens, and the conveners who create the conditions for collaboration and cross-pollination across boundaries.

SWARM

Basic models of flocking behavior are controlled by three simple rules: 1. Separation – avoid crowding neighbors (short range repulsion); 2. Alignment – steer toward average heading of neighbors; 3. Cohesion – steer toward average position of neighbors (long range attraction). With these three simple rules, the flock moves in an extremely realistic way, creating complex motion and interaction that would be extremely hard to create otherwise. How might these rules support the engagement of 1.6 million people in the SC2019 initiative? Can we create a swarm of leaders moving toward a zero waste goal by 2019?

INSECT SOCIAL GUIDELINES

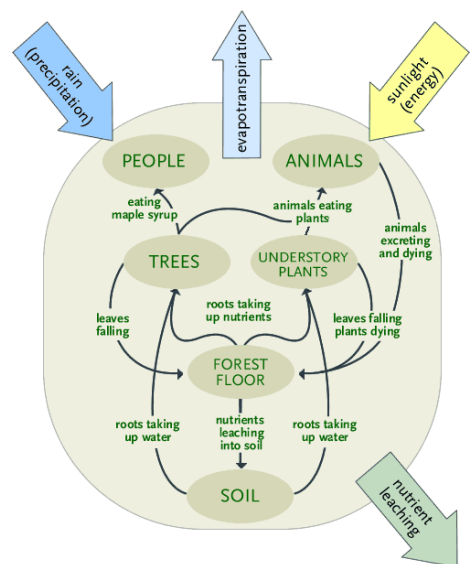
“In essence, we believe that social insects have been so successful—they are almost everywhere in the ecosphere — because of three characteristics: 1. Flexibility (the colony can adapt to a changing environment); 2. Robustness (even when one or more individuals fail, the group can still perform its tasks); and 3. Self-organization (activities are neither centrally controlled nor locally supervised).” (asknature.org) How might we develop flexibility, robustness and self-organization in the SC2019 Alliance and in the regional economy?

ECOTONE

An ecotone is a transition area between two adjacent but different plant communities, such as forest and grassland. The ecotone

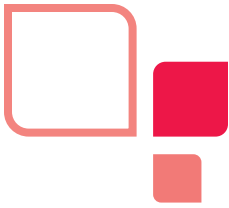
contains not only species common to the communities on both sides; it may also include a number of highly adaptable species that tend to colonize such transitional areas. This can produce an edge effect along the boundary line, with the area displaying a greater than usual diversity of species.

Examples of eco-tones in an economy are: 1. The intersection between sectors like business and universities; 2. Intersection between industries like food and health; 3. Networks, eco-industrial parks or incubators that create a place for leaders to discover new opportunities.



Here is one illustrative example of how the forest ecosystem works together and incorporates nutrient flows

<http://www.nrri.umn.edu/worms/forest/ecosystems.html>



1.2

SUSTAINABLE ECONOMY CONTEXT

CLEVELAND'S CONTEXT

Cleveland was in the past, and can be in the future, a city of great resilience and strength.

Cleveland has seen the collapse of the auto industry and the rise of powerful forces of globalism that accelerated the off-shoring of other vital industries as the rise of the BRIC countries (Brazil, Russia, India and China) assert influence on world markets.

Much of the demographic and economic erosion has also weakened the environmental and social systems that strong economies require for long-term viability. With the effects of climate change looming large and the urban poverty rates threatening to climb higher, we are entering a period when the economy can no longer be seen as separate or independent from the social and environmental aspects of our world.

Additionally, we are currently in a period of economic instability that threatens financial markets, exacerbates existing job losses and diminishes the very credit businesses need to expand to create new jobs. These tight credit markets come at time when the changes to the underlying economic dynamics require new investment to reposition Cleveland for the future.

All of these powerful dynamics don't just call for a new way of looking at things, they require a major re-think of the assumptions that have driven Cleveland from the turn of the century. This re-thinking will require that the element of sustainability play a overarching role in how Cleveland rebuilds its economic foundations and how it decides to proceed from this point forward.

“Being a good steward of the environment and being profitable are not mutually exclusive. They are one and the same.” – Lee Scott, CEO, Walmart

CONTEXT FOR ACTION: THE SUSTAINABILITY IMPERATIVE

THE CONVERGENCE IS DUE TO THE IMPACT OF THREE FORCES:

Markets—rising energy and associated resource costs and consumer demand for safe and healthy products

Policy—increasing probability of climate change intervention (carbon taxes) and environmental regulation (energy standards, emissions control and chemical content disclosure requirements)

Community—pressure to minimize environmental impacts of water, air and soil on health and family

CONVERGENCE

There is a “convergence” taking place globally that Cleveland must recognize and take advantage of locally.

Economic, Environmental, and Social challenges are no longer understood separately — around the world there is a rapidly accelerating focus on achieving a high — performance economy through careful attention to all three arenas. In order to be competitive in the future global economy, economic development must take place at the point of overlap — ***this convergence point is the heart of sustainability.***

This sustainability convergence is causing regions to look for their own “triple bottom-line” outcomes: prosperity, environmental sustainability, and equity. These outcomes are how public officials, community, and business leaders are increasingly measuring “success.”

Achieving the outcomes which will shape a sustainable Cleveland involves rethinking and strengthening how the region wrestles with challenges in four key areas: The Personal and Social Environment, the Natural Environment, the Built Environment, and the Business Environment.

PERSONAL &
SOCIAL
ENVIRONMENT

NATURAL
ENVIRONMENT

BUILT
ENVIRONMENT

BUSINESS
ENVIRONMENT

These four areas can be understood at the foundations of a sustainable economy and they are basis for the SC2019 Strategic Framework.

SOCIAL & PERSONAL ENVIRONMENT

How our community creates, adapts to and benefits from the challenges of a sustainable economy

NATURAL ENVIRONMENT

How we restore and harness our natural capital, from brownfields to waste and renewable energy, through leveraging their economic and social value in new ways

BUILT ENVIRONMENT

How our neighborhoods, institutions, industries, and city infrastructures successfully integrate sustainability into their built environments

BUSINESS ENVIRONMENT

How our region’s economic engines adapt to market changes while “greening” their supply-chain and accelerating innovation in clean technologies.

Sustainable Cleveland is about achieving an ongoing flow of incremental improvements that will become waves of positive change.

DYNAMICS

1) SUSTAINABILITY IS A TRANSFORMATION, NOT A TREND

2) THE GLOBAL MARKET IS IN A VOLATILE AND INNOVATIVE PERIOD

3) NEW INNOVATION & ECONOMIC GROWTH WILL COME FROM SUSTAINABILITY SOLUTIONS

DYNAMICS INFORMING THE ECONOMIC SUSTAINABILITY IMPERATIVE

Sc2019's proactive response to the sustainability imperative considers the following dynamics...

1) SUSTAINABILITY IS A TRANSFORMATION, NOT A TREND:

Focus on Reinforcing the Foundations: Cleveland must shore-up and transform the foundations of the economy in a way that creates economic value in the short term and sets the stage for long term resilience and growth.

Whole Systems Accounting: A sustainable economy will take into account full costs and impacts of economic activities, as well as multiple positive benefits.

Mindshift: "Culture eats strategy for breakfast." Culture is a key challenge in accelerating change. Without a culture change that embraces sustainability, inertia will trump the best laid strategies and business will continue as usual – which is not good for Cleveland's economy.

Trends, Risks, Leakages, and Opportunities: In order to be competitive in the new economy, leaders must be aware of and constantly evaluate market and regulatory trends and risks, assess where there are the greatest wealth and resource leakages in the community, and look for opportunities to save money, make money, and invest money.

2. THE GLOBAL MARKET IS IN A VOLATILE AND INNOVATIVE PERIOD:

Resilience: A sustainable economy is not built around a few large industries, but is made up of more industries in multiple sectors.

No Silver Bullet: Demand is growing for products and services that respond to sustainability challenges and opportunities. In addition to investing in specific industries, Cleveland must also prepare the foundations of its economy in order to be competitive within a global market that is still taking shape.

Local Demand is a Driver: A strategic focus on certain facets of the local economy that can improve Cleveland's ability to compete in the global economy.

3. NEW INNOVATION & ECONOMIC GROWTH FROM SUSTAINABILITY SOLUTIONS:

Support entrepreneurs: Growth will come from entrepreneurs who provide solutions to environmental & social challenges.

Transition: Businesses must transition to sustainable production methods, practices, and products.

Attract new businesses: A focus on fostering a high quality of life and an environment that supports innovation will attract new businesses to locate in Cleveland.

Increase diversity and inclusion: Diversity and inclusion are essential to increasing innovation and accelerating economic growth.

PRINCIPLES OF A SUSTAINABLE ECONOMY

The principles of a resilient economy mirror the principles of a resilient ecosystem. A resilient ecosystem can withstand shocks and rebuild itself when necessary. Resilience is the capacity of a system to tolerate disturbance without collapsing. Resilience in social systems allows humans to anticipate and plan for the future. “Resilience” has three defining characteristics:

- A system can undergo change and still retain function and structure
- A system is capable of self-organization
- A system can build and increase its capacity for learning and adaptation

RESILIENCE

One feature of a sustainable economy is that it is not built around a few large industries, but rather that the economy is made up of more industries in multiple sectors. This makes the economy more resilient and less prone to shocks from a downturn within a specific sector. A diversified economy (in terms of business focus and size) not only builds in resilience, but also a high level of adaptability as smaller businesses jockey and position to accommodate the wider national and global economic forces that shape the economy.

NO SILVER BULLET

In the context of rapid and unpredictable change, Cleveland cannot rely a silver bullet solution to put its economy back on track. No single person, industry or infrastructure investment will transform Cleveland’s economy. The demand is growing for products and services that respond to sustainability challenges and opportunities, but it’s not clear exactly how this will play out — for example, what will be outsourced or what can and should be made here in Cleveland. Technologies are changing rapidly, so it is important to be responsive and increase the culture of experimentation and innovation.

SHORE UP THE FOUNDATIONS & QUALITY OF PLACE

Cleveland must prepare the foundations of its economy in order to be competitive within a global market that is still taking shape. Cleveland can simultaneously focus on quality of life as an economic driver and on creating economic value in the process of strengthening key elements within the foundations: the Social and Personal Environment, the Natural Environment, the Built Environment, and the Business Environment.

PAY ATTENTION TO WEALTH LEAKAGES

If people spend more than they earn, it doesn’t matter how high their salary is, they are still in debt. When thinking about jobs, for example, you can’t look only at new jobs created, you must look at jobs kept here in Cleveland and jobs lost.

In addition to money and resources flowing into the economy, sustainable economic development considers outflows. We define leakages as the loss of wealth, resources or assets from otherwise unaccounted for, less visible and often multiple small sources. These can be in the form of outsourcing and downsizing, in the form of costs to the public due to health and environment factors. For example, a family might earn a “living wage,” but if they have high transportation costs, or have to pay high medical bills due to poor air quality, they can’t increase their overall wealth.

We highlight the importance of leakage, because economic development reports often use indicators that only focus on inflows — for example, creating new jobs, increasing revenue and GDP. For example, as federal dollars pour into the Gulf Coast to clean up the BP oil spill, GDP goes up and it seems that there is net growth in the regional economy. But this is not the whole picture. The clean-up jobs are temporary, while the regional economy flounders and has lost permanent tourism and fishing revenue. The environmental leakages — loss of clean water, natural habitat, biodiversity, etc. — is not taken into account in the measurement of GDP.

WHOLE SYSTEMS ACCOUNTING

Whole systems cost-analysis refers to the process of collecting and presenting information (costs as well as advantages) for each proposed alternative when a decision is necessary. It is a conventional method of cost accounting that traces direct costs and allocates indirect costs including externalities and benefits not traditionally captured. It can be done formally for complex projects that require impact assessment or it can be done informally, as a mindset shift.

LOCAL DEMAND IS A DRIVER

In a sense, local demand-based economies give people the opportunity to better express their values through the market place. Local demand gives businesses the incentive to develop specialized products and services rather than making a low-quality copy of what is produced in another place.

A well-defined sense of what customers want and need in a product or service enables local firms to offer appropriate production and process solutions.

Groups of demanding local customers will encourage industry firms to continuously innovate and stay on the leading edge. This also provides opportunity for new businesses to emerge with innovative new products, services, or production methodologies.

LOCAL NEEDS-BASED ECONOMY

Local Economy does not mean that people should give up oranges or smart phones — rather that a strategic focus on certain facets of the local economy can improve Cleveland's ability to compete in the global economy.

Cleveland should focus on producing the products that:

- 1) are most at risk due to climate change.
- 2) represent the most amount of economic opportunities locally.
- 3) build on local talents, skills, and respond to a desire for meaningful work.

A sustainable economy, like any economy, is driven by supply and demand and the need to be competitive. There is however, a difference:

SUPPLY (TRADITIONAL)

Cost savings through efficiency
Attract & retain talent through pay incentives
Respond to regulation with minimum requirement

SUPPLY (SUSTAINABLE)

Cost savings from radical energy and resource efficiency and from turning waste streams into profit areas
Attract & retain talent through quality of life & meaningful work
Proactively anticipate and exceed potential regulation

DEMAND (TRADITIONAL)

Doesn't hurt your pocket book
Consumers focused on final product

DEMAND (SUSTAINABLE)

Doesn't hurt your pocket book, the environment, or your neighbors
Consumers focused on entire value chain: final product AND where it came from AND where it goes

ECOSYSTEMS SERVICES

FUNCTION OF THE NATURAL ENVIRONMENT

The functions provided by the natural environment can be divided into three groups: resource functions, sink functions, and ecosystem services. Resource functions are the natural resources used by humans. Sink functions are the ability of the natural environment to absorb waste and pollution caused by human activities (United Nations, European Commission, International Monetary Fund, OECD, & World Bank, 2003).

ECOSYSTEM SERVICES

refer to resources and processes that are provided by ecosystems. Ecosystem services encompass:

supporting services, such as soil formation and nutrient cycling

 provisioning services, such as production of food and clean water

 regulating services, such as regulation of climate and disease

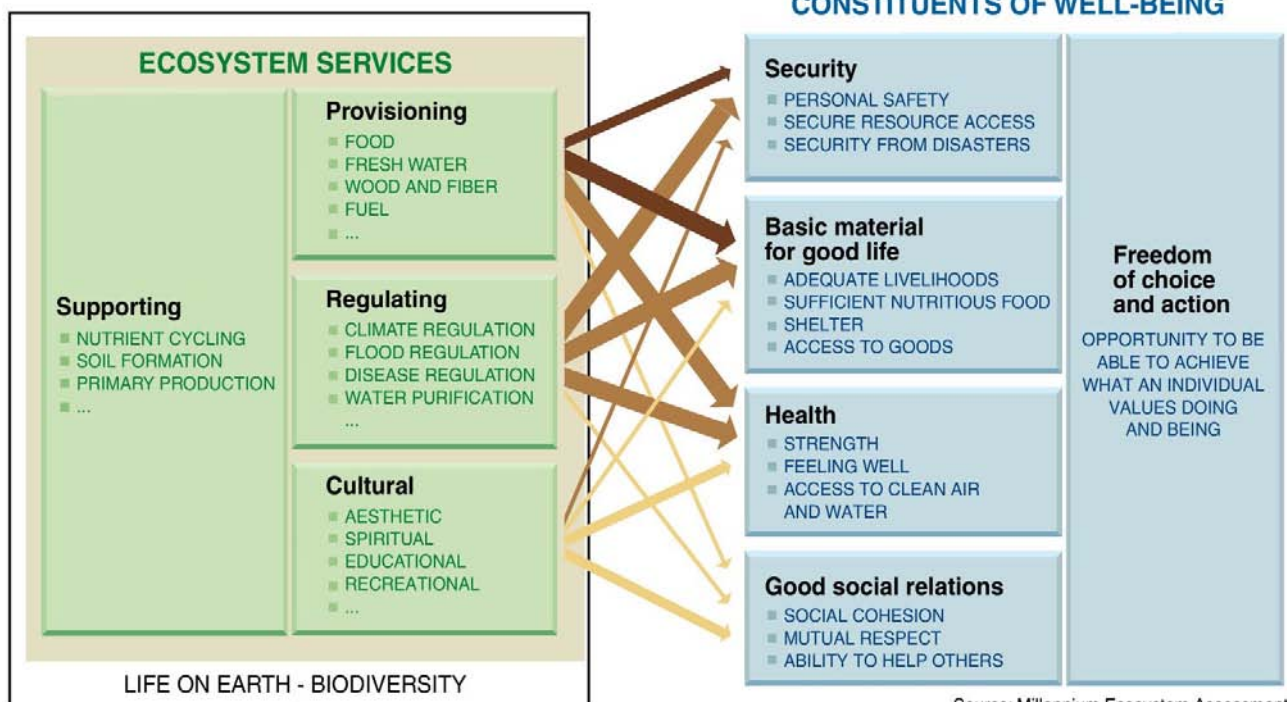
 cultural services, such as spiritual and recreational benefits obtained from ecosystems (Millennium Ecosystem Assessment, 2003).

ECONOMIC VALUE

Ecosystem Services are increasingly understood as a cornerstone and driver of a healthy economy. By leveraging key ecosystems services, cities can save money that would otherwise be spent using expensive technological solutions. Additionally, healthy ecosystem services have other positive benefits, such as increased health and well-being.

EXAMPLES

pollination, erosion protection, water purification, pollution remediation, carbon sequestration



Source: Millennium Ecosystem Assessment

ARROW'S COLOR
Potential for mediation by socioeconomic factors

Low

ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being

Weak

AMONG THESE WIDER KEY FORCES IN PLAY ARE THE FOLLOWING:

- 1) Market Volatility
- 2) Increasing Consumer Awareness and demand for full product lifecycle accountability
- 3) Increasing Value of Resources & Ecosystem Services
- 4) Climate Change
- 5) Increasing Income and Health Gap

EXAMPLE RISKS

MARKET:

- Increasing cost of energy
- Increasing cost of carbon
- Increased cost of water passed on to consumers via products
- Increasing Consumer pressure for full-life cycle accountability of products
- Slowed economic development due to income disparity and inequality¹
- Supply chain demand for low impact products (coke, walmart, etc.)
- Difficulty attracting and retaining talent (mobile populations, people demand meaning in jobs)

REGULATORY:

- Increasing Regulation of externalities – pollution, GHGs, ecological footprint
- Physical:
 - Changing Climate effects inner city – increased health burden
 - Stormwater continues to pollute ground and surface water supplies
 - Lack of biodiversity weakens overall strength of ecosystems

¹ one of the number one indicators of economic growth is level of equality and inclusion – (economic dashboard of indicators)

TRENDS & RISKS

HOW WILL KEY GLOBAL & NATIONAL TRENDS EFFECT SUSTAINABLE ECONOMIC DEVELOPMENT?

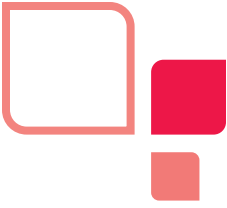
Despite the wide array of assets and activities Cleveland has currently going for it, there are a number of trends and risks, many beyond anyone's control, that can threaten, diminish or sidetrack even the best of efforts. In order to remain competitive and to take precautionary action, Cleveland must take these forces into account. Even as Cleveland finds new energy to move beyond the traditional development paradigms of the past, and despite great plans for the future, it is critical that Cleveland's plans be informed by other local, regional, national and global contexts.

Many of these trends have been years in the making and pose great risks, other trends, while requiring change, pose great opportunities. Often the difference between a great risk and a great opportunity depends entirely in how these forces have been accounted for in plans to move the community forward. We would like to outline a few of these forces shaping our world as a way to ensure that as Cleveland puts in place a new development paradigm, that these forces can be aligned as much as possible to propel Cleveland forward, rather than hold it back.

These forces shape SC2019's thinking and the design of Celebrating Progress Action Plan and the SC2019 strategic framework. They will be discussed in more detail in Chapter 5.

“Our consumers are very sensitive to social and environmental issues... We have actively engaged with them on these issues in the last ten years, and they have become very aware as consumers. They especially ask for information on environmental policies, workers' rights and product safety.”

– Walter Dondi, Director of Co-op Adriatica (Italy's largest retailer)



1.3

ECONOMIC MODEL

WHAT IS THE SC2019 ECONOMIC MODEL? WHY IS IT USEFUL?

The Economic Model developed for Sustainable Cleveland 2019 uses traditional value-chain modeling and an analysis of the key enabling conditions for a high-performance economy, while embedding principles of environmental and social sustainability at every level.

Existing business growth, new business development and an increase in employment are necessary but not sufficient conditions for a prosperous and competitive economy. These traditional economic indicators must facilitate the end goal of a sustainable economic system: a higher quality of life for present and future generations.

The model refers to different types and sizes of individual businesses, but it is important to remember that factors internal to a business (such as management practices and organizational culture) must be addressed to align with the goals of sustainable business. For example, firms might be able to access markets in innovative green tech opportunities (an external factor), but might not be willing to do so (an internal factor).

The economic model underlies the structure of the report's Strategic Framework and reveals how different strategic priorities are linked to an economic engine driving prosperity and increasing competitiveness for Cleveland. The model is premised on the assumption that some aspects of the business environment (such as the price of commodities or federal regulations) cannot be influenced (or are outside the scope of this plan), but should be considered in our understanding of what drives business development. Thus, within the "Foundations for a sustainable economy," the key priority areas relate to factors that simultaneously have the most relevance to Cleveland and have the greatest potential to be influenced by local citizens, businesses, and government.

THE MODEL PROVIDES AN ECONOMIC FRAMEWORK TO:

- Identify the factors that influence business development in Cleveland and show how principles of sustainability are intimately wed to a prosperous and productive economy at every level.
- Demonstrate how different productive entities within the Cleveland economy – from large manufacturing firms to local micro-enterprises – support and enhance each others' productivity and drive Cleveland's economy.
- Demonstrate that a focus on the foundations of a sustainable economy is crucial to attracting firms and people to locate, grow and prosper in Cleveland.

COMPONENTS OF THE ECONOMIC MODEL

SUSTAINABLE INDUSTRIES

What is it?: The top level of the pyramid refers to businesses and firm producing and selling final, products and services to a local, national and/or global market.

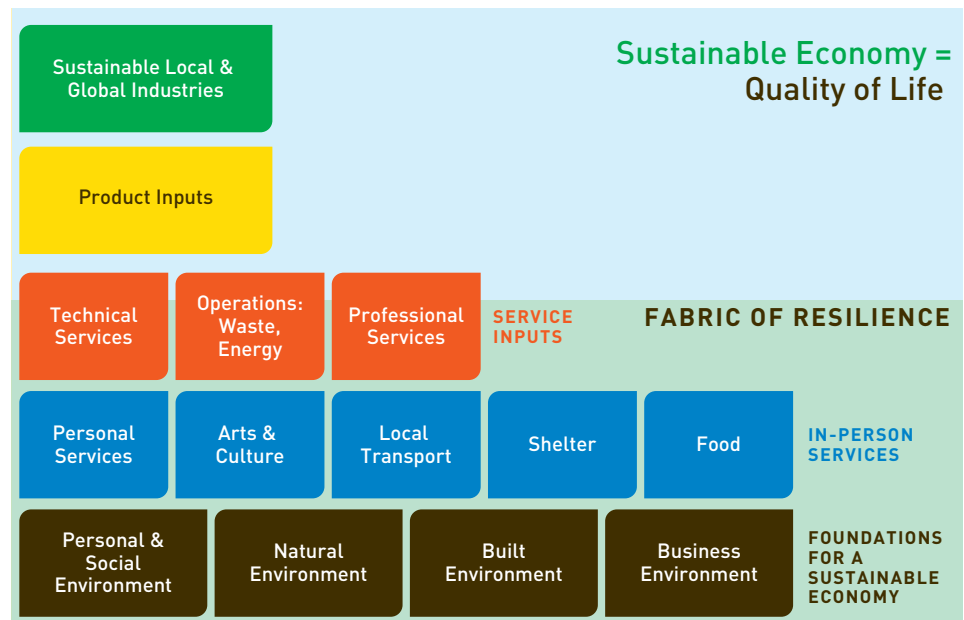
Why is it important?: Economic sectors in Cleveland, and the businesses within them, can find sustainable solutions within their current business and operating practices and can seek out new business opportunities that emerge from a higher demand for environmentally sustainable products and services. In the best case, sustainable businesses have both sustainable practices and processes within their operating environment and produce products that not only don't harm the environment, but are also based on principles of regenerative design. This means that resources for production are used in a way that replicates nature and builds the capacity of current support systems needed for future growth.

PRODUCT INPUTS

What is it?: The firms and businesses on the second level of the pyramid are support industries that produce product inputs for Sustainable Local and Global Industries. Inputs in an industry supply chain supply final producers with raw materials and manufactured inputs. These suppliers can be specific to a particular industry or can serve a range of industries.

Why is it important?: These are typically business-to-business industries and do not face direct customer pressure to move toward sustainability, thus pressure for

MODEL: SUSTAINABLE ECONOMY



EXAMPLES

Sustainable Local & Global Industries

EXAMPLE: WIND TURBINE INDUSTRY

The top level of the pyramid refers to businesses and firm producing and selling final products and services to a local, national and/or global market.

Product Inputs

EXAMPLE: WIND TURBINE PROPELLOR

These firms and businesses refer to support industries that produce product inputs for Sustainable Local and Global Industries. Inputs in an industrial supply chain supply final producers with raw materials and manufactured inputs.

Services Inputs

EXAMPLE: IT COMPANY SETS UP SYSTEMS FOR WIND TURBINE BUSINESSES
Service supply industries provide technical, professional, and operational support service industries. For example, Technical Services refer to services such as IT, auditing, architecture and design, engineering, web and software design, real estate, and research

In-person Services

EXAMPLE: FAVORITE RESTAURANT, DAY CARE PROVIDER
In-Person Services refer to Personal Services (healthcare, childcare, elderly care, wellness), Shelter, Food, Culture (Arts and Entertainment), and local Transport. In-Person Services cannot be outsourced and create the basic context for where people live, work, care for and educate their children, care for their elderly, and maintain a healthy and happy life.

Foundations for a Sustainable Economy

EXAMPLE: TAX STRUCTURE THAT GIVES INCENTIVES TO RENEWABLE ENERGY PRODUCERS

The foundations for a sustainable economy describe the enabling conditions for a competitive and sustainable economy. The four components of the foundation – Social and Human Assets, the Build Environment and the Business Environment

greening of the business or energy efficiency comes from the top down. Supplier industry companies are becoming increasingly responsive to market trends and supply chain pressures and moving toward more sustainable products and production processes even though they do not directly experience the pressure of

WALMART'S SUPPLY CHAIN

Walmart's drive to green its supply chain is motivated by two key factors:

1) CONSUMER PRESSURE

Walmart wants to make sure that its market share is not damaged by negative reputation. By acting early on inevitable trends, Walmart can position itself as a global leader in sustainability, securing the good will and loyalty of customers.

2) RISING COSTS OF ECOLOGICAL FOOTPRINT

Walmart believes that costs associated with ecological footprint — materials, carbon, energy, pollution, waste, and water will inevitably go up in the future. By proactively driving these costs out of supply chain, Walmart will be well positioned to sell products at lower prices than its competition.

customer demand.

SERVICE INPUTS

What are they?: Service supply industries provide technical, professional, and operational support service industries. Technical Services refer to services such as IT, auditing, architecture and design, engineering, web and software design, appraisal, real estate, and research. Professional Services include, but are not limited

to legal services, marketing/PR, financial services, business consulting, sales, and actuary, while Operational Services refer to services such as energy, waste management and waste transport.

Why are they important?: The services at this level of the pyramid may or may not be able to be outsourced, depending on level of specialization of support to local economy. This sector can serve both export industries and local businesses and is thus a more resilient level of the pyramid than the Product Inputs, which typically do not serve local needs. Although Service Inputs industries may shrink if the industry in which they operate faces an uncertain market or a crisis, they can remain functional and respond to demand from local market until they can adapt services to be of productive use to another sector or until the threatened sector re-emerges. Service Inputs also provide the backbone of human capital and talent creates a supportive environment for doing business locally and globally.

IN-PERSON SERVICES

What are they?: Personal Services (healthcare, childcare, elderly care, wellness), Shelter, Food, Culture: Arts and Entertainment, and Local Transport are service businesses that create the basic context for where people live, work, care for and educate their children, care for their elderly, and maintain a healthy and happy life.

Why are they important?: This level of pyramid defines where and what people eat, what they do in their leisure time, and how they move from place to place. Businesses on this level of the pyramid make up the "Fabric of Resilience" and on aggregate provide the majority of jobs in any economy.

In-Person Services contribute greatly to the quality of life and quality of place, which is increasingly understood as a primary attractor for younger, mobile talent, as well as a key driver of economic prosperity.

FOUNDATIONS FOR A SUSTAINABLE ECONOMY:

What are they?: The foundations for a sustainable economy describe the enabling conditions for a competitive and sustainable economy. The four components of the foundation: Social and Human Environment, the Natural Environment, the Built Environment, the Business Environment. We go into the details of these foundations in the next section.

Why are they important?: Different aspects within these components can facilitate or undermine the competitive capacity of a sustainable economy and are the enabling conditions for productivity and prosperity. For example, within Social and Human Assets, elements such as high levels of connectivity, strong networks, appropriate institutions and good governance structure can increase competitiveness and encourage sustainable business practices, as well as collaboration and competition, creating positive feedback loops within the economy.

QUALITY OF LIFE & CREATIVE CITIES

The economic foundations of a sustainable economy not only support economic growth, they also contribute the end goal of development – a high quality of life. However, this is not a one way street; economic development and quality of life are mutually reinforcing. Improving Cleveland’s quality of life and quality of place are key strategies for attracting and retaining businesses and young dynamic professionals.



In Sustainable Economic Development, the foundations of the Economy are also the foundations for a high quality of life. In this age of high mobility, people can choose where they want to live – and people drive the economy.

OVER TIME, SHORING UP THE FOUNDATIONS FOR A SUSTAINABLE ECONOMY LEAD TO HIGH QUALITY LIFE FOR ALL

A significant urban trend in the last decade is the rise of “new urbanism.”¹ The concept is simple: the new economy (smaller, younger, technology-driven, knowledge-based products and services) is fueled in large part by the fabric of dense, vital, core urban centers that create the connectivity favored by highly paid knowledge workers.

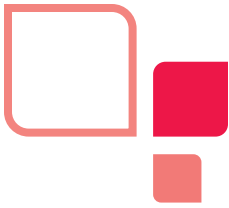
This demographic shift, as young professionals seek out these vital

urban cores, is driving a new economic and social renaissance in many cities around the nation and globe. The key premise to this “new economy” is that place matters. Cities that want to tap into this tremendous economic potential are making investments that reposition their image and make their cities more attractive to the demographic groups fueling this trend.

Cleveland can easily compete in this game. By leveraging its significant built-environment investments, low-cost of living,

unique communities and high-quality of life, Cleveland can reverse its recent demographic trends and attract the best and brightest. To do so, it must reposition itself as a vital regional center of innovation, creativity and high-quality urban living. Given what we have seen in Cleveland, this is not such a far stretch. Attracting those professionals back into the urban core should be an important strategy that can help drive the economy and raise standards of living for all.

¹ New Urbanism is espoused by Jane Jacobs (*The Death and Life of Great American Cities*) and the Congress for New urbanism, as well as and the “creative class” movement which Richard Florida and others have articulated in recent books (*Rise of the Creative Class*).



1.4

CLUSTER OVERVIEW

CLEVELAND'S CLUSTERS MOVING TOWARD SUSTAINABILITY

As Cleveland moves forward and powers up its economic engine in the age of sustainable economy, all of Cleveland's clusters — whether historical industry clusters, modern high-tech clusters, or emerging “seed” clusters — must adopt and apply sustainability practices within their existing production.

The firms and industries that move quickest — in adopting energy and water conserving technologies, more efficiently using natural resource inputs, greening their supply chains, and fostering economic inclusion in hiring and procurement — will achieve cost savings and become the competitive and resilient players in the new sustainable economy. Similarly, all of Cleveland's clusters can play a key role in innovating new products, services, and sustainability solutions needed for the future of the world economy.

Seed clusters represent the new sprouts of the economy that have the potential to grow from existing

competitive advantages. These seed clusters can also strengthen the foundations of the economy and create new competitive advantages in the process. In the future, using sustainability as a lens, industry sectors may be understood as a part of greater systems that serve to increase our quality of life. Key concepts and recommendations for Cleveland's historic industrial, existing high-tech, and emerging seed clusters are summarized below. A more detailed analysis in Chapter 4 recommends ways that a sustainability framework can strengthen all of Cleveland's clusters of firms.

HISTORIC CLUSTERS

Iron & Steel

Auto & Transportation Equipment

Chemicals, Rubber, Plastics,
Polymers

Paints & Coatings

Electrical Machinery

MODERN CLUSTERS

Advanced Manufacturing (including
transportation equipment, aerospace,
instruments and controls)

Advanced Materials

Advanced Energy

Healthcare

BioTech

IT and Professional Services

Local Foods

Construction

HISTORICAL CLUSTERS

Cleveland's historic clusters, ranging from steel and chemicals, automotive, machine tools, electrical components, to paints and coatings, have existed in the region for the past 50 to 150 years. Although these industries have continued to decline in employment in the last decades, they still account for more than half of the region's total manufacturing employment.

Moreover, these industries continue to contribute an enduring competitive advantage for the region that comes from their long legacy of industry leadership, strong buyer and supplier company relationships, concentrations of talented and specialized workforce, specialized R&D institutions, and specialized infrastructure.

However, for historic clusters to continue to evolve, transform, and adapt to changing markets, they need to become more sustainable and innovative in all areas of business practices, including defining new markets, upgrading operations and technologies, solving environmental impacts of production and sophisticating distribution systems. The full report recommends ways that a sustainability framework can strengthen Cleveland's historic clusters of firms, which are summarized below (in Recommendations).

MODERN CLUSTERS

Cleveland's modern clusters include the region's high-tech manufacturing industries and advanced services clusters including IT/Communications, headquarters' management, science and engineering, multiple dimensions of the healthcare industries, as well as local foods and construction. It is noteworthy that Cleveland's high-tech clusters grew faster than those in the

Midwest and the United States during 2004-2007, due in large part to the region's continued and increasing investment in R&D.

Another key factor in the resilience of Cleveland's high-tech clusters is their linkages with historical industrial clusters as they benefit from the enduring competitive advantages of the region's historic assets in specialized talent, R&D, education, training, and specialized physical infrastructure. While still a relatively small part of overall employment (8.7%) and GRP (13.6%), Cleveland's high-tech clusters represent the most promising, technology-intensive industries of the region and are currently demonstrating an exciting growth potential on which to sustain and build. The emergence of the clean-tech revolution offers Cleveland's high-tech clusters a challenge and opportunity to upgrade and green their products and production processes and continue to position for new competitiveness in the sustainable economy.

Advanced manufacturing and materials and advanced energy clusters in Cleveland are gearing up to design and produce products that are needed to support the green economy ranging from wind turbines to LED lights to auxiliary power units and will require the creation of high quality, low impact materials, new approaches to industry, and manufacturing processes that maximize energy efficiency. Advanced manufacturing and advanced materials can also provide solutions to other sustainability challenges such as waste, water, and toxic pollution.

Similarly, healthcare industries, local food entrepreneurs, and green building companies are increasingly

orienting toward opportunities in a new sustainable economy.

Chapter 4 describes ways that SC2019's strategic framework can strengthen existing clusters of firms. These recommendations are summarized below ("Recommendations").

SEED CLUSTERS

A number of emerging "seed" clusters in the region also can play a key role in innovating new sustainability solutions for the world economy. Seed clusters represent the new sprouts of the economy that have the potential to grow and create new competitive advantage for the region and represent the best opportunities for rapid growth of high value-added jobs. These seeds can strengthen the foundations of the economy and create new competitive advantages in the process. In the future, using sustainability as a lens, industry sectors maybe understood as a part of greater systems that serve to increase our quality of life.

The strongest economic drivers in the coming decades will come from seed clusters where there is strong research capability, there are some firms in the region poised to take commercial advantage of the research, and the cluster in some way benefits from capabilities that derive from existing clusters. Several of the seed clusters identified — such as wind energy and bio fuels — are clearly part of the "clean-tech" revolution. Other seed clusters, perhaps existing and yet to be detected, could be developed in many of the clean-tech fields such as solar energy, biomaterials, green buildings, etc.

All seed clusters (including the companies, institutions, entrepreneurs, workers) have opportunities to be

leaders in Cleveland's sustainable economy.

The two key questions are: (1) how SC2019 can help to nurture the further development of these early stage agglomerations of talent, research excellence and innovation, entrepreneurship, and capital? and (2) how can SC2019 support these clusters to become part of the vanguard for bringing sustainability into the economy?

Chapter 4 recommends some general strategies to respond to these challenges, encompassing greening of the value-chain of these industries, generating new clean-technology innovations for new or existing markets and helping the seed cluster to harness existing assets in new ways within the region and beyond. It also elaborates on the infrastructural predispositions of Cleveland, the Cleveland Region, and Ohio to embark on a successful sustainable transformation of existing and seed clusters.

SEED CLUSTERS

Advanced ceramics-fiber molded compounds, and resin-transfer molded materials (branching off the polymers and advanced materials cluster)

Ice protection systems, propulsion design, and hybrid bearings (branching off the advanced manufacturing/aerospace cluster)

Thermal controls, optical biosensors, and propulsion instrumentation (branching off the advanced manufacturing/instruments and controls cluster)

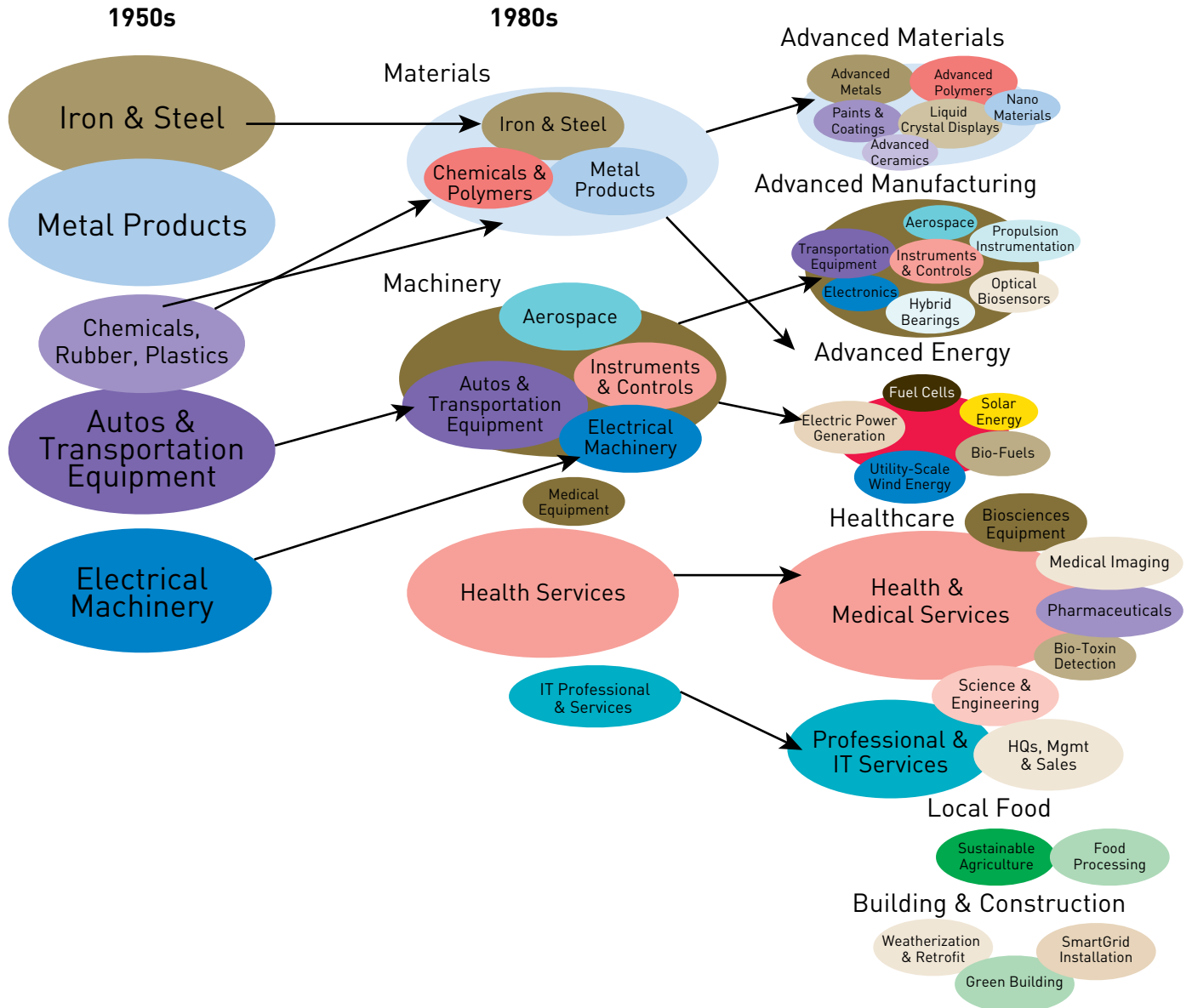
Wind energy, biofuels, fuel cells (branching off the advanced energy cluster)

Medical imaging & biotoxin detection (branching off the healthcare and biotech clusters)

Computer system design and IT disaster recovery (branching off the IT cluster)

Evolution of Cleveland's Clusters

HISTORIC CLUSTERS → EXISTING & SEED CLUSTERS



SUSTAINABLE SYSTEMS
CLUSTERS:

Sustainable manufacturing/
materials systems—Sustainable
transportation systems; Closed
loop sustainable manufacturing;
Production technologies to de-
materialize production process;
Sustainable polymers; Non-toxic
biodegradable materials; Nano
materials

Sustainable energy systems—
Biofuels; Fuel Cells; Solar;
Wind technologies; Smart grid
technologies; Renewable energy
installation; Energy efficient lighting;
Efficiency technologies & controls

Healthy lifestyles—Healthcare;
Alternative healthcare; Biomedical;
Biotech; Local foods; Outdoor
recreation; Biotoxin detection;

Regenerative Building &
Infrastructure—Green building
(including Deconstruction
technologies, Weatherization);
Biotoxin detection; Healthy water
systems technologies; Urban
agriculture; Ecosystem services
enhancement technologies; Air
cleaning and materials (mercury,
etc. capture technologies);
Brownfield remediation;

A VISION FOR TOMORROW:
“SUSTAINABLE SYSTEMS”
CLUSTERS

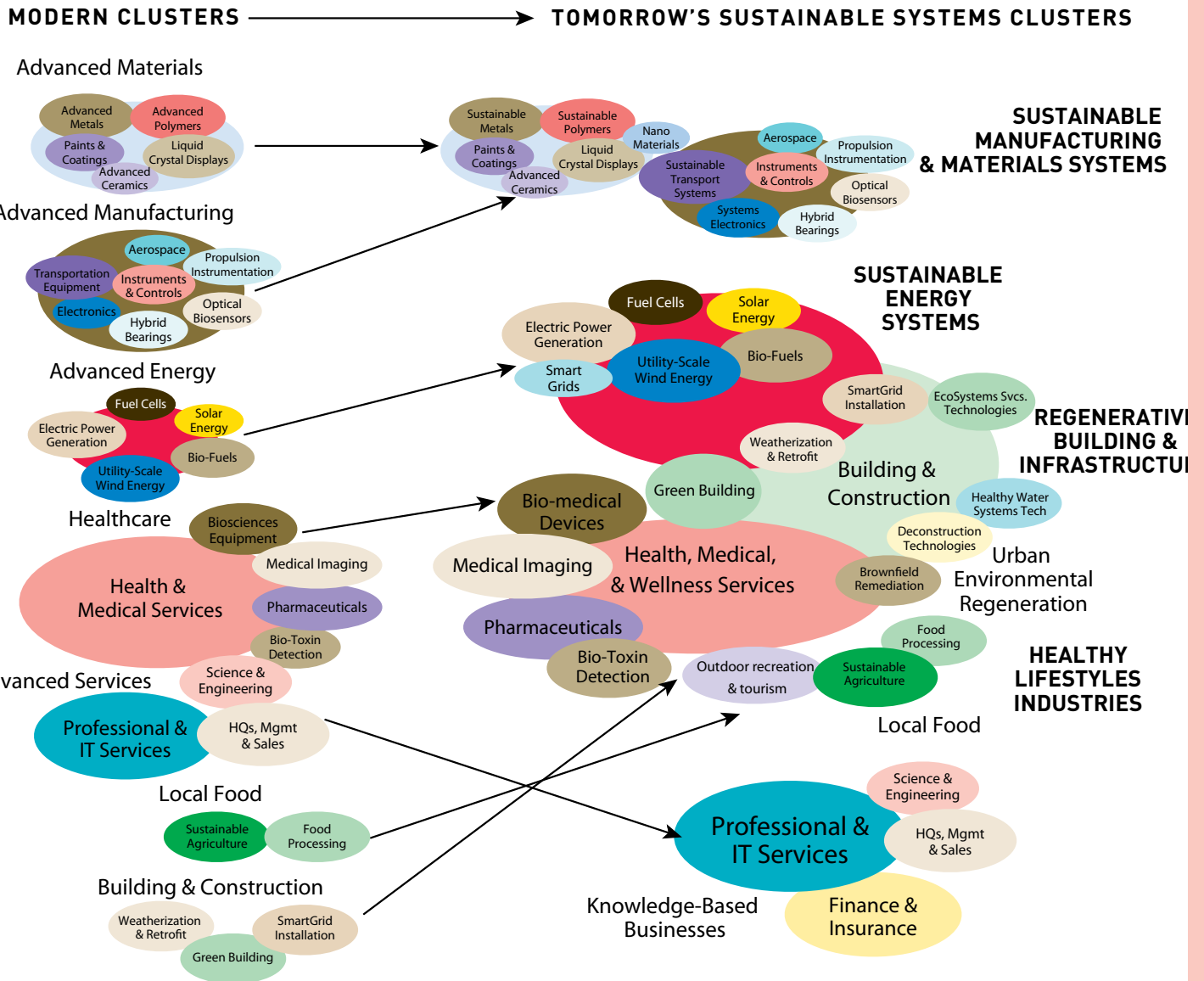
In the future, using sustainability as a lens, industry sectors may be understood as a part of greater systems that serve to increase our quality of life. Cleveland’s clusters have the potential to evolve into “sustainable systems”. Instead of imagining each industry as a separate entity, industries can work together to create relationships and processes that are more conducive to full product life-cycle stewardship. These new cluster systems could bring together the actors from all stages of a product or service life-cycle in order to foster innovative solutions. For example, a traditional Health Cluster becomes Healthy Lifestyles, which includes prevention as well as treatment. Advanced materials and Advanced Manufacturing come together, recognizing their increasing interdependence as they search for sustainability solutions.

Each cluster “system” listed below would be made up of a diversified portfolio smaller clusters (as illustrated on the following page):

- Sustainable Manufacturing/ Materials Systems
- Sustainable Energy Systems
- Regenerative Building & Infrastructure
- Healthy Lifestyles.

Cleveland’s infrastructure for sustainable transformation — comprised of sets of institutions and specialized infrastructure — will leverage competitive advantages of historic, existing and seed clusters and accelerate their trajectory toward sustainability. These assets include specialized research and economic development institutions, foundations, private sector organizations, public sector bodies on the municipal and state level as well as infrastructural assets ranging from transportation, healthcare, or simply resulting from the City’s strategic position on Lake Erie, that emerged as a result of the great market size of the local economy over previous decades. This infrastructure for sustainable transformation will support Cleveland and its clusters as they move toward sustainable economy, and is grouped according to the four sustainability foundations: built environment, business environment, personal and social environment and natural environment.

Evolution of Cleveland's Clusters



Cleveland's existing clusters will continue to evolve to toward an increasingly diversified and sustainable portfolio. Tomorrow's cluster grouping could include: Sustainable Manufacturing/ Materials Systems; Sustainable Energy Systems; Healthy Building & Infrastructure; Healthy Lifestyles.

CLUSTER RECOMMENDATIONS

HISTORICAL CLUSTERS

In order for Cleveland's historic clusters to survive and continue to retain competitiveness, they will need to transform and apply principles of sustainable economy. Reviving and greening these vulnerable industries is critical to enhancing the region's overall competitiveness and maintaining a range of employment opportunities. The following strategies are recommended for historic clusters in the full report:

Define new regional and export markets that leverage their design and market position.

Identify, acquire, and adapt "best practices" in process and production technologies.

Adopt major "clean-tech" process changes; carbohydrate chemistry; byproduct recovery; control systems; energy efficiency; alternative fuels.

Finance modernization of plant and equipment (For resource efficiency and pollution reduction).

Introduce cutting edge sustainability strategies in all areas of business practices, such as industrial symbiosis, regenerative development, clean-tech, "eco-efficiency," closed-loop cycles, up-cycling or cogeneration networks.

Develop regional distribution systems (e.g., trucking facilities, roads, electronic data interchange).

Create Individual and Cluster-wide Strategic Sustainability Plans - define goals, strategies, and time-lines, and measure progress. (Emphasis on Carbon-Reduction)

Engage employees in sustainability transformation process

MODERN AND SEED CLUSTERS

In order to fully capture the potential of existing and seed industries to spur the growth and competitiveness of the regional economy, new strategic directions will need to be engaged. Following is a list of key strategies for growing sustainable industries:

Transform, grow, capture, and harness assets and opportunities:

1) adopt sustainability processes and practices along the entire value chains of the industries,

2) support new clean technology innovations for new or existing markets,

3) leverage and harness existing local assets through local sourcing and procurement.

Respond pro-actively and creatively to risks, leakages, opportunities.

Aggregate demand for sustainable products and services.

Bring supply and demand-side together to work toward closed-loop and innovative solutions.

Lobby at the local, state, and national level for proactive legislation that supports sustainability transitions.

Leverage collaboration and new voices.

Leverage and support Local Economy where possible. Build an economy

that is more resilient and sustainable by virtue of being rooted in the local community.

Implement cutting edge sustainability strategies, such as Regenerative development, "Clean-tech," Eco-efficiency, Closed-loop cycles, De-materialization of the economy, Up-cycling, Cogeneration.

Create Individual and Cluster-wide Strategic Sustainability Plans - define goals, strategies, and time-lines, and measure progress. (Emphasis on Carbon-Reduction)

Engage employees in sustainability transformation process

DEFINITIONS FOR SUSTAINABLE CLUSTERING

INDUSTRIAL SYMBIOSIS – “WASTE=OPPORTUNITY”

Industrial symbiosis is based on the premise that waste is not seen as a problem anymore, but an opportunity. The strategy demonstrates a modern form of industrial collaboration, where waste and by-products are redefined as valuable inputs to other industrial operations. Examples of such collaboration include sharing utilities and resources, and creating local sources of energy to generate heat, steam and other inputs (Cuyahoga River Valley Initiative). Benefits are reflected in higher job and business creation, improved competitiveness through reductions in operating costs in existing businesses; accelerated use of existing industrial brownfield sites innovative product creation, positive image, etc.

REGENERATIVE DEVELOPMENT

Regenerative development is a development concept that trespasses the principles of sustainable development: while sustainable development entails the use of resources to improve society's well being in a way that does not destroy or undermine the support systems needed for future growth, regenerative development is the use of resources to improve society's well being in a way that builds the capacity of the support systems needed for future growth. (Regenerative Development: Going Beyond Sustainability, Gabel M., Design Science Lab)

Initiatives in regenerative development include innovative ways for industries to share resources, fostering new jobs in industrial clean-up and environment technologies, clean-energy production and ecological restoration techniques for land and water, implementing of natural storm water management strategies, designing new buildings and renovate old ones using green development principles, etc. The benefits of building regenerative development zones are wide-ranging: transforming degraded urban areas into attractive sites can lead to higher inhabitation rates, accumulation of neighborhood amenities, reduced crime, higher property values, reestablishment of biodiversity new business opportunities, learning opportunities for building green, tourism, etc. (Cuyahoga River Valley Initiative)

CLEAN-TECH

Clean-tech are new technology and related business models that generate less or no pollution. In clean-tech (as opposed to end-of-pipe technology, such as for instance, smokestack scrubbers), the environmental equipment is integrated into the production process. (OECD Glossary of statistical terms) Cleantech addresses the roots of ecological problems with new science, emphasizing natural approaches such as biomimicry and biology. The cleantech technologies and business models span many industries and segments, including renewable energy

resources, energy storage, energy infrastructure, energy efficiency, transportation, water and wastewater, recycling etc. Cleantech is driven by productivity-based purchasing, and therefore also reaps great financial sustainability. (Cleantech Group) Other benefits include energy resources preservation, new business and job opportunities, learning opportunities and innovation.

ECO-EFFICIENCY

Eco-efficiency is increasingly becoming a key requirement for success in business. Eco-efficiency in industry aims to deliver and implement management systems, processes and technologies for production, processing and marketing that are economically viable and at the same time environmentally sound and socially equitable. The purpose of eco-efficiency in industry is to do more with less by optimizing the use of resources and with minimum environmental impact. Through fundamental changes in production design and technology, leading organizations are already making natural resources stretch 5, 10, even 100 times further than before. (Cuyahoga River Valley Initiative) Eco-efficiency can generate benefits such as cutting production costs, reducing the environmental impact of production facilities, enhancing workplace safety and social equity within companies and in their surroundings, etc.

CLOSED-LOOP CYCLES – “CRADLE-TO-CRADLE CYCLES”

Closed loop cycle stands for a zero-waste supply chain that completely reuses, recycles, or composts all materials. Drawing on nature's designs, closed-loop production systems return every output harmlessly to the ecosystem or create valuable inputs for other manufacturing processes. An important prerequisite is that producers' responsibility is extended to the entire product life cycle including the post consumer phase of their product. Hence, product designers are incentivized to adjust products accordingly. Benefits include significant positive environmental and public health impacts, such as resource preservation, eliminating waste and toxicity, and often more efficient production as a result of innovation. (Cuyahoga River Valley Initiative)

DE-MATERIALIZATION

Dematerialization of the economy is a decline over time in the weight of materials used in industrial end products or in the “embedded energy” of the products. In other words, dematerialization refers to the absolute or relative reduction in the quantity of materials and energy resources required to serve economic functions. The impacts of dematerialization on humans is enormous – less materials used and less waste means less garbage, less hazardous and toxic materials exposure and land conservation. Thus, a strategy of dematerialization is an important component of sustaining the

human economy over the long term. (The Rockefeller University, Program for the Human Environment)

UP-CYCLING

Up-cycling is a process of converting an industrial material into something of similar or greater value, in its second life. It is generally a reinvestment in the environment and a component of sustainability as waste materials are used to provide new products. Up-cycling allows for the reduction of waste and material use. (The Tennessee Valley's Green Community) Aluminum and glass, for example, can usually be up-cycled into the same quality of aluminum and glass as the original products. (Dictionary of Sustainable Management) Benefits thus can include resource preservation, new jobs creation, innovation, enhanced image, etc.

COGENERATION

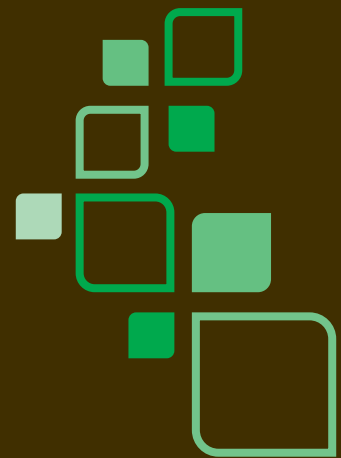
Cogeneration refers to the use of a power station or a heat engine in order to generate both, useful heat and electricity. It combines the use of power and heat, and is considered as the most common form of energy recycling. (Cuyahoga River Valley Initiative) By simultaneously producing electricity and thermal energy (in the form of hot water or steam), the thermal energy that would otherwise become waste heat is captured and used, thereby increasing the overall efficiency of the system. Today, in the Cuyahoga Valley, many of the industrial facilities generate part of their

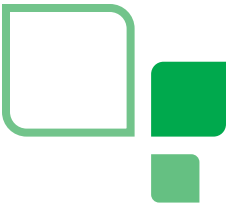
own electricity and unwanted thermal energy often ends up unused and released in the air. Developing a network of hot water pipes or underground steam tunnels linking these facilities, would allow for mutual trading of thermal energy excesses among businesses. Such cogeneration networks would allow for new source of revenues businesses, savings resulting from avoiding expensive increases in boiler capacity at their own facilities and higher resilience of the whole electric grid. Environmental benefits include reduced fossil fuel usage and lower CO2 emissions (Cuyahoga River Valley Initiative).

CHAPTER 2.0

2.1	STRATEGIC FRAMEWORK
2.2	PERSONAL & HUMAN ENVIRONMENT
2.3	NATURAL ENVIRONMENT
2.4	BUILT ENVIRONMENT
2.5	BUSINESS ENVIRONMENT

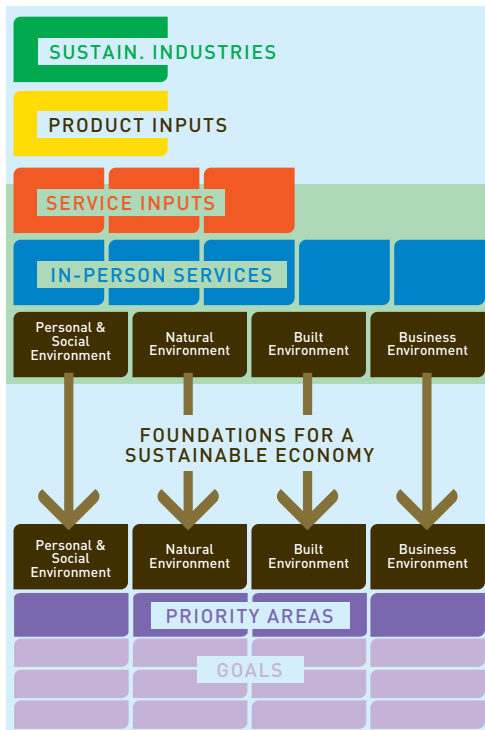
STRATEGIC FRAMEWORK





2.1

STRATEGIC FRAMEWORK



Most of the Priority Areas and Goals in the SC2019 Strategic Framework are directly linked to those in Cleveland's other thoughtful strategic plans: The City of Cleveland Strategy for Development, the GCP Strategic Plan, Transforming Our Regional Economy, the Cuyahoga Valley Initiative, and others (for a full list see bibliography). This Framework is not meant to change or overshadow this work, or to re-invent the wheel – rather it should provide a place where many stakeholders can communicate about intersection points that relate specifically to SC2019.

WHAT IS THE STRATEGIC FRAMEWORK?

The overall purpose of the **Economic Model** described in chapter one is to provide a visual tool to describe how the principles of sustainability are embedded in the foundations of the economy .

The overall purpose of the **Celebrating Progress Action Plan** (described in chapter three) is to create an accessible action time-line and a hook that catalyzes and engages all citizens.

The overall purpose of the **SC2019 Strategic Framework** described here, on the other hand, is to provide a structure that can help with alignment, measuring progress, and prioritizing initiatives throughout the next 10 years.

Setting the stage for the Strategic Framework are the four Foundations that support a sustainable economy in the SC2019 economic model: Personal and Social Environment, Natural Environment, Built Environment and Business Environment. Priority areas and goals are organized to show their direct link to these foundations, and thus to the economy as a whole.

Through a synthesis of stakeholder interviews, focus groups, local inputs, analysis of key trends, and based on recommendations from Cleveland's economic development reports written over the past 10 years, the SC2019 Action Guide has identified two priority areas within each foundation that are essential to Cleveland's economic transformation.

The Strategic Framework should provide a way for organizations, government, businesses, and individuals to plug into Sustainable Cleveland 2019 and understand how their different initiatives and projects – or individual efforts – fit into the overarching goal: everyone working together to create a prosperous and resilient economy.

In addition to the priority areas, we identified three meta-themes, or “transversals” that are embedded throughout the framework: Health, Low-Carbon, and Equity. All three of these themes are so fundamental to a sustainable economy, that they must be considered at all points.

The strategies described in the following section are illustrative examples of types of strategies that could be deployed. This framework will be used by many different stakeholders, thus each group will define its own strategies that make sense and resonate with each particular context.

Taking action within each targeted goal and priority area will strengthen the foundations and create a fertile soil for economic growth. This rich soil will provide nutrient flows to industries, businesses, and the community and a create context in which all facets of the economy can flourish.

HOW THIS FRAMEWORK CAN CONNECT AND ALIGN WHAT IS HAPPENING ALREADY IN CLEVELAND

This strategic framework provides a structure through which to emphasize strategic priorities, to measure progress, and to highlight both the “how” and the “what” of a sustainable economy. The framework is purposefully broad because strengthening Cleveland’s economic foundations will require work by many people coming from many different perspectives. A challenge this big requires a “by land, by sea, by air” approach.

As SC2019 maps out projects and initiatives that are happening within each of these areas, there can be clear public accountability for what is actually happening, what gets accomplished, and what areas still need work. It can also be used to see who else is creating initiatives within an area, which can lead to communication and collaboration. Stories can be told about what is happening to progress toward each goal, and indicators can be identified that will measure progress.

The Celebrating Progress Action Plan catalyzes action and the Strategic Framework provides a structure to communicate, coordinate, prioritize, and measure progress as action takes place – to make sure that projects are creating a fertile foundation.

PERSONAL & SOCIAL ENVIRONMENT

PRIORITY AREA

CULTURE OF COLLABORATION

GOALS

Alignment & Cross-Pollination

Communicate Progress & Stories

Collaborative Governments

PRIORITY AREA

CULTURE OF LEARNING

GOALS

Agile, resilient workforce

Sustainability learning for all

Entrepreneurial Thinking

NATURAL ENVIRONMENT

PRIORITY AREA

RESTORE AND REGENERATE

GOALS

Value & Leverage Natural Assets

Healthy, Clean, and Beautiful Environment

Urban Agriculture

PRIORITY AREA

RADICAL RESOURCE EFFICIENCY

GOALS

Optimize Renewable Energy

Systemic Energy Efficiency

Zero Waste

BUILT ENVIRONMENT

PRIORITY AREA

VIBRANT DOWNTOWN & NEIGHBORHOODS

GOALS

Vibrant Walkable Commercial Centers

Transform blighted land and buildings into assets

Responsive Local Decision Making

PRIORITY AREA

SMART GROWTH INFRASTRUCTURE

GOALS

Integrate natural systems

Healthy Buildings

Sustainable Mobility

BUSINESS ENVIRONMENT

PRIORITY AREA

DISCOVER NEW BUSINESS OPPORTUNITIES

GOALS

Grow New Businesses

Implement Sustainable Businesses Strategies

Strengthen Local Economy

PRIORITY AREA

RE-TOOL INCENTIVES & REGULATORY SYSTEMS

GOALS

Align Taxes, Regulations, Laws, Codes

Align & Create Incentives

Innovative Financing/Funding

KEY NEXT STEP

FLESH OUT AND DEFINE STRATEGIES IN COLLABORATION WITH KEY STAKEHOLDER GROUPS AND THE SC2019 STEWARDS

SC2019 STRATEGIC FRAMEWORK

STRATEGIC FRAMEWORK: PRIORITY AREAS & GOALS				
	PERSONAL & SOCIAL ENVIRONMENT	NATURAL ENVIRONMENT	BUILT ENVIRONMENT	BUSINESS ENVIRONMENT
PRIORITY AREA	Culture of Collaboration	Restore & Regenerate	Vibrant Downtown & Neighborhoods	Discover New Business Opportunities
GOAL	Alignment & Cross Pollination	Value & Leverage Natural Assets	Vibrant Walkable Commerical Centers	Grow New Businesses
GOAL	Communicate Progress & Stories	Healthy, Clean, and Beautiful Environment	Tranform Blight into assets	Implement Sustainable Strategies
GOAL	Collaboirative Governments	Urban Agriculture	Responsive Local Decision Making	Strengthen Local Economy
PRIORITY AREA	Culture of Learning	Radical Resource Efficiency	Smart Growth Infrastructure	Re-Tool Incentive & Regulatory Systems
GOAL	Agile, resilient workforce	Optimize Renewable Energy	Integrated Natural Systems	Align Taxes, Regulations, Laws, Codes
GOAL	Sustainability Learning forAall	Systemic Energy Efficiency	Healthy Buildings	Align & Create Incentives
GOAL	Entreprenerial Thinking	Zero Waste	Sustainable Mobility	Innovative Financing/Funding

WHAT THE STRATEGIC FRAMEWORK IS NOT...

The SC2019 Strategic Framework does not provide a comprehensive list of strategies or initiatives. In its infancy, the Framework is primarily a point of alignment, therefore as stakeholder groups support SC2019, they can develop and validate their own strategies that make sense for a specific context. The mandate of this first iteration of the SC2019 Resource and Action Guide was too broad to narrow down to specific strategies at this phase. Over time, SC2019 stakeholders may find it valuable to identify a narrow set of strategies that it will pursue, but this depends in large part how the Strategic Framework is used, and the final form the stewardship structures.

ELEMENTS OF THE STRATEGIC FRAMEWORK

FOUNDATIONS OF A SUSTAINABLE ECONOMY

The four foundations of a sustainable economy are where environment, society, and economic opportunity converge: Personal & Social Environment, the Natural Environment, the Built Environment, and the Business Environment. These are the broad categories that describe sub-sets of enabling factors. Strong foundations will be the outcome of influencing the enabling factors.

PRIORITY AREAS & GOALS

To bolster each of these foundations, we have prioritized a set of enabling factors (called priority areas) and established goals that have the potential to accelerate Cleveland's momentum toward a sustainable economy. Within each goal area we have identified potential strategies, some example initiatives that are already underway, and specific policy recommendations from the Cleveland community. When undertaken together, these incremental steps will cumulatively result in a rapid bold transformation.

STRATEGIES & INITIATIVES

To enable progress toward a high performing sustainable economy Cleveland will need to concentrate on accelerating actions that will improve outcomes on these four foundations. The SC2019 action guide builds on, prioritizes, and enhances what is already happening here in Cleveland. Each of the foundations is a distinct focus for actions that will have a triple bottom-line impact — contributing to the strategic outcomes of prosperity, sustainability and equity.

TRANSVERSALS

Three areas are deeply embedded in all areas of the Framework. As initiatives address priority and goal areas, they can also be “tagged” as representing one of the following transversal themes.

Health: All activities must support human and environmental health: healthy lifestyles and freedom from harmful toxins and pollutants.

Climate Change: All activities must consider their impact on reducing Green House Gases by lowering emissions and by capturing and sequestering GHGs.

Equity: All activities must consider their impact on equity and inclusion.

Thus, when someone wants to understand how SC2019 is addressing health or climate change or equity, initiatives can be assembled from all categories that are tagged with that transversal theme.

DEFINITIONS

FOUNDATIONS

4 major areas we have identified as being critical to a sustainable economy: Personal & Social Environment, Natural Environment, Built Environment, Business Environment

PRIORITY AREAS

The areas within the Foundations that could use attention and improvement. Example: Culture of Collaboration

GOALS

What we would like to achieve. Example: Alignment & Cross-pollination

STRATEGIES

How can we achieve the goal? Example: Align around common values for sustainability across networks

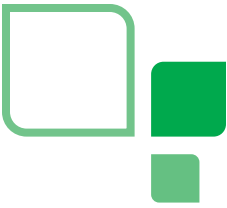
INITIATIVES

Specific projects or policy recommendations. Example: Sustainable Cleveland 2019 Summit

TRANSVERSALS

Meta-themes that are embedded throughout the Framework: Health, Carbon, and Equity

This Framework is designed to help the Cleveland community prioritize, communicate and coordinate its sustainability efforts & to help people who feel like they are operating in a vacuum, plug in and understand where their efforts fit in and how these efforts are helping to move Cleveland to a more sustainable economy.



2.2

PERSONAL AND SOCIAL ENVIRONMENT

PRIORITY AREA

Culture of Collaboration

GOALS

Alignment & Cross-Pollination

Communicate Progress & Stories

Collaborative Governments

PRIORITY AREA

Culture of Learning

GOALS

Agile, resilient workforce

Sustainability learning for all

Entrepreneurial Thinking

ENABLING FACTORS WITHIN THE PERSONAL AND SOCIAL ENVIRONMENT

Connectivity

Networks

Associativity

Institutions

Governance

Culture

Inclusivity

Equality

Relationships

Education

Health (Mental and Physical)

Personal Will

Technical Skills

Empowerment

PERSONAL & SOCIAL ENVIRONMENT

Personal capacity and social interactions

VISION

People are happy, healthy, empowered, and work together

WHY IT IS IMPORTANT AND HOW IT IS INTERWOVEN WITH THE OTHER FOUNDATIONS

Empowered, skillful people who work together are able to create business opportunities, find good jobs, and respond to a changing economy. People have the choice and the means to build and shape places to live and work that improve the quality of life. They make choices that improve the natural environment for the benefit of all life.

The Personal and Social Environment includes the ways in which the people of Cleveland relate and communicate with one another, as well as how they relate and communicate with the outside world. It is the very basis of the culture, which will continue to shape the environmental, social and economic future of Cleveland. This foundation also includes the skills and education necessary for the people in any city to work and thrive, adding value to both their own lives and the productivity of the regional economy.

“Culture eats strategy for breakfast.”

FOUNDATION

SOCIAL & PERSONAL
ENVIRONMENT

PRIORITY AREA

CULTURE OF
COLLABORATION

What is it? Collaboration is the ability to work together and share ideas around an intersection of common goals, values, or interests.

Why is it important? People must have the ability to listen to new voices and understand new perspectives, in order to engage in a productive conversation and seek out effective and appropriate solutions to common problems.

Collaboration is often a strategy in economic development, but without a culture that supports it, strategies will not lead to sustained voluntary and organic collaboration. Cleveland will quickly default to business as usual. The ability to work together successfully through the dynamics of networks, partnerships, and joint ventures is as important to driving innovation and growth as traditional economic factors such as “human capital” and “physical infrastructure.”

How do we do it?

EXAMPLES OF STRATEGIES

ALIGNMENT & CROSS-POLLINATION

Implement Celebrating Progress Action Plan

Support and encourage communities of practice

Align around common values for sustainability across networks

Invite, attract and connect new voices

Connect new and existing networks

Implement SC2019 Governance “program”

COMMUNICATE PROGRESS & STORIES

Integrate branding strategy

Develop integrated sustainability reporting & measurement system that engages everyone

Collect and share stories with each other and the world

Create an irresistible & cutting edge centralized web platform

Develop & roll-out multi-cultural communication & outreach strategy

Inventory & communicate assets

Creative display of progress dashboards

Eco-Visualization

COLLABORATIVE GOVERNMENTS

Collaborate across boundaries on key bioregional issues: watershed, traffic shed

Collaborate across boundaries for regional sustainability reporting

Multi-state branding as “North Coast”

Collaborate across departments to develop the City’s sustainability implementation plan

Start regional government practice groups for sustainability

Increase number of public/private partnership around SC2019 strategies & initiatives

City continues to collaborate with neighborhoods to establish local decision making protocols for zoning & neighborhood re-vitalization

FOUNDATION

SOCIAL & PERSONAL
ENVIRONMENT

PRIORITY AREA

CULTURE OF
COLLABORATION

GOAL: ALIGNMENT & CROSS-POLLINATION

What is it? Alignment is harnessing and coordinating the small and large contributions of everyone in Cleveland in a way that will have a large, positive collective impact for everyone. Cross-pollination is “inspiration between and amongst diverse elements.”

Why is it important? To successfully create a culture of collaboration, people and organizations, as well as their actions and leadership, need to be aligned toward similar goals. Many people or organizations working toward opposing goals or toward the same goal in a parallel fashion are causes for duplication of efforts. Cross-pollination is both a driver and an outgrowth of alignment and includes sharing ideas, resources, responsibilities and success. Cross-pollination becomes possible when there is recognition that there is a common purpose and shared goals.

GOAL: COMMUNICATE PROGRESS & STORIES

What is it? Communicate progress toward SC2019 goals through clear and measurable data and through stories that are easily understood and accessible to all.

Why is it important? Cleveland is not satisfied with the story it tells itself or the stories told about it. SC2019 aims to harness and enhance a feeling of collective pride and accomplishment, which will accelerate Cleveland’s transformation. It will also communicate Cleveland’s story to a broader audience in a way that will help retain and attract new people and businesses and also allow Cleveland to access and attract national and federal funding for large projects.

GOAL: COLLABORATIVE GOVERNMENTS

What is it? Governments and departments within the government that collaborate, share ideas, resources, and processes that are in alignment with common goals. The common goals should benefit the people and organizations that live, learn and work within their geopolitical boundaries.

Why is it important? There are multiple municipal governments in the Cleveland area (cite – regional prosperity initiative report) and many different departments within the different government agencies. Those governments are joined by a myriad of other institutions and departments, including water, sewer, parks, transit, county, schools, libraries and the state. With so many geopolitical boundaries, the Cleveland economy has many geographic measures of success; Lakewood may perceive the Cleveland economy in a completely different way Cleveland Ward 3 or Hunting Valley. Yet, the economy, which is defined by the flow of money, does not see nor mind the geopolitical boundaries. The economy takes shape by the choices all of the people within it make. As enablers of the incentive, tax, code and regulatory structure that can shape the rules of the economy, governments must collaborate so that business can thrive. Absent strong government collaboration, the climate for business will remain unfavorable, confusing, and frustrating to business.

CULTURE OF COLLABORATION

SNAPSHOT OF PROMISING PRACTICES

NETWORKS

Communities of Practice and Networks for Peer Learning are particularly effective for creating a culture of collaboration that translates into collective action.

Cleveland has several active and successful networks. E4S has been a pioneer in action network technology and peer-based learning processes. Not only do they facilitate networks based around specific leading-edge sustainable economic issues (local foods, zero waste, biomimicry), but they also act as a network of networks.

GTZ¹ promotes action networks as one of the best ways to create real change and built capacity of stakeholders.

POLICY BRIDGE RECOMMENDS BRIDGING SOCIAL CAPITAL

In order to help with the foundation of an informative database on sustainable development, Policy Bridge is convening a group of people who are successfully building social capital in the region and compiling a document that captures their “best practices” for doing so. In turn, this will help future social entrepreneurs in their quests to successfully incorporate sustainability.

REGIONAL PROSPERITY INITIATIVE

Led by the Northeast Ohio Mayors

and City Managers Association, the Regional Prosperity Initiative seeks to ensure that there is no weak link in Northeast Ohio’s growth. It does so by promoting growth that involves all 16 of the region’s counties by coordinating land-use planning and tax-base sharing.

STORM WATER MANAGEMENT

There is promising cooperation between the City of Cleveland, the Northeast Ohio Regional Sewer District and the U.S. EPA on the development of comprehensive strategies for surface management of stormwater that integrates the use of vacant land in the City of Cleveland in a way that effectively manages stormwater and increases the productive use of currently vacant and underutilized land. This will increase public greenspace, improve water quality, reduce the costs of treating stormwater and provide economic development opportunities.

BIOREGIONAL GOVERNMENT COLLABORATION

The Great Lakes Commission is a bi-national agency that promotes the orderly, integrated and comprehensive development, use and conservation of the water and related natural resources of the Great Lakes basin and St. Lawrence River.²

PITTSBURGH: REGIONAL COOPERATION COMMITTEE

Pittsburgh’s Regional Cooperation Committee seeks to make regional government more efficient by engaging both the private and

public sectors in the improvement of some of the most important factors in sustaining an improving quality of life. It also seeks to make tax-dollar spending more efficient by eliminating the duplication of municipal services.

GERMAN EMSCHER RIVER INDUSTRIAL HERITAGE TRAIL –

Collaboration between 17 municipalities, agencies, regional, and state governments has led to the rebirth of a region that was once one of the most polluted and environmentally devastated regions of the world. Ruhr had been left with a legacy of high unemployment and the scars of environmental contamination as the old industrial workyards slowly became brownfield sites in need of restoration. The redevelopment of the area into a system of creative parks and heritage sites has given the region a greener image, created a more cohesive community and maintained the area’s identity.³



Rheinellbe Sculpture Wood - Herman Prigann. Photo from: www.thelasttree.net/environmental-art.htm

¹ The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) is a German federally owned sustainable development organisation. They are a global leader in capacity building and economic development in 128 countries

² www.glc.org

³ <http://sustainablecities.dk/en/city-projects/cases/emscher-park-from-dereliction-to-scenic-landscapes>

FOUNDATION

SOCIAL & PERSONAL
ENVIRONMENT

PRIORITY AREA

CULTURE OF LEARNING

“Learning is not a product of schooling but the lifelong attempt to acquire it.”

– Einstein

What is it? People continually learn, share and seek out new knowledge in ways that are beneficial to themselves, their community and Cleveland in general.

Why is it important? A culture of learning inspires continuous identification and mastery of new thoughts and skills for all people in society, throughout all of life’s phases, yielding a population more agile and able to evolve. A culture of learning is important to foster innovation, ability to adapt to new technologies and processes, and to identify shifts in society, environment and economics.

How do we do it?

EXAMPLES OF STRATEGIES

RESILIENT WORKFORCE:

Aggregate skill demand from private sector to pool resources for training
Increase and support apprenticeship programs
Target missing rungs on wage ladder & focus on career pathways
Support & experiment with community invested job initiatives

SUSTAINABILITY LEARNING:

Support a “green” program for all k-12 schools – integrate sustainability into core curriculum
Integrate sustainability curriculum at regional universities
Aggregate demand for sustainability training
Support certification programs
On-going government employee sustainability learning program
Community wide learning tools to create common language around sustainability

ENTREPRENEURIAL THINKING:

Support entrepreneurial thinking in ex-offender program
Skill development for micro enterprise
Kitchen pantry strategies: create a place for different levels of risk and experimentation

FOUNDATION

**SOCIAL & PERSONAL
ENVIRONMENT**

PRIORITY AREA

CULTURE OF LEARNING**GOAL: AGILE, RESILIENT WORKFORCE**

What is it? The ease with which a person can respond/react to situations and opportunities efficiently, effectively, and economically because of equitable access to knowledge and information. This involves workforce development that focuses on life skills in addition to technical skills.

Why is it important? Transferable skills and basic education will allow people to adapt and flourish in whatever type of economy emerges. Workers will be able to add value to the economy and at the same time add value to their own lives.

GOAL: SUSTAINABILITY LEARNING FOR ALL

What is it? A robust set of learning tools, curricula, resources, educators and education spaces (virtual and physical) where people can access information about sustainability and learn something that matters to them at home, at work and at play.

Why is it important? The importance of learning for all is rooted in the fact that many people simply do not understand sustainability, nor is there a shared understanding of all that it encompasses. Access to information about sustainability must be available and attractive to all people.

GOAL: ENTREPRENEURIAL THINKING

What is it? Entrepreneurial thinking is a skill that enables people to think about possibilities and take a risk to create something new.

Why is it important? People who think entrepreneurially find solutions to problems before other people do. If a culture does not value entrepreneurial thinking, it does not challenge itself to learn, reflect and grow. Entrepreneurial thinking is linked to a culture of learning and collaboration, both of which are core to the SC2019 strategy. By encouraging entrepreneurial thinking, Cleveland will engage more people in the process of solving problems through business solutions.

**GREEN PATHWAYS OUT OF
POVERTY**

Green Pathways out of Poverty recruits people with barriers to employment and trains them to take advantage of specific opportunities in energy efficiency, planning, deconstruction, electronics refurbishing, and public transportation projects. These industries, most of which are a vital part of achieving and maintaining a sustainable economy, allow employment which is steady and secure..

CULTURE OF LEARNING

SNAPSHOT OF PROMISING PRACTICES

COLLABORATIVE CAMPUS NEIGHBORHOOD

Led by Cleveland State University, Case Western University, Tri-C, and the head of Cleveland's library systems, the Collaborative Campus Neighborhood seeks to identify promising neighborhoods and create sustainability "learning communities" in the region. Each community would feature a specialized library and K-12 education tailored to incorporating sustainability aspects into traditional curricula. Because the future of sustainability depends on the future workforce, this is a vital step up towards the new high-tech economy.

TRI-C INNOVATION

Offering programs in Advanced Manufacturing & Engineering and Alternative Energy/ Biosciences, Cuyahoga Community College trains inexperienced workers to take advantage of emerging opportunities and gives experienced workers a critical skills upgrade that allows them to adapt their traditional skill set to the advancing high-tech and sustainable economy in the Northeast Ohio region.

E4S - PEER BASED LEARNING

E4S, an organization of over 7000 regional leaders, encourages sustainable development by facilitating the sharing of information and key practices through its peer-based learning approach. Those entrepreneurs who seek to operate their business in a sustainable manner are given access to people who already have experience in doing just that.

CHICAGO GREEN CORPS

Chicago Green Corps is a program that links some of the most economically-disadvantaged people in the region with some of the newest training and job opportunities in the growing green sector. In this way, the overall economy becomes more permanent in its vivacity and, in turn, allows the jobs themselves to stay constant.

STUDY CIRCLES

Based on democratic principles, the Swedish concept of study circles engages an entire group in the learning process. It does so uniquely by allowing the group itself, with no teacher present, to determine the topic to be covered, the scope of this coverage, and how information pertaining to the topic will be allowed into the discussion. This method of learning is gaining popularity and can now be found outside of Sweden's borders in countries such as Finland, as well.

WAL-MART PERSONAL SUSTAINABILITY PROJECT

The Wal-Mart Personal Sustainability Project, an initiative started by Wal-Mart associates in 2006, encourages Wal-Mart personnel to incorporate sustainability into their everyday lives. By exercising, recycling, and cooking healthy meals, personnel become more conscious of leading a healthy and sustainable lifestyle, which translates to the fabric of the overall economy.

ENTREPRENEURIAL RE-ENTRY PROGRAM FOR EX-OFFENDERS:

The Prisoner Entrepreneurship program seeks to give opportunities to people with some of the most limited access to employment— ex-offenders. By linking them with passionate CEO's, graduates, and investors, the program engages ex-offenders with a wide network of skilled professionals who are able to assist them in finding their own tailored niche in employment.¹

CORPORATE SUSTAINABILITY EDUCATION

Johnson & Johnson, with nearly 120,000 employees worldwide, has created environmental literacy programs to change the employees' viewpoint or feelings toward the environment with hopes that this knowledge will translate to action within the workplace. In fact, 92 percent of its facilities implemented a literacy campaign in 2007, according to the company's website. Johnson & Johnson does not formally track the results of these efforts, other than receiving anecdotal feedback, but claims "great success among employees." The program is centered around discussing "successes and progress and going after their hearts a bit," as reported to NEEF.²

¹ www.prisonentrepreneurship.org

² <http://greeneconomypost.com/sustainability-creating-employee-engagement-incentives-11178.htm>

CULTURE OF LEARNING

BEST PRACTICES FOR ENVIRONMENTAL & SUSTAINABILITY EDUCATION WITHIN CORPORATIONS

BEST PRACTICES

The following are best practices in employee environmental and sustainability education that have been identified and successfully implemented.

Companies should link environmental and sustainability (E&S) education initiatives to key business objectives and frame them in terms of management risks and opportunities.

Take a top-down, bottom-up and sideways approach when engaging employees. A culture shift has to include everyone, not just those dedicated to sustainability.

Stress the shift in societal and stakeholder expectations. Sustainability is no longer just “nice to have” and employees are an important resource for addressing and benefiting from this shift.

Complement education with incentives (e.g., bonuses and awards) to improve environmental performance.

Build momentum for the E&S actions by recognizing work that is already being done.

Create E&S education pilot programs that require few resources and measure the impacts of the pilot to build the case for a larger program.

Regularly report back to employees on how their E&S actions are making a difference.

Understand that each geographic region has its unique problems and opportunities.

DOCUMENTATION IS CRUCIAL

Documentation is crucial for strengthening the future business case for investment in employee E&S education and engagement. So, measuring the impacts of E&S education programs. The National Environmental Education Foundation, makes the following recommendations:

Gather data by mining and adapting routine surveys of prospective, new and established employees, asking specific questions about E&S education and engagement, and establishing correlations between responses to the questions and outcomes such as satisfaction rates and acceptance of job offers.

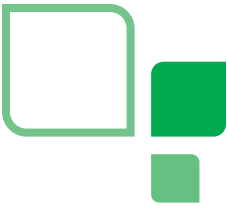
Survey customers on the extent to which their satisfaction is influenced by the environmental Knowledge of the company's customer service representatives.

Correlate measures of employee engagement to environmental results.

Survey community members and other stakeholders to determine to what extent their perceptions of the company are influenced by employee engagement in environmental and sustainability activities.

Correlate some measure of education (e.g. training hours) with results relative to operational efficiency improvements.¹

¹ From a study by NEEF (The National Environmental Education Foundation) summarized at <http://greeneconomypost.com/business-case-environmental-and-sustainability-employee-education-8845.htm>



2.3

NATURAL ENVIRONMENT

PRIORITY AREA

Restore and Regenerate

GOALS

Value & Leverage Natural Assets

Healthy, Clean, and Beautiful Environment

Urban Agriculture

PRIORITY AREA

Radical Resource Efficiency

GOALS

Optimize Renewable Energy

Systemic Energy Efficiency

Zero Waste

COMPONENTS

Water

Soil

Air

Biodiversity

Green Space

Ecosystem Services

Beaches

Parks

NATURAL ENVIRONMENT

Ecosystems and natural resources that create the conditions for all life to exist.

VISION

The natural environment creates economic value in a way that supports and enhances all life.

WHY IT IS IMPORTANT AND HOW IT IS INTERWOVEN WITH THE OTHER FOUNDATIONS?

Regenerated Natural Assets and renewable resources can be leveraged to create new economic value, generate income, and reduce economic leakages. Harnessing wind and sun for example, provide energy without the negative impacts of fossil fuels. A healthy environment makes people healthier and happier which makes them better citizens. Natural systems can be integrated into the built environment in a way that provides essential services — for example, healthy soil provides water filtration and storm water management opportunities. This type of “ecosystem service” is often less expensive and comes with many benefits not available in technical solutions.

Although Natural Assets appears as only one of four Economic Foundations at the base of sustainable economic model, in truth, everything is bounded by nature. Natural Assets are the cornerstone of quality of life, quality of place, and our on-going ability to survive. While clean water, clean air, and fertile soil represent basic human needs, Green Infrastructure, Green Space, and Ecosystem Services demonstrate how Natural Assets can be used to create new, add value and generate multiple co-benefits.

For example, while fertile soil is necessary for food production, soil can also be utilized in appropriate, cost saving and value-added ways, like using bioswales to filter rain water, reducing runoff and flooding, which prevent contamination and saves business and the city valuable revenue. A co-benefit of this system would be to preserve natural biodiversity and enhance quality of place through aesthetic beauty, which is an economic driver in the new economy. Ecosystem Services and Green Infrastructure have long been overlooked or undervalued by the economy, but are an important way of increasing competitiveness through lower costs, making Cleveland a more attractive place for businesses and people to locate, and by ensuring the sustainability of Cleveland’s economy and urban landscape.

FOUNDATION

NATURAL
ENVIRONMENT

PRIORITY AREA

RESTORE AND
REGENERATE

What is it? The act of revitalizing existing green spaces, parks, waterways, air quality so that ecosystems are healthy and productive, and so that the on-going availability of natural resources is sustained.

Why is it important? Restoring and regenerating the natural environment will give Clevelanders a healthy and attractive place to play, live, and work which will attract new people and keep the best and the brightest here in Cleveland. By valuing and leveraging the natural environment in new ways, Cleveland can create new sources of economic value. In order to fully capture the value of the natural environment it must be healthy and people must value the services that nature provides [popout ecosystem services]. In the meantime, innovative solutions to restoration and regeneration can be sources of new business opportunities, especially as people across the world face similar challenges. The very process of learning about the services that nature provides can reveal new ways to create economic value in ways that enhance, rather than harm the environment.

How do we do it?

EXAMPLES OF STRATEGIES

VALUING AND LEVERAGING NATURAL ASSETS:

Economic & social benefits defined and measured

Benefits are leveraged for creative funding and business opportunities

Restoration & Ecological Art

Waterfront Access

Waterfront Recreation

Sustainable Commercial Development around key assets (Lake, parks, etc.)

Develop Eco-tourism opportunities

HEALTHY, CLEAN & BEAUTIFUL ENVIRONMENTS:

Community Accessible process for tracking regional environmental & ecosystem health

Implement holistic storm water management

Environmental Justice training in neighborhoods

Cleveland wide Brownfield Remediation

Focus on drinking water

Create habitat corridors through the city

URBAN AGRICULTURE

Pilot project in communities

Collaborate to bundle funding streams: police, education, health, etc.

Aggregate demand for local foods

We should do a better job getting Ohio-grown and raised foods onto the dinner tables of Ohio families. Because Ohioans spend about 43 billion dollars every year on food, but only 3 percent of that spending goes to products from Ohio farms. Moreover, too many Ohioans live in neighborhoods where fresh produce is hard to find or impossible to afford.

– Gov. Ted Strickland, 2010 State of the State address

FOUNDATION

NATURAL
ENVIRONMENT

PRIORITY AREA

RESTORE AND
REGENERATE

GREEN SPACE

for full description see Celebration Point :
Green Space

GOAL: VALUE & LEVERAGE NATURAL ASSETS

What is it? The measurement, valuation and appropriate use of natural resources and environmental assets.

Why is it important? Rather than utilizing natural assets in a way that is extractive or exploitative, it is important to measure, value and utilize natural assets in a way that doesn't degrade the natural environment. A full and multi-faceted understanding of Cleveland's assets and resources will make it possible to carry out whole systems accounting and a cost-benefit analysis that takes into account the less tangible aspects of the value of soil, sun, wind, water ecosystem services, etc. For example, Cleveland's fresh water resources not only have an important, concrete economic value as a scarce resource, Lake Erie provides aesthetic beauty and contributes to quality of place, a driver of economic prosperity. If businesses are able to understand natural assets in a more holistic way, they can take advantage of new economic opportunities.

GOAL: HEALTHY, CLEAN, AND BEAUTIFUL ENVIRONMENT

What is it? A healthy, clean and beautiful environment is one that perfectly balances economic and social influences in harmony with the natural environment.

Why is it important? A healthy, clean and beautiful environment is a basic and necessary factor for a high quality of place. In order to attract new businesses and a young, talented and mobile workforce, Cleveland has to prioritize the aesthetic beauty of its environment and provide an appealing place in which to live. This also an important factor in the retention of residents and a clean environment is necessary for Clevelanders to stay healthy, to take pride in caring for their surroundings and feeling a sense of stewardship in the city they call home. urban environment. Urban agriculture covers everything from large scale urban farming to urban green houses to community gardens to edible landscaping.

GOAL: URBAN AGRICULTURE

What is it? Urban Agriculture is integrating natural food systems into the urban environment. Urban agriculture covers everything from large-scale urban farming to urban green houses to community gardens to edible landscaping.

Why is it important? Urban agriculture plays an important role in converting vacant land and brownfields into productive space that can be used to produce local food and enhance the aesthetic beauty of the city. Urban agriculture increases the amount of green space and can play an important role in carbon sequestration and urban renewal. Urban agriculture is a community-based solution to urban food deserts and can help to provide fresh produce to neighborhoods and areas of the city that typically don't have access to healthy food. It can also provide a sense of community and create educational opportunities and a safe space for residential collaboration and communication. Improving soils can also be a provide significant carbon sequestration opportunities.

RESTORE & REGENERATE

SNAPSHOT OF PROMISING PRACTICES

GREEN BULKHEADS

Aging bulkheads are detrimental to the natural environment of fish because of damaging particles, such as shedding rust, that are released into the water. The Green Bulkhead project seeks to enhance aging bulkheads on the Cuyahoga River in order to improve the natural habitat of fish migrating from Lake Erie.

The results from this collaborative project are currently being monitored and they have a high potential to be commercialized and exported to other river cities with similar challenges.

BROWNFIELD REDEVELOPMENT - NORTHCOAST BROWNFIELD COALITION

Seeking to create new and useful land for the creation of new jobs and improving property value, the Northcoast Brownfield Coalition has invested 29.3 million dollars into 37 environmental clean-up projects. This investment has either created or retained over 2,100 jobs and also encouraged an additional 300 million in additional project investment.¹

A NEIGHBORHOOD THAT FEEDS MAPPING ECOSYSTEM SERVICES

CSU along with other partners is working on a project to map Cleveland's Ecosystem Services for economic and ecological valuation. This will help inform effective planning for the rehabilitation of vacant lots and the integration of green infrastructure.

WATER FILTRATION

Water filtration is an important aspect of environmental remediation. With this premise in hand, Fairmount Water Solutions offers a wide variety of water treatment options and helps businesses achieve water efficiency and economics for surface, ground, and municipal and industrial waste water.

MAPPING ECONOMIC VALUE OF ECOSYSTEM SERVICES

Defra (the UK Department of Environment, Food, and Rural Affairs) is just completing a nation-wide project to map and quantify the economic value of ecosystem services using the Millennium Assessment "Ecosystem Approach". The project is meant to assist decision-makers to better assess the true cost-benefit of development and infrastructure projects.

URBAN FOREST MAP

San Francisco's city government has collaborated with the California Department of Forestry and Fire Protection (Cal Fire) and Friends of the Urban Forest to create an open-source web-tool that catalogues the city's trees and calculates economic benefits based on the ecosystem services they provide.²

SOIL REMEDIATION

In Denmark, a process called soil bioremediation is taking off as a key concept for the renewal of cities and urban spaces. The idea of soil bioremediation is to plant

healthy tree species in the center of a contaminated soil area. Over time, this filters polluted water and decontaminates the surrounding land, creating a healthy green space.

WATERWAY REGENERATION

Stockholm has improved wastewater treatment and cracked down on toxic discharges to the degree that healthy salmon run once again in Stockholm's downtown waterways.

A NEIGHBORHOOD THAT FEEDS THE CITY

"Located within the historic Market District, the Ohio City Farm will be one of the largest contiguous urban farms in America. Just shy of six acres, the Farm has quality soil and an unparalleled proximity to the nearly 100 year-old West Side Market."³

Ohio City Farm is a leading edge urban farm that grew from an innovative collaboration between local businesses, the local community development corporation, and an NGO that supports refugee integration. The farm is located on property owned by the housing Development authority and is supported by the city owned landmark Westside Market.

1 Transforming Our Regional Economy

2 <http://www.urbanforestmap.org/>

3 ohiocityfarm.org

FOUNDATION

NATURAL
ENVIRONMENT

PRIORITY AREA

RADICAL RESOURCE
EFFICIENCY

What is it? Resource efficiency is essentially a conservative value that says “don’t squander precious resources.” Radical resource efficiency takes it a step further and requires a bold transformation to an economy that creates abundance without destroying the resources that support us.

Why is it important? Radical resource efficiency will unquestionably be a minimum requirement of a strong economy in the near future. There is broad global agreement that we cannot continue to consume resources that don’t replenish themselves. The good news is that as we learn to be more frugal with what we have, it inspires us to be innovative and find new ways to create economic and social value. History shows that restrictive conditions cause bursts of innovation and economic activity. If Cleveland has the vision and the courage to make a bold commitment to radical resource efficiency, we can become a world leader and active participant in the new sustainable economy.

How do we do it?

EXAMPLES OF STRATEGIES

RENEWABLE ENERGY:

Support R&D

Support Greater Cleveland Energy Alliance

Support Decentralized Energy Systems

Support Multiple Pilot Projects

Support Smart Grid: ability to sell power back to the grid

Aggregated Buying Power Geographically – neighborhoods, industries, institutions

SYSTEMIC ENERGY EFFICIENCY:

Aggregate buying power

Neighborhood & network-focused outreach

Tax & regulatory structures aligned

Create combined utility and local incentives for commercial and residential retrofits

ZERO WASTE

Support Connections between waste streams and potential demand for re-use

Support R&D for advanced materials that can be recycled at high quality level

Regulations & incentives to encourage zero waste

Cradle to Cradle Design Principles

“The free market, when allowed to function properly, values raw materials and encourages products to eliminate waste and pollution by reducing, reusing, and recycling” – Robert F Kennedy Jr.

FOUNDATION

NATURAL
ENVIRONMENT

PRIORITY AREA

RADICAL RESOURCE
EFFICIENCYRENEWABLE
RESOURCESENERGY
EFFICIENCY

*“There is no away
to throw things”*

ZERO
WASTE**GOAL: 100% RENEWABLE ENERGY**

What is it? Using all renewable sources of energy, such as sun, wind, biomass, and fuel cells.

Why is it important? Energy use and production is one of the largest sources of carbon emissions in the U.S., as well as one of the most costly inputs for businesses and highest expenses for American households. Ohio’s extremely high carbon footprint due to its history heavy manufacturing – the fourth highest in the country – is paired with a high level of dependence on regional coal and foreign fossil fuel production. A continued focus on traditional, non-renewable energy sources not only ensures high economic and environmental costs for Cleveland, it also represents a missed opportunity for innovation, economic growth, and renewed competitiveness.

GOAL: SYSTEMIC ENERGY EFFICIENCY

What is it? Decreasing the amount of energy we need and use across all sectors and amongst all stakeholder groups in Cleveland.

Why is it important? At this point Renewable energy supply does not meet our high demand for energy inputs, thus it is important to also focus on reducing the total amount of energy needed to fuel an economy and sustain a community. Energy efficiency offers a two-fold opportunity for Cleveland’s economy. First, **new business opportunities for Cleveland are born out of the need for an environmentally sustainable economy**, allowing Cleveland to both to retain jobs and create new employment opportunities in traditional sectors such as construction, building and manufacturing. Second, energy efficiency can decrease input and operating costs for the City and Cleveland Businesses, while allowing individuals to reduce their expenditures on a household level. This provides an opportunity to increase businesses’ profit margin, free up money for reducing deficit while retaining the government’s public spending allowance, and increase wealth (alleviate poverty) in Cleveland communities.

GOAL: ZERO WASTE

What is it? Zero waste is a philosophy that encourages the redesign of resource life cycles so that all products are reused. Any trash sent to landfills is minimal. The process recommended is one similar to the way that resources are reused in nature.

Why is it important? While the term “waste” generally has a negative connotation, this focus area represents diverse economic, environmental opportunities for Cleveland. By reducing the amount of waste the city produces and sends to landfills, Cleveland can improve human health through the elimination of hazardous materials, protect and increase property values and quality of place. Additionally, innovative ways of eliminating waste can save business, government, organizations and the community money, consequently facilitating productivity and increasing wealth for Cleveland. More sustainable methods for dealing with waste can create new business and employment opportunities through either the re-use and recycling of products or the creative design of innovative products or processes that allow for “waste-to-profit” or “industrial symbiosis” models.

RADICAL RESOURCE EFFICIENCY

SNAPSHOT OF PROMISING PRACTICES

GREAT LAKES WIND FARM

The Lake Erie Energy Development Corporation has secured a deal with General Electric to install five wind turbines in Lake Erie, right off the coast of Cleveland, as a demonstration project of what can become part of a sustainable economy. Not only do estimates indicate that these turbines will provide enough energy to power up to 16,000 homes, but they will also create jobs and help Northeast Ohio become a national hub of off-shore wind generation technology.¹

ZERO WASTE NETWORK

Powered by E4S, the Zero Waste Network supports sustainable businesses that encourage the entire product cycle— from product development to actual production— to remain “in the loop.” This means that no waste is generated, energy and money are saved, new technology for achieving sustainability is pursued, and the community benefits from a cleaner and healthier environment.²

BEE DANCE

BeeDance is an organization that sponsors the ZeroLandfill program. Utilizing the concept of upcycling — using useless and waste products to create products that are more useful and more environmentally-friendly than they were in their previous state — to cycle used interior design and architectural materials into

classroom settings around the region, where they are used for artwork and student art projects.³

APOC

A Piece of Cleveland (APOC) promotes sustainability by taking used wood from the Cleveland area and, instead of allowing it to go to waste, utilizing it in the creation of unique and historically-attuned wooden designs.⁴

LEED NEIGHBORHOODS

Leadership in Energy and Environmental Design (LEED) encourages a neighborhood rating system which utilizes incentives and benchmarking for the design of high-performance green buildings. With such a system in place, planning a green neighborhood becomes a much more straightforward and natural process — as demonstrated by the 35-50% energy savings in buildings that are LEED-rated.⁵

WASTE TO POWER

The City led Municipal Solid Waste to Energy (MSWE) initiative reduces the waste that goes to Cleveland’s landfill, reduces the costs of disposing waste, and increases the recycling rate within the city and participating communities from the region. This allows for the development of a large municipal waste recycling and waste-to-energy facility at the Ridge Road Transfer Station in the City of Cleveland.⁶

OHIO GREEN BUILDING COUNCIL

The Northeast Ohio Chapter of the U.S. Green Building Council, a part of the United States Green Building Council, provides green-building education and assists local governments in implementing and complying with LEED standards. This develops the region sustainably while protecting natural resources and improving the overall quality of life.⁷

COSE ENERGY EFFICIENCY PROGRAM

The COSE Small Business Energy Efficiency Program has been launched to help Ohio small businesses save money through energy efficiency and to help them improve their overall competitiveness through the Green Plus program.

Through June 15, 2011, COSE will be helping businesses throughout Ohio receive an energy audit at a fraction of the normal cost through the COSE Small Business Energy Efficiency Program. Additionally, qualifying businesses will receive a partial scholarship to the Green Plus program. Green Plus will provide participants additional resources to help them become more responsible and more profitable through improved practices and a structured approach to energy efficiency in Ohio small businesses.⁸

1 http://www.cleveland.com/business/index.ssf/2010/05/5_wind_turbines_are_in_the_wor.html

2 <http://www.zerowasteneo.org/page/what-is-zero-waste>

3 <http://zerolandfill.net/howitworks>

4 http://www.apieceofcleveland.com/why_overview.asp

5 <http://www.gcbi.org/planning/leed-nd/the-impact-of-leed-nd-for-cleveland>

6 [http://earth911.com/news/2010/02/16/cleveland-](http://earth911.com/news/2010/02/16/cleveland-waste-to-energy-power-plant-could-make-eco-history/)

[waste-to-energy-power-plant-could-make-eco-history/](http://www.clevelandgbc.org/)

7 <http://www.clevelandgbc.org/>

8 <http://www.gogreenplus.org/2010/06/28/coses-small-business-energy-efficiency-program-to-help-businesses-throughout-ohio/>

RADICAL RESOURCE EFFICIENCY

PROMISING PRACTICES

GREATER CLEVELAND ENERGY ALLIANCE

The Green building Working Group that came out of last year's Summit has spearheaded the creation of the Greater Cleveland Energy Alliance, which will improve the city's organizational and collaborative structure and thus allow it to secure more energy-efficiency grants.

ENERGY EFFICIENCY TECHNOLOGIES

Here in Cleveland, companies such as Ford, Eaton Parker Hannifin and others are developing technologies that are creating some of the most efficiency engine technologies available.

THE BROMMA BIOGAS PLANT, STOCKHOLM

The Bromma Biogas Plant in Stockholm, Sweden uses leading-edge technology to treat the organic matter present in sewer sludge in order to produce energy. This is a “double-edged green leaf” in that it treats water and produces natural, clean energy at the same time.⁹

SAN FRANCISCO WASTE DIVERSION

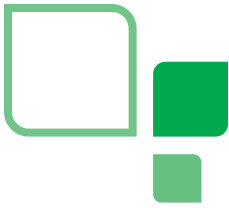
Through aggressive waste-related ordinances and public awareness campaigns, the city of San Francisco has achieved an impressive 70% waste diversion rate (70% of recyclable products are actually recycled). By working with the Department of the Environment, the city's Department of Public Works continues to work toward increasing waste diversion rates and seeks to achieve a milestone of having 100% waste diversion by 2020.¹⁰

BERKELEY'S SOLAR PANEL FINANCE PLAN

The city of Berkeley, California has come up with an innovative finance plan to help property owners cover the costs of installing solar panels to power their homes. The city pays for the assessment of a property and also for the installation of solar panels, with the assessment being added to the property owner's tax bill. This helps homeowners overcome one of the greatest hurdles—initial cost of solar panel installation—while helping the city inch closer toward overall sustainability.

9 <http://www.cardiff.ac.uk/archi/programmes/cost8/case/watersewerage/bromma.html>

10 http://www.spur.org/publications/library/report/critical_cooling/option12



2.4

BUILT ENVIRONMENT

PRIORITY AREA

Vibrant Downtown & Neighborhoods

GOALS

Vibrant Walkable Commercial Centers

Transform blighted land and buildings into assets

Responsive Local Decision Making

PRIORITY AREA

Smart Growth Infrastructure

GOALS

Integrate natural systems

Healthy Buildings

Sustainable Mobility

COMPONENTS:

Transportation

Housing

Civic Infrastructure

Industrial/Commercial

Energy Infrastructure

Telecommunications

Green Infrastructure

BUILT ENVIRONMENT

The place where people live, work, and play.

VISION

The built environment is healthy, attractive, fosters vibrant communities, and improves the functioning of natural systems.

WHY IS IT IMPORTANT AND HOW IS IT INTERWOVEN WITH THE OTHER FOUNDATIONS?

The Business Environment is the framework in which people to start and run businesses, organizations, institutions and industries. It supports enterprise that is good for the community and the natural environment. Businesses are uniquely capable of quickly responding to demand and providing solutions.

This foundation is comprised of the regulations, tax structures, codes and policies that facilitate or undermine access to capital and markets, as well create the operating environment for starting or growing competitive and sustainable businesses in Cleveland. The Business Environment can also encourage (or undermine) neighborhood autonomy, a self-help economy, DIY manufacturing, better and more inclusive decision-making. It can also include legislation to protect and improve the environment.

FOUNDATION

**BUILT
ENVIRONMENT**

PRIORITY AREA

**VIBRANT DOWNTOWN
& NEIGHBORHOODS***What is it?*

Vibrant downtown area with high density urban core, mixed-use buildings, green space, that attracts people to engage and participate in commercial and social activities. Neighborhoods that are safe and attractive, walkable with common green space, and allow for civic engagement and relationship building.

Why is it important?

A vibrant downtown in Cleveland is necessary to bring Clevelanders together from all neighborhoods and suburbs in a place where they can have social interactions and engage in commerce, and where they can come together and renew their pride in being from the Cleveland area. Lively commercial and social activity in the downtown will encourage further growth, and other businesses to locate in the city center. Vibrant neighborhoods are necessary to ensure a high quality of life, which is a main drivers of prosperity in the modern economy. Vital neighborhoods have local businesses, a high level of density, community involvement, with mixed use and affordable housing, as well as green space, walking and bike paths and access to public transportation. High density development in both the downtown and Cleveland's neighborhoods, creates civically engaged vibrant neighborhood, generates greater energy efficiency and reduces auto use.

*How do we do it?***EXAMPLES OF STRATEGIES****WALKABLE COMMERCIAL CENTERS:**

Consolidate retail shopping to create and reinforce mixed-use "town centers" that serve as focal points of neighborhood activity.

Targeted Beautification & clean up of green space

Local Cultural Festivals

Wayfinding: signage and branding

Encourage for outdoor sidewalk cafes

Planning for pedestrian friendly streets

BLIGHT INTO ASSETS:

Beautification & artistic re-purposing

Land banking

Local stewardship

Sustainable disassembly and demolition

EXAMPLE STRATEGIES FOR LOCAL DECISION MAKING:

Neighborhood Green Teams

Neighborhood-Level Appeals for Zoning

Build Capacity for Neighborhood sustainability resource centers

Permits for Cultural Activities should be handled at a local level with coordination with greater city

Collaboration between neighborhoods and with the city

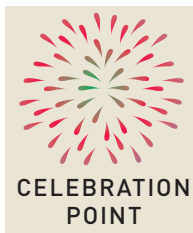
"Degraded open spaces and vacant land are often used as informal waste dumpsites and are a source of crime and health problems. When such zones are turned into productive green spaces, not only an unhealthy situation is cleared, but also the neighbors will passively or actively enjoy the green area. Such activities may also enhance community self-esteem in the neighborhood and stimulate other actions for improving the community's livelihood."

— Resource Center on Urban Agriculture and Food Security — www.rauf.org

FOUNDATION

**BUILT
ENVIRONMENT**

PRIORITY AREA

**VIBRANT DOWNTOWN
& NEIGHBORHOODS****VITAL
NEIGHBORHOODS****GREEN SPACE/
VITAL
NEIGHBORHOODS****VITAL
NEIGHBORHOODS****GOAL: VIBRANT WALKABLE COMMERCIAL CENTERS**

What is it? A walkable urban center or neighborhood is an area in which is safe and pedestrian friendly and where residents and visitors are not dependent on motor vehicles to get from place to place.

Why is it important? Areas that are designed for people rather than cars are essential to Quality of place and a city that can attract a young, talented, mobile workforce. Walkable areas encourage people to go outside, get exercise, and meet up with neighbors in informal settings. This in turn supports better health and a sense of belonging and community. In addition neighborhoods with walkable centers are energy efficient and have a lower ecological footprint.

GOAL: TRANSFORM BLIGHTED LAND AND BUILDINGS INTO ASSETS

What is it? Blight can take the form of abandoned or run down land and buildings that are at best ugly and at worst toxic and dangerous.

Why is it important? Blighted areas give the impression that no one is living in or taking care of neighborhoods. They can bring down morale and decrease the property values of the surrounding area, and even be dangerous. Vacant land, brownfields, and empty buildings can be contaminated with toxins that are especially harmful to children or they can be hang-out spots for drug dealers and criminals. There are many exciting ways to transform blighted land into community assets. There are business opportunities in brownfield remediation, in stormwater management, in community green space and gardens, in creative repurposing and adaptive re-use. Transforming blight can be particularly effective in changing the culture of a community and in addressing several inter-related problems at once.

GOAL: RESPONSIVE LOCAL DECISION MAKING

What is it? A neighborhood based governance structure that is responsive to neighborhood level challenges within the context of the whole City and region.

Why is it important? Neighborhood level decision-making can increase the speed of neighborhood improvement, increase speed to market of micro-enterprises, and empower neighborhoods to create their own future. It can create a mind-shift from dependence and apathy to independence and action.

VIBRANT DOWNTOWN & NEIGHBORHOODS

SNAPSHOT OF PROMISING PRACTICES

GREEN NEIGHBORHOOD CAMPUS PROJECT

The Green Neighborhood Campus project creates an promising partnership between a local urban school garden, a local business, the library system, and the area's police force.

RE-IMAGINE CLEVELAND

Re-Imagine Cleveland is collection of innovative, collaborative land re-use neighborhood projects. Re-imagine Cleveland takes derelict vacant lots and converts them into community assets such as small parks, permeable parking lots, and agriculture production sites. This enables previous unused land to add to the sustainability for the city (stormwater run off control, carbon sequestration, bio-remediation of toxic sites) while also increasing the overall property values of the surrounding residences.¹

Neighborhoods Progress has brought together the City of Cleveland, the Kent State Urban Design Center, 30 other partner organizations, and neighborhood stakeholders in a cutting edge collaborative project series.

DETROIT SHOREWAY

Located along Cleveland's North Coast, the Detroit Shoreway community capitalizes on its diversity and uses ecological design to build neighborhoods which are safe, healthy, and offer job opportunities in the sustainability sector. A community which embraces its diversity and

integrates it into the sustainable job market is sure to be a leading example of what all of Cleveland will one day look like.²

COMMUNITY DEVELOPMENT CORPORATIONS

From the Clark-Metro Development Corp. to the Northeast Shores Development Corp, Northeast Ohio's Community Development Corporations are a conglomeration of regional corporations which share their resources in pursuing the common goal of capitalizing on Cleveland's diversity and high-tech opportunities in order to transform Cleveland into a sustainable—and very profitable—city.³

CITY OF CLEVELAND'S LANDBANK PROGRAM AND THE CUYAHOGA COUNTY LANDBANK

The City of Cleveland's Landbank Program, as well as the Cuyahoga County Landbank, provide special lot-purchasing programs and offer incentives which encourage housing rehabilitation efforts, commercial rehabilitation, homeownership, and community services. This is instrumental in not only developing the region, but developing it in an intelligent manner that will usher in permanent neighborhood vitality and a high quality of life.⁴

GREEN THE BRONX

The Majora Carter Group, rather than focusing only on

neighborhoods with obvious potential, offers consulting, communication services, and social investment in order to identify key strengths in struggling Bronx neighborhoods and establish them as focal points to build a successful and sustainable community.⁵

URBAN RE:VISION DALLAS

The Urban Re:Vision project in Dallas seeks to set an example of how a city block— and eventually an entire city— can become fully self-sustainable. An un-used Dallas parking lot will be transformed into a mini-neighborhood consisting of housing, offices, and stores, and will be carbon-neutral by producing its own energy and cleaning and collecting its own water. More importantly, the project will inspire technological innovation across all the industries which play a part in making economic development more sustainable.⁶

1 reimaginingcleveland.org

2 <http://www.dscedo.org>

3 http://www.chnnet.com/a_cdcs.asp

4 <http://www.city.cleveland.oh.us/CityofCleveland/Home/Government/CityAgencies/CommunityDevelopment/LandBank>

5 <http://www.majoracartergroup.com>

6 <http://www.revision-dallas.com>

FOUNDATION

**BUILT
ENVIRONMENT**

PRIORITY AREA

**SMART GROWTH
INFRASTRUCTURE**

What is it? According to the EPA smart growth should “expand economic opportunity, protect public health and the environment, and create and enhance the places that people love”

Why is it important? Focusing on natural systems, healthy buildings and sustainable mobility solves several challenges at once. It increases the ability of ecosystems to provide multiple benefits, it increases health, and it provides new economic opportunities. The thoughtful design of infrastructure to maximize natural systems and to foster equitable development is essential to a successful economy.

How do we do it?

EXAMPLES OF STRATEGIES**INTEGRATING NATURAL SYSTEMS**

Urban Forest: Protect and expand the supply of street trees and landscaped areas within Cleveland’s urbanized districts, maximizing environmental and aesthetic benefits.

Green Infrastructure

Regenerative Developments

Bioregional lens for planning at all levels

SUSTAINABLE MOBILITY

Increase Cleveland’s Bikability

Create Systemic Mobility Master Plan – Intelligent connections between modalities

Experiment with alternative & public transport

Green Freight Options

Integrate EPA smart growth principles – mobility as economic development & social Justice

Focus on Walkability

Continue to prioritize and improve bus & train systems

Plan now for connection to high speed train routes from East to West.

HEALTHY BUILDINGS

Maximize opportunities to leverage federal funding by meeting most stringent healthy building standards

Education & outreach re: interior air quality & toxicity

Create combined utility and local incentives for commercial and residential retrofits

Increase # of contractors, architects, designers that are leed certified

FOUNDATION

**BUILT
ENVIRONMENT**

PRIORITY AREA

**SMART GROWTH
INFRASTRUCTURE**CELEBRATION
POINT**GREEN SPACE/
ENERGY
EFFICIENCY/
VITAL
NEIGHBORHOODS**CELEBRATION
POINT**TRANSPORTATION/
VITAL
NEIGHBORHOODS***In order to be successful
public transit...**“Must be frequent and
predictable**Must follow a route that is
direct and logical**The stop must be safe, dry,
and dignified”**(from Suburban Nation)***GOAL: INTEGRATE NATURAL SYSTEMS**

What is it? City Infrastructure and buildings can integrate natural systems in a way that allows nature to maximize its benefit to humans – for example, by providing important services (storm-water management, carbon capture, etc.) and creating beautiful places to live.

Why is it important? Green infrastructure can be something as small as permeable pavement and butterfly friendly yards to something as large as a regional storm water management system based on healthy watershed systems.

GOAL: HEALTHY BUILDINGS

What is it? At a minimum Healthy Buildings are low-energy, use low-impact materials, and have high interior air quality. At best, they sell energy back to the grid, contribute to natural systems, are built out of local renewable resources, and are designed to increase the health and happiness of the people who work and/or live there.

Why is it important? Buildings create the context for where people live, work, and play. The built environment defines the ecological footprint of human settlements. Additionally, people spend the vast majority of their time inside human-made structures. Healthy buildings increase the productivity of workers, improve their health and lead to greater overall happiness. Healthy buildings have the potential to regenerate the natural environment and increase the aesthetic beauty of a city, two factors that can greatly increase the quality of a place.

GOAL: SUSTAINABLE MOBILITY

What is it? The design of transportation systems to increase mobility, while decreasing fossil fuel-based energy use for the movement of goods, people and services. These systems effectively link people with their jobs, homes, cultural activities and other people throughout the region.

Why is it important? The ability to get from place to place for the people who work and live in Cleveland is necessary for a high quality of life (driver of prosperity) as well as for the movement of goods, services and workers. Accessible and affordable public transportation increases diversity and inclusion (drivers in a competitive economy) and also lowers household costs, creating more resilient communities. Transportation shapes community development. Walkable and bikeable urban spaces and neighborhoods increase quality of life and community health. Sustainable transportation is essential to reducing Cleveland's carbon footprint. Access to public transit must be a top development decision.

(See Transportation Celebration Point for detailed explanation)

SMART GROWTH INFRASTRUCTURE

SNAPSHOT OF PROMISING PRACTICES

GREEN ROOFS

Cleveland State University's Green Roof project involves the construction of a 7,000 square foot Green Roof atop the University's Recreation Center. Among the benefits of a Green Roof are added decades to the building's life, the filtration of pollutants from storm water, and the reduction in heating and cooling costs. Perhaps the most important benefit of a completed Green Roof, however, is that it serves as an example and an educational opportunity for communities seeking to become sustainable.¹

CLEVELAND CAR SHARE

City Wheels is a Cleveland car-sharing program which allows user to rent cars by the hour or by the day at an affordable cost. This allows people to take advantage of a vehicle's convenience while also encouraging its judicious use. The result is a community that is all at once more productive and more environmentally healthy.²

SMART GRID

The NorTech organization recently received a \$300,000 federal grant to support business growth and expansion strategies for companies involved in energy storage, smart grids, electric-powered transport and biomass/waste-to-energy technology. Securing this grant gives Northeast Ohio's advanced-energy sector national visibility and is also a key step in NorTech's goal of advancing the region's energy technology innovation.

BIKEABILITY

The City of Cleveland Bikeway Master Plan and the Tow Path Trail are projects that connect existing green space and parks through the trail network. As the city's park infrastructure becomes more interconnected, it also becomes more accessible. As it becomes more accessible, more people choose to spend their leisure time participating in environmentally-friendly activities— and when that happens, the entire city becomes more vibrant and healthy.

CHICAGO'S ECO-BOULEVARDS

Chicago's Eco-Boulevard project seeks to create a "closed water loop" within the city by connecting existing waterways and thus treating Chicago's waste and storm water 100% naturally before returning it to the Great Lakes. This is a great example of a unique project that utilizes a city's geography (proximity to a lake) to integrate a sustainability practice.

INDUSTRIAL TRANSPORT

Though truck-transportation is an efficient and cost-effective way of moving freight, it has often been neglected from sustainability talks because the image of large freights invokes anything but environmental friendliness. Cascade Sierra Solutions recognizes this and seeks to make the practice more sustainable and environmentally-friendly by encouraging idle-time reduction, freight aerodynamics, freight logistics, and the use of more efficient tires and lubricants.³

BIKEABLE CITIES

Communities such as Portland Oregon, Madison Wisconsin, and Davis California have all seen the economic benefits of bicycling.

In Portland OR, cyclists spend more time and money in the downtown area, as noted by the Bicycle Transportation Alliance. Downtown shoppers report feeling less pressed for time due to worries about time remaining on parking meters or hourly rates at parking garages.

Madison, WI strategically placed bike racks outside many of their businesses in the downtown area and saw a 3% overall increase in sales tax revenues in the areas where they deployed the new bike racks.

Davis CA shops command a rent premium along major cycling routes because they bring in so much business.

In a 2002 survey of recent homebuyers sponsored by the National Association of Realtors and the National Association of Home Builders, trails ranked as the second most important community amenity out of a list of 18 choices.⁴

MOBILITY MANAGERS

Many London Boroughs have hired mobility managers whose salary is paid for out of savings in transportation costs⁵

GREEN ROOFS (FORD MOTOR COMPANY)

Ford Motor Company's River Rouge Plant in Dearborn, Michigan seeks to make car-manufacturing sustainable by implementing an impressive 454,000 square feet of green roofing. Covered with sedum and other plants, this type of roofing will reduce water run-off by holding rainwater and will reduce greenhouse gas emission by absorbing carbon-dioxide through the natural process of photosynthesis.⁶

¹ <http://www.clevelandstate.edu/offices/architect/projects/greenroof/index.htm>

² <http://www.mycitywheels.com/>

³ cascadesierrasolutions.org

⁴ "Economic Benefits of Bicycling in Urban Environments". Quoted directly from [Marinbike.org](http://marinbike.org)

⁵ Green Urbanism

⁶ <http://www.greenroofs.com/projects>



2.5

BUSINESS ENVIRONMENT

PRIORITY AREA

Discover New Business Opportunities

GOALS

Grow New Businesses

Implement Sustainable Businesses Strategies

Strengthen Local Economy

PRIORITY AREA

Re-Tool Incentives & Regulatory Systems

GOALS

Align Taxes, Regulations, Laws, Codes

Align & Create Incentives

Innovative Financing/Funding

COMPONENTS

Taxes

Regulations

Innovation

Entrepreneurship

Finance

Technology

Markets

BUSINESS ENVIRONMENT

The conditions that support and define commerce of all types.

VISION

The business environment supports practices & products that are good for people and the environment.

WHY IT IS IMPORTANT AND HOW IT IS INTERWOVEN WITH THE OTHER FOUNDATIONS?

The Business Environment is the framework in which people start and run businesses, organizations, institutions and industries. It supports and **accelerates businesses, organizations, and institutions that are good for the community and natural environment.** Businesses are uniquely capable of quickly responding to demand and providing solutions.

The fourth and final SC2019 Economic Foundation is the Business Environment, which refers to the environment in which Cleveland companies, firms, small and large businesses, and entrepreneurs operate. This factor includes the regulation, taxation, codes and policy that facilitate or undermine access to capital and **markets, as well create the operating environment for starting or growing competitive and sustainable businesses in Cleveland.** The Business Environment can also encourage (or undermine) neighborhood autonomy, a self-help economy, DIY manufacturing, better and more inclusive decision-making, and legislation to protect and improve the environment (co-benefit of natural assets).

Regulation and legislation are important factors for creating the enabling conditions for a competitive and sustainable economy and thus should not create arbitrary red tape, should integrate holistic principles (relevant to economy, environment and society) and should not stand in the way of a good idea. Regulation can either encourage or undermine innovation and experimentation with new ideas. It can allow or inhibit the circulation of financial capital in traditional or creative ways. For example, the Business Environment can encourage the creation of more sustainable businesses by encouraging access to start-up capital through local banks, angel investors, foundations, microfinance, etc.

FOUNDATION

BUSINESS
ENVIRONMENT

PRIORITY AREA

DISCOVER NEW
BUSINESS
OPPORTUNITIES

What is it? The discovery of new business opportunities is essential for creating a sustainable economy that works for everyone. The development of new businesses—whether high-tech or low tech, large or small, or oriented to local or global markets—is how the region will create jobs and generate income.

Why is it important? The key to a sustainable economy in Cleveland is for people to find new business opportunities in sustainability solutions and to find sustainability opportunities in existing businesses or industries. Innovation and finding creative ways of doing business are what will move Cleveland to a leading edge position in the future.

Innovation and Entrepreneurship are not a separate goals within our strategic framework because they must be woven into the fabric of all strategies, rather than approached through a silo. Entrepreneurship has four basic components which are part of our framework at many levels:

THE ABILITY SEE OPPORTUNITIES

THE CONFIDENCE TO EXECUTE PLANS

SUPPORTIVE AND EASY TO NAVIGATE
REGULATORY FRAMEWORK

ON-GOING FINANCIAL SUPPORT AND
CAPACITY BUILDING

How do we do it?

EXAMPLES OF STRATEGIES

GROWING NEW BUSINESSES

INNOVATIVE FINANCE

SUPPORT SEED CLUSTERS

NEIGHBORHOOD-LEVEL CONTROL

ACCESS TO SEED CAPITAL

STAGE-GATE PROCESS

TRAINING FOR START-UP BUSINESSES

MENTORSHIP PROGRAMS

SUSTAINABLE BUSINESSES STRATEGIES

VALUE CHAIN OR INDUSTRY CLUSTER COLLABORATION

CONNECT SUPPLY & DEMAND SIDE

BUSINESS EDUCATION PROGRAMS

WHOLE SYSTEMS ACCOUNTING

CERTIFICATION PROGRAM FOR BUSINESSES

CLEVELAND-WIDE BUSINESS SUSTAINABILITY REPORTING INDEX

LOCAL ECONOMY

FOCUS ON CONNECTING LOCAL SUPPLY & DEMAND

POLICIES THAT REWARD LOCAL PROCUREMENT

LOCAL FOOD

LOCAL ENERGY

LOCAL SHELTER

DIY MANUFACTURING

“If I’d asked my customers what they wanted, they would have said a faster horse.” – Henry Ford

FOUNDATION

BUSINESS
ENVIRONMENT

PRIORITY AREA

DISCOVER NEW
BUSINESS
OPPORTUNITIES

GOAL: GROW NEW BUSINESSES

What is it? Our regional economy depends on the creation and growth of new sustainable businesses and companies—large and small.

Why is it important? Entrepreneurship and the growth of new businesses create new jobs, generate new income, engage new actors, and improves the overall quality of life. In the context of a declining economy, with companies closing and many young talented people leaving, it is important provide support systems for start-ups and fledgling businesses. New Businesses improve productivity and stimulate market innovations.

GOAL: IMPLEMENT SUSTAINABLE BUSINESSES STRATEGIES

What is it? Businesses transition to sustainable practices and production processes within their own business. They also focus on market opportunities for sustainable products and services.

Why is it important? While it is important for businesses to offer products that respond to sustainability challenges, businesses should also implement sustainable practices amongst employees, in production processes and in distribution. For example, if a business produces a green product, but doesn't recycle within their own factory or doesn't pay their employees a living wage, then it cannot be considered a sustainable company. Businesses should transition to sustainable business strategies in order to reduce costs, respond to consumer pressure for both sustainable products and practices, and stay competitive in value chains that are increasingly demanding green inputs and production methods.

GOAL: STRENGTHEN LOCAL ECONOMY

What is it? A local economy includes businesses that are owned and operated by Clevelanders in Cleveland. It can also include businesses that are located here, produce goods here, and employ Clevelanders, but are publicly traded or owned by someone outside the region.

Why is it important? A strong local economy ensures economic drivers remain close to home – sustaining vibrant, livable communities and healthy ecosystems in the process. The local economy ensures economic resilience in the face of a volatile global economy – businesses and jobs aren't outsourced, money stays within the community which has a multiplier effect, and businesses have a safe arena in which to innovate in a way that responds to local demand. By capturing value locally by buying and producing locally, Cleveland can increase personal, community and regional security and build entrepreneurial capacity to produce basic needs like food, water and energy right here in Cleveland.

GROWTH IN GREEN ENTERPRISE:
CALIFORNIA

“California’s naysayers often claim that we should slow down our progress on clean energy and clean air because the overall economy is struggling. The truth is that the green economy is a bright spot, generating jobs, investment and business growth. The Green Innovation Index shows that green jobs have grown at 10 times the statewide average since 2005. Earlier this week, Ernst & Young said that in the second quarter of this year, \$1.5 billion was invested in U.S. clean tech companies—an increase of nearly 65% from a year ago—and that 75% (\$1.12 billion) of the funding went to California businesses.”¹

¹ <http://blogs.edf.org/innovation/2010/08/10/innovate-and-grow-mapping-californias-growing-green-economy/>

DISCOVER NEW BUSINESS OPPORTUNITIES

SNAPSHOT OF PROMISING PRACTICES

SUSTAINABLE DESIGN, MATERIALS AND MANUFACTURING FORUM

This initiative proposes a forum of CEO leaders from the Sustainable Manufacturing Network in which the CEOs share their best practices around eco-efficiency (cost savings) and eco-effectiveness (revenue generation). Prominent participants are Sustainable Design, Materials and Manufacturing Outcome Group, WIRE-Net, MAGNET, and E4S.

ELECTRIC VEHICLES (MYERS MOTORS)

Local company Myers Motors is planning to manufacture an electric, no-gas-no-oil, car that can reach a speed of 75mph. The Duo will be a one-of-a-kind car in the world, achieving a relatively high-speed while employing an all-electric engine, and will serve as an example of how Northeast Ohio's industries can serve not only themselves, but to also offer products that are competitive on an international scale.¹

KINETIC ENERGY (TREMONT ELECTRIC)

When one thinks of alternative energy, images of solar panels and wind turbines are usually invoked. Tremont Electric, however, demonstrates the region's innovative thinking by making kinetic energy a viable part of the alternative energy market. Its nPower product line is available now and is exemplary of how the region is already capitalizing on this growing sector of the economy.²

THE EVERGREEN COOPERATIVES

A holding company that funds start-up companies, the Evergreen Cooperatives provides a sustainable and needed service by catering to the needs of the local market and enabling employees to participate in the wealth-creation of business. It does so while employing disadvantaged citizens from some of the most poverty-stricken neighborhoods and serves as an example of how to integrate the entire community into a sustainable practice.



GREEN CITY GROWERS COOPERATIVE (ONE OF THE EVERGREEN COOPERATIVES)

100% worker-owned and hydroponic, the Green City Growers food production greenhouse will be located in the heart of Cleveland. When fully operational, the company expects to employ 50 people recruited from the neighborhood and is a model for creating sustainable jobs and local food in Cleveland. The Green City Growers is part of the Evergreen Cooperatives and provides evidence of the mainstreaming of clean-tech throughout the American economy all the way into its inner cities.

THE E4S SUSTAINABILITY IMPLEMENTATION GROUP PROGRAM

An example with over 50 businesses and organizations who have graduated with sustainability strategic plans since 2006, the E4S program is peer-based and action-focused program that creates a plan and provides resources and peers in order to enact the plan.

WIND SUPPLIERS

One of the world's premier wind turbine and parts manufacturer, Vestas announced a supply deal with Cardinal Fastener & Specialty Co., a Cleveland region based bolt manufacturer which adapted its product to serve the wind industry. This is an example of a local industry building on its present assets in order to become viable in the new sustainable economy.

APOLLO ALLIANCE / IMPACT LEGISLATION

The Apollo Alliance, working with U.S. Senator Sherrod Brown, recently helped introduce the IMPACT Legislation, which revitalizes the manufacturing sector by linking it to growing opportunities in the clean energy industry. The manufacturing sector will become at once more profitable and more sustainable as it becomes the supplier of key parts to a growing high-tech industry.³

¹ <http://www.myersmotors.com/>

² <http://www.npowerpeg.com/>

³ <http://apolloalliance.org/programs/apollo-green-manufacturing-action-plan-greenmap/sen-brown-impact-legislation/>

OHIO FUEL CELL COALITION

Ohio is already one of key suppliers of fuel cell parts in the world, but the Ohio Fuel Cell Coalition seeks to take this one step further by developing an entire supply chain of fuel cell parts within Ohio's borders. This will develop a strong fuel cell industry cluster and allow Northeast Ohio's high-tech companies to become an ever more integral part of the growing sustainable economy.⁴

CORPORATE SUSTAINABILITY NETWORK

CSN connects, convenes, and facilitates dialogue among key business leaders of northeast Ohio's largest corporate citizens, enabling them to learn and share sustainable best practices to create value for their companies and the community. In partnership with the Nance College of Business at Cleveland State University, CSN convenes the Corporate Round Table, a peer learning forum attracting 50-100 participants each month.

AG- BIO SCIENCE CLUSTER

The Agricultural Bioscience Industry Cluster in NE Ohio encompassing over 100 partners is working to identify business opportunities among clusters of locally owned businesses that provide locally produced food, energy and manufactured goods.

INDUSTRIAL SYMBIOSIS

Kalundborg (Denmark) - Through a Industrial Symbiosis project, an industry park consisting of eight

core enterprises have achieved a sharp reduction in need of certain virgin materials and a nearly 60% reduction in carbon dioxide and sulfur dioxide emissions⁵ In addition, by 1998, Kalundborg could already boast that their internal collaboration had resulting in savings of 160 million dollars since the project's outset.⁶

CLEANTECH OPEN

The Cleantech Open runs innovative entrepreneur mentoring, support, and hands-on workshops. Their mission is: *"to find, fund, and foster the big ideas that address today's most urgent energy, environmental, and economic challenges."*

Cleantech Open Alumni have raised over \$160M in private capital
80% remain economically viable today, and
1,200 new clean technology jobs have been created through the end of 2009.⁷

5 *Green Urbanism*, p 375

6 <http://sustainablecities.dk/en/city-projects/cases/kalundborg-industrial-symbiosis-waste-makes-resource>

7 www.cleantechopen.com

4 <http://columbus.bizjournals.com/columbus/stories/2010/05/24/tidbits5.html>

FOUNDATION

**BUSINESS
ENVIRONMENT**

PRIORITY AREA

**RE-TOOL INCENTIVES &
REGULATORY SYSTEMS**

What is it? Clear, fair policies that encourage business development, growth, and innovation in a way that improves the quality of environmental assets and social capital now and for future generations.

Why is it important? Legislation can provide incentives or obstacles in the creation of a competitive and sustainable economy. Taxes can encourage or discourage a company from recycling its waste, investing in green buildings, or locating in Cleveland in the first place. The regulatory structure creates the enabling conditions for new businesses to emerge and existing businesses to grow, through structures that stimulate more entrepreneurial opportunities. For example, a regulatory structure can allow businesses to access seed capital or other innovative financing mechanisms.

How do we do it?

EXAMPLES OF STRATEGIES**ALIGN TAXES, REGULATIONS, LAWS, CODES:**

Establish stable, long-term incentives to encourage firms to develop and deploy new green-economy activities (R&D, capitalizing new equipment and facilities, expansion, etc.).

Provide sufficient incentives and support to improve the cost efficiency of selected key technologies. Evaluate the level of risk at each stage of innovation and firm development, and incentivize accordingly. Refer back to the “Market Readiness” chart.

Evaluate models that exist elsewhere.

Phase out subsidies for industries that pollute or use natural resources inefficiently.

Look for an existing, related Cleveland or Ohio state tax program that could simply be expanded to include green-economy activities and industries.

Seek exemptions and deductions, which are easier to administer than credits.

Tie required documentation of eligibility to third-party documentation (e.g., an exemption based on LEEDS certification).

Create or use existing data bases to determine eligibility that can be used to establish who is eligible (e.g., industry or job codes or green-economy definitional list).

(From Washington States Green Economy Strategic Framework)

STRENGTHEN LOCAL ECONOMY:

Media features sustainable businesses in regular column, radio program, etc.

Businesses offer procurement preference to green local suppliers

Within businesses, sustainable behaviors are rewarded

“Buy-cotts”

INNOVATE FINANCING / FUNDING:

Micro Lending

Redirect expenditure streams

Brokerage for ecosystem services

Bundle benefits

Benefits from natural assets are leveraged for creative funding & business opportunities

Support Social Entrepreneurs

FOUNDATION

BUSINESS
ENVIRONMENT

PRIORITY AREA

RE-TOOL INCENTIVES &
REGULATORY SYSTEMSALIGN FOR TRANSPORT AND
DENSITY

In Europe taxes have generally been aligned with increasing public transportation and urban density, whereas in the US they have been aligned with housing, roads, fuel, and automobiles. This has led most families into the suburbs where spacious dwelling absorb a high percent of people's personal income and savings.

GOAL: ALIGN TAXES, REGULATIONS, LAWS, CODES

What is it? Taxes, regulations, laws, and codes help define “the rules of game” and to be effective must be in harmony with one another and aligned the goals and objectives of SC2019.

Why is it important? These “rules of the game” create the conditions in which a green economy can accelerate or flounder. In people's day-to-day life, many of these underlying boundaries are not obvious, but in reality they have a strong influence over the shape of the economy. For example, taxes can discourage businesses from creating and disposing large amounts of waste, while creating the correct incentives for encouraging them to recycle or collaborate with other businesses in industrial symbiosis. Tax structures can help businesses to make the right choices for the environment and the economy of Cleveland in a way that aligns self-interest.

GOAL: ALIGN & CREATE INCENTIVES

What is it? Incentive structures allow businesses to make choices and prioritize in a way that is both beneficial to themselves and has a positive and appropriate impact on Cleveland's environment and economy.

Why is it important? Many incentive structures are created outside the purview of government. Many incentives exist between businesses, or within businesses, or could occur on a level that is more informal and organic. Thought and businesses leaders can create incentives that are in alignment with SC2019 goals and that encourage new partnerships. Incentives can also arise from the bottom-up. Associations and organizations can reward businesses that implement sustainability strategies by encouraging members to support them.

GOAL: INNOVATIVE FINANCING/FUNDING

What is it? Transparent, convenient and fair access to finance in order to start or grow a business in a way that quickly responds to the changing context and evolving market. Funding for new business ventures that uses outside the box thinking.

Why is it important? Available financing and funding structures greatly influence what types of businesses are created and grow, as well as what types of entrepreneurial projects are funded and how successful they are. Without access to seed capital or credit, people cannot start new businesses or take the necessary risk to respond to new emerging demand and practice business in creative, competitive ways. In order to encourage transformational change in the Cleveland economy, young, talented people, entrepreneurs and other people willing to think outside of the box must have access to credit and finance to start new enterprises, projects and initiatives, create new products and services, and develop new production methods.

SUPPORTIVE INCENTIVES & REGULATORY STRUCTURES

SNAPSHOT OF PROMISING PRACTICES

GREEN BUILDING POLICIES

The City of Cleveland is phasing in tougher energy requirements for projects receiving city funding.

CLEVELAND RESIDENTIAL TAX ABATEMENT

Beginning in 2010, to qualify for residential tax abatement under Cleveland's Community Reinvestment Area tax abatement program all new construction and rehabilitation projects will need to meet or exceed the Cleveland Green Building Standard which was produced by the city's Department of Community Development in February 2009.¹

(For a full list of incentives see <http://www.neogbc.org> - the Cleveland Chapter of the Green Building Council has great resources)

ENERGY EFFICIENCY AND ADVANCED ENERGY SPECIAL IMPROVEMENT DISTRICTS

Voluntary property assessment can categorize certain Northeast Ohio districts as "Special Improvement Districts," which will make these districts eligible for specialized financing (from PACE, for example) in order to install photovoltaic or solar-thermal panels on their property.

CITY'S LOCAL AND SUSTAINABLE PURCHASING ORDINANCE

The City's Ordinance 1660-A-09 promotes the purchasing of local and sustainability produced products, goods and services.²

SENATE BILL 221: ADVANCED ENERGY PORTFOLIO STANDARD (AEPS)

SB 221 requires utilities to improve energy efficiency and obtain a portion of their power from renewable resources - 25% of the energy sold in Ohio must come from advanced and renewable energy technologies (from clean coal to wind turbines) by 2025.

SOLAR SPECIAL IMPROVEMENT DISTRICTS

Property-Assessed Clean Energy (PACE) assists regions in moving toward sustainability by providing specially-tailored loans for financing energy-improvement projects. "Special energy improvement districts", as established by Ohio law, are eligible to utilize these loans to install photovoltaic or solar-thermal panels on their property.³

CITY WIDE EVALUATION OF GOVERNMENT INCENTIVES

Santa Cruz is going through a citywide process to evaluate all taxes and regulations to make sure that they line up with goals for a sustainable economy.

FEED-IN TARRIFS

California is the first state to use feed-in tariffs to motivate more renewable energy installations - these means that people can sell energy back to the grid. This has resulted in increased incentives for innovation in both efficiency and distributed renewable energy.

BUNDLE FUNDING STREAMS

Portland Mayor Sam Adams decided to use \$20 million in sewer money to help kickstart the city's bicycle master plan by dovetailing the city's "green streets" initiative with the bike plan's call for bicycle boulevards.

It turns out that both involve placing something in the street. The green streets program builds out green patches along streets to help manage stormwater runoff. And bicycle boulevards are made by building curb extensions to slow traffic to make neighborhood streets safer for bikes.

"If we're doing traffic calming with curb extensions, why not use the opportunity to treat stormwater?" said Catherine Ciarlo, the mayor's transportation adviser⁴

"Strengthening state economies through the development of clean-energy industries can be best accomplished by using existing resources and expertise rather than starting from scratch. State funding or technical assistance can make it easier for firms to expand into clean-energy technologies, providing them with flexibility while preserving current jobs. Incentives such as tax breaks or matching funds can allow firms to expand into new areas that they otherwise may have avoided as too risky."

- Securing a Clean Energy Future: Opportunities for States in Clean Energy Research, Development and Demonstration. A Report for the National Governors' Association. March 2008.

¹ <http://www.neogbc.org>

² see pop-out box on page 130 for more information

³ <http://www.dsireusa.org/incentives/>

⁴ Mayer, James. "Mayor Adams finds \$20 million for bike boulevards." *The Oregonian*. Saturday, March 06, 2010.

CHAPTER 3.0

3.1 INTRODUCTION

CELEBRATION POINTS

ENERGY EFFICIENCY

LOCAL FOOD

RENEWABLE RESOURCES

WASTE

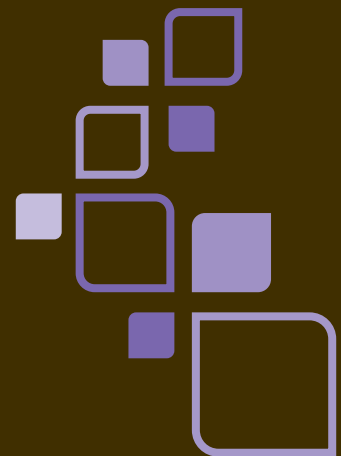
WATER

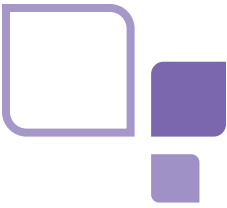
GREEN SPACE

TRANSPORTATION

VITAL NEIGHBORHOODS

ACTION PLAN: CELEBRATING PROGRESS





3.1

ACTION PLAN: CELEBRATING PROGRESS

CHRONOLOGY CRITERIA

Harnessing Current Energy and Passion

City schedule of Initiatives

Skills Building (Logical Progression)

Available Funding at Federal Level
(Seize the Moment)

POTENTIAL CELEBRATION POINTS

2011 – Energy Efficiency

2012 – Local Foods

2013 – Renewable Resources and
Advanced Energy

2014 – Waste

2015 – Clean Water

2016 – Transportation

2017 – Green Space

2018 – Vital Neighborhoods

2019 – TBA

ACTION PLAN – CELEBRATING PROGRESS

What is Celebrating Progress?

Celebrating Progress is a vehicle for collective action and engagement. Every year leading up to 2019, Cleveland will celebrate progress toward one clearly defined and actionable area where sustainability and economic development intersect.

The order of the celebration points is flexible, and will be voted on every three years by the SC2019 Stewardship. This will allow flexibility for big changes, unexpected events, or available funding.

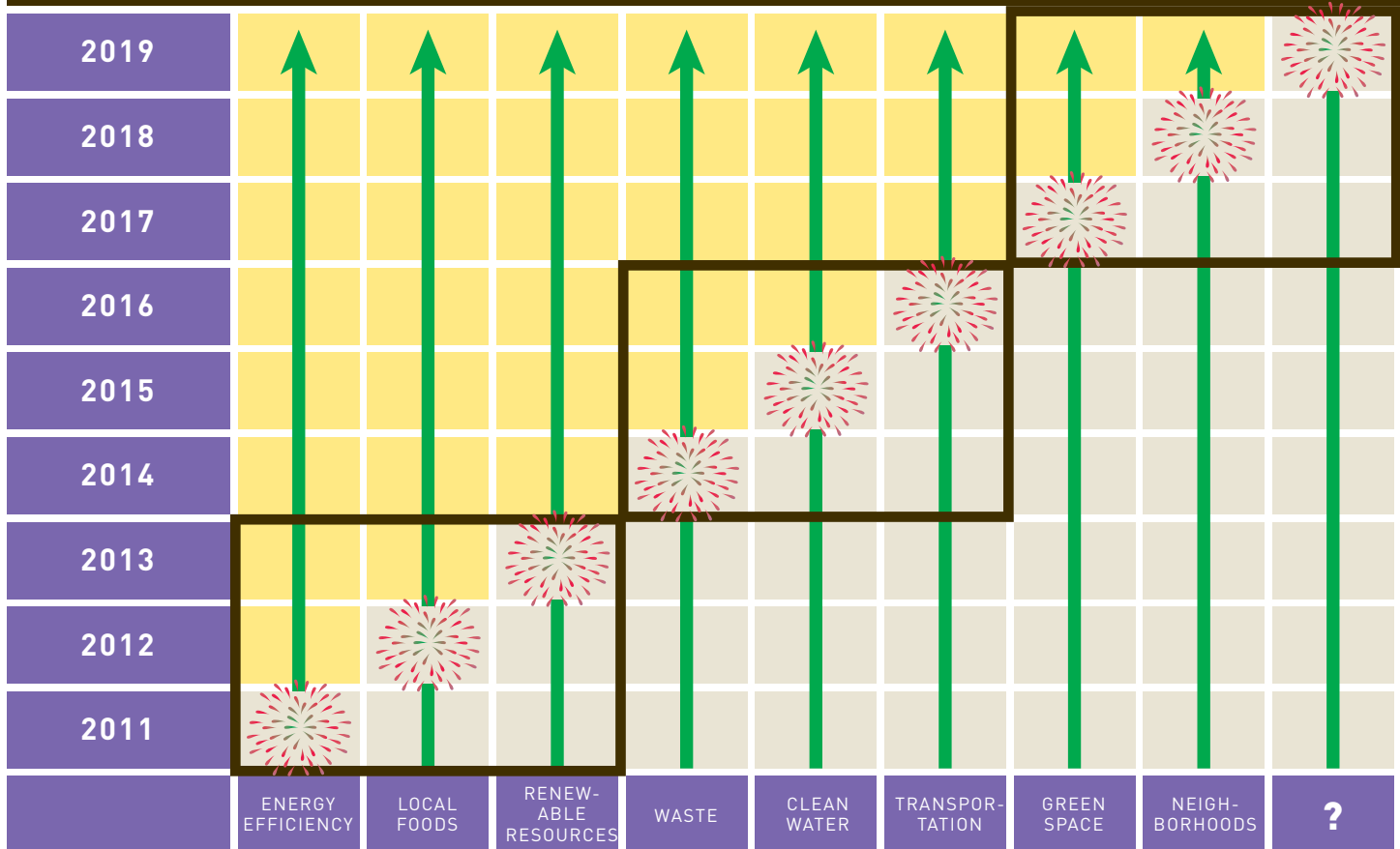
Specific initiatives within Celebrating Progress will all relate to elements of the strategic framework, but they provide an easily accessible access and alignment point for moving forward. The celebration points within Celebrating Progress were chosen to address the most basic conditions for sustainability in a context that resonates with people at all knowledge and interest levels.

Additionally, the order of the celebration points was chosen to correspond to celebrations that are already happening in the city and to major milestone projects that will be completed. For example, the Westside Market will celebrate its 100 year anniversary in 2012 and in 2017 the Metro Parks will turn 100.

In the following pages, the economic argument for each Celebration Point is outlined and its relevance to businesses, government and the community is highlighted. The potential for job creation is emphasized.

NOT A BEGINNING OR AN END

Each Celebration Theme will not start or finish in its designated “year-of” – rather, they will all be on-going, with the focus shifting from year to year. 60% of the media focus and planning for the celebration can focus around the specific theme, and the other 40% will be dedicated to highlighting progress in the other, complementary themes. The celebration point is meant to create new connections and expand our horizons of what is happening here in Cleveland – new ideas, new innovations, new voices, and new partnerships.

EMBEDDED ACTION : CELEBRATING PROGRESS TOWARD A SUSTAINABLE ECONOMY**WHY CELEBRATING PROGRESS MAKE SENSE:**

- It provides a platform and structure for communication/collaboration. A feeling of not know what other people, organizations, etc. are doing has been universally identified as one the biggest barriers to progress. By taking the time to really celebrate one specific area, the community will have a chance to see what others are doing and create new opportunities for collaboration.
- It is an easy marketing hook and platform for telling interesting, compelling stories about Cleveland both to an internal audience (Clevelanders themselves) and to an external audience (the state, the nation, the world).
- It creates a sense of alignment and collective impact. People are motivated to take action when there is a feeling of collective will. Everyone knows that small efforts have a significant cumulative effect – with a common vision and feeling of aligned impact this abstract concept becomes tangible and motivating.
- It creates a pressure to perform, to show-off and an easy way to communicate and demonstrate tangible progress to ultimate goals of 2019. Identifying a specific time that people will be accountable for progress in the eyes of the community will encourage co-opetition in the Olympic sense of competing for the end result of collective benefit – everyone gets more fit.
- It is easy to engage with at different levels of awareness and engagement – from government, to businesses, to organizations, to individuals.

COMMUNITY OUTREACH STRATEGY COMPONENTS FOR CELEBRATING PROGRESS:

One element that will be critical to gaining wide popular acceptance and awareness is to make a significant community outreach effort for each of the celebration points. While each year will have its own outreach strategy there are components common to each year that will need reinforcement in addition to year-specific outreach efforts. Here are some examples of strategies and tactics that could be used through the SC2019 timeline to raise celebration-point awareness, act to engage the community and generate good PR while solidifying the overall SC2019 “brand”:

Deputize community outreach volunteers to go into the community and explain the annual theme

Demonstration projects at all levels

Create “highest-participation” contests between different neighborhoods – give added points for helping others engage

Enlist community leaders to set publicly visible examples

Send SC2019 reps to neighborhood association meetings to explain the theme and its importance

Get buy-in and free media time from radio, tv and print publishers

Create and publish lists of how everyone/anyone can participate

Create a place on the website where people can present their ideas and publicize their efforts – organized by peer or stakeholder groups.

Provide regular progress updates throughout the year (new media, United Way-type “thermometers”, billboards, etc...)

Hold public recognition events

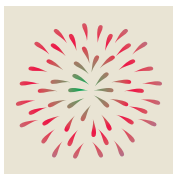
Create a variety of fun eco-promotional items around each themed year (stickers, T-shirts, buttons, etc...)

Establish an annual awards ceremony

Enlist the local churches and community organizations, economic development organizations, environmental organizations, etc.

There are dozens of other great ideas that could be used to raise awareness of these critical themes. Since most of the above ideas could be re-used each year, it would provide a level of annual continuity that could reduce learning curve time and costs as well as setting regular expectations along the 10-year cycle.

For each of the following annual celebration points, task SC2019 with coming up with one or two new outreach mechanisms unique to the theme that can add at least a degree of uniqueness to each year. The other important point is to ensure all the outreach efforts selected are spaced out evenly throughout the year to ensure a steady drumbeat of outreach. Never stop communicating the message and trying to reach new people. Most people will need to hear about the theme five or more times in order to internalize the message. Repetition and community penetration are the keys to successful outreach efforts.



CELEBRATION POINT

ENERGY EFFICIENCY

Energy efficiency can be defined as simply “using less energy to provide the same level of energy service.” While Americans use on average more energy than any other country in the world besides China¹, the need to improve energy efficiency is not simply an environmental issue, but also an enabling factor and basic premise of a competitive and sustainable economy.

Energy efficiency offers a two-fold opportunity for Cleveland’s economy. First, **new business opportunities for Cleveland are born out of the need for an environmentally sustainable economy**, allowing Cleveland both to retain jobs and create new employment opportunities in traditional sectors such as construction, building and manufacturing. Second, energy efficiency can decrease input and operating costs for the City and Cleveland businesses, while allowing individuals to reduce their expenditures on a household level. This provides an opportunity to increase businesses’ profit margin, free up money for reducing deficit while retaining the government’s public spending allowance, and increase wealth in Cleveland communities.

¹ International Energy Agency, July 2010, <http://www.iea.org/>

While employment in construction in Ohio has declined by nearly 15% between 2000 and 2008, both regional and national statistics demonstrate a clear trend toward a growing job market in the energy-efficient construction sector, one that includes Green Building, Weatherization and Retro-fitting. Relative to conventional

construction, green building has the potential to create 3-4 more jobs indirectly or directly for every million spent. Similarly, the National Association of Home Builders suggests that energy efficient retrofit jobs of a certain capacity could generate three times more jobs than traditional residential remodeling². There are

currently more than a quarter of a million homes in Cuyahoga county that could benefit from weatherization and energy improvements, which would both, respond to the local demand as well as provide local jobs that cannot be outsourced reducing energy use by 25-50%.

² www.sahfnet.org/index_23_1_1.pdf

BUSINESSES AND CITIES

Not only does energy efficiency create new business opportunities and employment, it can help to reduce input and operating costs for local businesses thereby improving productivity and profit margin. Rising prices in oil and other fossil fuel markets in the last decade coupled with a growing global energy demand has led to increases of energy costs for businesses by an average of 60-70% since 2000.³ For the most energy intensive companies, energy costs more than tripled and the U.S. Department of Energy's 2009 Annual Energy Outlook projects a 2014 price of about \$104/barrel, almost 5 times higher forecast than in the 2006 Annual Energy Outlook.⁴ Energy efficient solutions hence allow for significant long-term energy costs reductions for businesses but also for cities, providing more opportunity for local public spending on other enabling conditions for a competitive economy, for example, infrastructure, education or green space.

COMMUNITIES

The same principal applies on a household level. As individual homes reduce their energy consumption either through a change in behavior and/or a more energy efficient living space, the impact on wealth and on poverty alleviation is substantial. While an average household in U.S. spends 5% of its income on energy bills, the average low-income household spends between 15% and 35%.⁵ Home weatherization can lead

to a drop in energy spending in case of average low-income households by 5-14%. Energy efficiency on a household level is extremely relevant within the Cleveland context, as the city has relatively old housing stock and a cold climate for achieving energy savings for low-income people by applying building retrofits, such as replacing windows or upgrading insulation. Homeowners and renters could save up to 4% of their income by investing in retrofits,⁶ increasing wealth and money that can be spent locally and contributing to a more resilient and prosperous economy for Cleveland.

EXAMPLES OF AVAILABLE FUNDING AT FEDERAL/STATE LEVEL

AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

The U.S. Department of Housing and Urban Development (HUD) and the Department of Energy (DOE) announced a partnership intended to streamline the assistance program for families to weatherize their homes. HUD and DOE will allocate \$16 billion in economic recovery funds to retrofit existing homes. HUD's programs include \$4.5 billion to renovate and upgrade public and Native American housing, as well as \$250 million for energy retrofits of privately owned federally assisted housing. DOE will invest \$5 billion in weatherization funds; \$3.2 billion for a new Energy and Environment Block Grant that cities and states can use to retrofit homes; \$3.1 for the State Energy Program; and other programs.⁷

The State Energy Program

will enable Ohio to stimulate the creation and retention of jobs, save energy, increase energy generation from renewable energy, and reduce greenhouse gas emissions. The program is a collaboration between the Ohio Department of Development and the Ohio Air Quality Development Authority with input from additional state agencies. The total level of State Energy Program funding allocated to Ohio is \$96,083,000.⁸

The Energy Efficiency and Conservation Block Grant

program is one of several energy-related programs receiving funding through American Recovery and Reinvestment Act. A total of \$84,183,300 is available to Ohio, which includes \$59,203,700 that was made available through direct allocation from the federal government to the 10 largest counties and to the 33 largest cities.⁹

ENERGY INNOVATION HUBS: ENERGY EFFICIENT BUILDING SYSTEMS REGIONAL INNOVATION CLUSTER INITIATIVE

a multi-agency funding opportunity to support an Energy Regional Innovation Cluster.¹⁰

3 Pew Center on Global Climate Change, From Shop Floor to Top Floor: Best Business Practices in Energy Efficiency, April 2010, http://www.pewclimate.org/docUploads/PEW_EnergyEfficiency_FullReport.pdf

4 Id.

5 Unlocking Energy Efficiency in the US Economy", McKinsey Global Energy and Materials, p. 32, July 2009, http://www.mckinsey.com/clientservice/electricpower/naturalgas/downloads/US_energy_efficiency_full_report.pdf

6 Cleveland, Ohio, Green Prosperity and Poverty Reduction", Political Economy Research Institute, University of Massachusetts, Amherst, June 2009, http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/green_prosperity/Cleveland_Green_Proprosity.pdf

7 http://portal.hud.gov/portal/page/portal/RECOVERY/transparency_resources/HUD-DOE%20Weatherization%20

Fact%20Sheet.pdf

8 http://www.development.ohio.gov/recovery/energy/fundingopportunities.htm#Energy_Efficiency_

9 Id.

10 <http://www.energy.gov/hubs/eric.htm>

CITY INITIATIVES

SHAKER HEIGHTS – GREEN ENERGY PROGRAM

grants toward energy efficiency work in homes.

THE CITY OF CLEVELAND – LED (LIGHT EMITTING DIODE) LIGHTING INITIATIVE¹¹

This initiative is an effort to change out our lighting including streetlights, traffic lights, and indoor incandescent and fluorescent lighting replacements. The effort uses the City's purchasing power to create jobs, attract business investment, save the city money, reduce the City's energy consumption, reduce the City's carbon footprint and spur the creation of a sustainable economy in Cleveland.

GREATER CLEVELAND ENERGY ALLIANCE

This proposal is currently being developed and studied as part of a study being conducted by Clean Energy Solutions. It is to develop an energy conservation program for the private sector that allows for energy efficiency improvements at no upfront capital costs for people participating in the program.

ENERGY EFFICIENCY AND ADVANCED ENERGY SPECIAL IMPROVEMENT DISTRICTS

The City and the First Suburbs Consortium recently won the Efficient Gov.org challenge to create Special Improvement Districts for Advanced Energy and Efficiency programs. The City is seeking to develop a special improvement district that allows for the voluntary property assessment for energy and energy efficiency improvements. This is an important

program to pursue to help bring energy efficiency retrofits to scale along with solar and other advanced energy applications for private property owners.

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

STATE POLICY

Prompted by the supportive state policy of SB 221 enacted by the Ohio General Assembly in 2008, investor-owned utilities in Ohio are investing in energy efficiency to obtain a portion of their power. This could lead to innovative projects between utilities and community groups to help people save energy in their homes

GREEN BUILDING

The Northeast Ohio Chapter of the U.S. Green Building Council is educating the region's building and design industries about the benefits of high-performance buildings. The City of Cleveland is phasing in tougher energy requirements for projects receiving city funding.

RETROFITS AND CODES

The Sustainable Cleveland 2019 Green Building Work Group is promoting an aggressive program of building retrofits to save energy and create jobs, as well as new building codes with tougher energy requirements.

DEEPER RETROFITS

Environmental Health Watch's Green and Affordable Housing Program is piloting "deep energy retrofits," which can turn ordinary homes into near zero-energy homes.

ENGINE TECHNOLOGY

Ford is manufacturing some of its most

efficient engines in Northeast Ohio.

LIGHTING TECHNOLOGY

Northeast Ohio is a center of advanced lighting research with companies such as GE and TCP.

DONATIONS FOR CARBON REDUCTION

The Cleveland Carbon Fund accepts donations and invests in projects, such as light bulb replacement efforts, that reduce carbon emissions while creating jobs in Cleveland neighborhoods.

ENERGY EFFICIENCY TECHNOLOGIES

Companies such as Ford, Eaton Parker Hannifin and others are developing technologies that are creating some of the most efficiency engine technologies available



¹¹ http://www.city.cleveland.oh.us/clnd_images/PDF/Mayor/LED_Initiative.pdf

RECOMMENDATION FROM THE CLIMATE OVERVIEW

BUILDING TRANSITION

Nearly half of the greenhouse gas emissions in the seven-county region come from energy used in residential and commercial buildings, primarily from burning fossil fuels for lighting, heating and cooling (note that emissions from this sector include emissions from the electricity generation sector). A 90% reduction of these emissions by 2050 will require a major transition of our building stock, creating buildings that are more energy efficient, cheaper to operate, and healthier to live in. Transition steps should include:

RETROFIT AND RENOVATE EXISTING BUILDING STOCK

- Of the 1.2 million existing homes in Northeast Ohio, 900,000+ are 30 years or older.
- Expedite permitting for green renovations; increase contractor education.
- Increase availability of energy-efficient appliances and products in the region.
- Provide incentives for energy conservation and efficiency retrofits and installation of renewable energy.
- Achieve aggressive energy reductions (and energy production) in new buildings
- Between 8,500 and 12,000 new homes are built each year in the region.
- Starting in 2010, all new homes should be constructed to use 60% less energy than homes of standard construction, achieving a Home Energy Rating System (HERS) Index of 40.
- Increase home energy performance year by year to achieve widespread construction of net-zero energy homes by 2050.

EDUCATE AND IMPROVE BUILDING OCCUPANT ENERGY-USE BEHAVIORS

- Encourage programmable thermostats, cold water washing, air drying of clothes, etc..
- Provide feedback about the energy consumption of household devices.
- Provide building energy scorecards.

IMPLEMENT DISTRICT-WIDE SOLUTIONS, INCLUDING EFFICIENT LAND USE PLANNING

- Promote zoning and planning codes that require efficient buildings and siting to maximize passive-solar design or renewable energy production.
- Encourage developments to share highly efficient district energy systems, such as cogeneration.

RECOMMENDATION FROM THE CLIMATE OVERVIEW

ELECTRICITY GENERATION TRANSITION

About half of the greenhouse gas emissions in Northeast Ohio come from the production of the electricity we use. The region has relatively carbon-intensive electricity because more than 70% is generated from the burning of coal.

A 90% emissions reduction from this sector will require a major transition in the way we use and generate electricity, including greatly expanded programs for energy conservation and efficiency, the gradual phase-out of coal-burning power plants, and a shift to clean, renewable power sources tied together by a smart electrical grid. Transition steps should include:

REDUCE DEMAND FOR ELECTRICITY BY PROMOTING EFFICIENCY AND CONSERVATION

- Change regulatory policies so utilities have a greater incentive to promote conservation than sell more electricity.
- Support stronger standards for appliance and lighting efficiency, and offer incentives to encourage rapid adoption of more efficient technologies in homes and businesses.
- Educate consumers about cost-effective ways to reduce power consumption.
- Reduce electricity consumption in buildings through high-performance, green design.

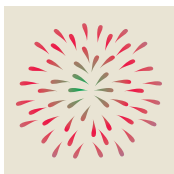
CHANGE THE MIX OF POWER SOURCES, SHIFTING TO MORE EFFICIENT GENERATION AND CLEANER FUEL SOURCES

- Develop efficient plants to produce combined heat and power close to consumers to reduce transmission losses.
- Retire aging coal-fired power plants at the end of their useful lives.
- Rapidly phase in wind, solar, and other clean power sources.

Build a smart power grid to take advantage of intermittent, distributed sources of power

- Make the electric grid more like the Internet—capable of connecting and managing many sources of energy.
- Develop storage capacity (e.g., with compressed air, pumped water, fuel cells) to smooth out power supply.
- Tie electric vehicles into the grid to create a mass network of storage devices.

For details on how to implement the above transition steps, see the climate transition plan for the power sector at www.gcbl.org/energy/regional-agenda/climate-change/transition-plans/electricity-generation-transition-plan



CELEBRATION POINT

LOCAL FOOD

Local food is defined as the “production, process, distribution and consumption of food within a specific region, often defined as 100 miles from farm to fork.” A focus on local food is not only essential for a sustainable economy in Cleveland due to its environmental benefits, but is also an important economic driver. While a focus on local foods can lead to a significant improvement in air and soil quality and a reduction of the city’s carbon footprint, it also represents an economic sector whose resilience can significantly increase local wealth, create new jobs that cannot be outsourced and provide diverse business opportunities for value-added product and services that are imperative for the city’s competitive economic future.

CITY

The local food sector rests at the very foundation of a competitive self-help economy and is grounded in a large local market and strong local supply capacity. At present, the local demand for food is satisfied through imports from other states and only 5% of food is supplied from locally grown and produced products.¹² The remaining 95% spent on food outside of the community represents a significant leakage of resources and revenue, as it leaves the economy and is not circulated back into the local economy. Local spending also has a very high multiplier effect. According to a study by the New Economics Foundation in

London, a dollar retained and spent in the local economy has the potential to generate twice as much revenue within the local economy, increasing income for local businesses and city revenue that has steadily declined due to a decreasing population.¹³ On the whole, Ohioans devote 11% of total consumer spending to food. Following the findings of Ohio Department of Agriculture, localizing only 10% of consumer spending could result in an additional \$10 billion per year in the state economy, based on conservative economic multipliers.¹⁴

¹³ “10 Reasons to Eat Local” http://fogcity.blogs.com/jen/2005/08/10_reasons_to_e.html

¹⁴ Economic Analysis of an Ohio County Local Food System Offers Blueprint for Nation, November 2009, http://www.extension.org/pages/Economic_Analysis_of_an_Ohio_County_Local_Food_System_Offers_Blueprint_for_Nation

The local food sector provides a concrete opportunity to increase local jobs that cannot be outsourced. The Northeast Ohio Local Food Assessment plan cites high potential for Cleveland’s surrounding areas, demonstrating that 25% food localization would provide 10,000 new jobs, produce \$346 million in earnings, and create \$1.4 billion in output. Employment opportunities include, but are not limited to, food production, farming services, food distribution, food manufacturing, meat processing, and food tourism, as well as entrepreneurial opportunities for organic, value added products that can enter into – and command a high price – on a national market.

¹² Id.

BUSINESSES AND COMMUNITY

In addition to presenting new business and employment opportunities, a focus on local foods leads to positive economic externalities, which underpin and sustain a competitive and prosperous economy. Improving community health and wellness will reduce costs for employers in the private and public sector, as they provide health insurance for employees and cover health related costs for Cleveland residents. According to the U.S. Chamber of Commerce, at 12%, healthcare is the most expensive benefit paid by U.S. employers.¹⁵ Healthy employees lead to both higher productivity, less sick days and lower labor costs for the public and private sector in Cleveland.

Another important positive externality resulting from a focus on local food is the consequent increase in urban gardens and agriculture, which not only improve air quality and reduce green house gas emissions, but also provide more green space and immediate access to nature, two essential principles to a higher quality of place, an essential factor in establishing a competitive and prosperous economy and a “driver of prosperity” in the emerging economy

EXAMPLES OF AVAILABLE FUNDING AT A FEDERAL LEVEL

THE COMMUNITY FOOD PROJECTS COMPETITIVE GRANTS PROGRAM

by the Department of Agriculture, National Institute of Food and Agriculture is designed to increase food security in communities by

bringing the whole food system together to assess strengths, establish linkages, and create systems that improve the self-reliance of community members over their food needs. \$4.8 million were set aside for 2010.

USDA GRANTS FOR LOCAL AND REGIONAL FOOD SYSTEMS¹⁶

designed to develop food systems that are economically, environmentally, and socially sustainable

CITY INITIATIVES

CITY'S LOCAL AND SUSTAINABLE PURCHASING ORDINANCE

In May of 2010 Cleveland Passed a cutting edge purchasing policy that uses bid incentives to promote green and local purchasing. This ordinance will give up to a 4% discount on contracts to companies who follow Cleveland's local, sustainable purchasing guidelines.¹⁷

CLEVELAND-CUYAHOGA COUNTY FOOD POLICY COALITION

The coalition is developing working groups on Community Food Assessment, School Nutrition, Land Use and Planning, Institutional Purchasing, Food Waste Recovery, and Rural/Urban Interface with the goal to develop a more equitable, healthy, and sustainable food system.¹⁸

INSTITUTIONAL SUPPORT OF THE LOCAL FOOD MOVEMENT through developing policies supporting local food production, expanding access to local produce through community gardens, greenhouses and local farmer's markets throughout the City of Cleveland and the region.

¹⁶ <http://sustainableagriculture.net/wp-content/uploads/2010/06/6.18-FINAL-Food-System-Funding-Guide2.pdf>

¹⁷ Cleveland City Ordinance number 1660-A-09

¹⁸ <http://www.gcbl.org/food/regional-agenda/cleveland-cuyahoga-county-food-policy-coalition>

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

IN 2008 SUSTAINLANE RANKED CLEVELAND AS THE SECOND BEST CITY IN THE NATION FOR ITS LOCAL FOODS/AGRICULTURE MOVEMENT.

LOCAL FOOD CLEVELAND NETWORK¹⁹

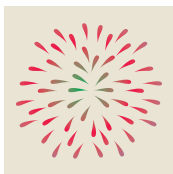
EXAMPLES OF THE LOCAL FOOD MOVEMENT ARE DISCUSSED THROUGHOUT THIS ACTION GUIDE

(See local food case study in chapter 4, Strategic Framework: Restore & Regenerate Priority Area, Chapter 2)



¹⁵ Council on Foreign relations, http://www.cfr.org/publication/13325/healthcare_costs_and_us_competitiveness.html

¹⁹ <http://www.localfoodcleveland.org>



CELEBRATION POINT

RENEWABLE RESOURCES & ADVANCED ENERGY

RENEWABLE AND ADVANCED ENERGY

Energy use and production is one of the largest sources of carbon emissions in the U.S., as well as one of the most costly inputs for businesses and highest expenses for American households. Ohio's extremely high carbon footprint due to its history of heavy manufacturing – the fourth highest in the country – is paired with a high level of dependence on regional coal and foreign fossil fuel production. The state currently sends \$1.7 billion each year to other states to purchase coal as an energy input for power plants, largely from Michigan, Iowa and Indiana, while the rising price of oil puts Ohio in a vulnerable position and undermines productivity and competitiveness amongst local industry.

A continued focus on traditional, non-renewable energy sources not only ensures high economic and environmental costs for Cleveland, it also represents a missed opportunity for innovation, economic growth, and renewed competitiveness. Advanced sources of energy – wind, solar, biomass and fuel cells – leverage Cleveland's competitive advantage in manufacturing and respond to the strong local demand, a perfect context in which to develop new business and employment opportunities, as well as cut costs, enhance sector productivity and increase community wealth.

Advanced energy represents a quickly emerging industry which grew more

than three times as fast as the overall economy between 2006 and 2007. Substantial job growth for Cleveland can result from a focus on renewable energy, as renewable energy creates four times as many jobs per megawatt of installed capacity as natural gas and creates 40% more jobs per dollar invested than coal-fired plants.²⁰ Ohio's Department of Development estimates that there are already over 60,000 specialized workers supporting the state's advanced energy industries, in wind, solar, biomass and fuel cell development. Recognizing these

opportunities, Ohio has made first strides toward expanding advanced energy use in the state and passed a law that requires electric utilities to obtain at least 25% of their power requirements by 2025 from advanced energy and energy efficiency sources. Half of this requirement must be renewable energies. The Renewable Energy Policy Project has estimated that a federal renewable energy portfolio standard mandating a 25% reduction in CO₂ by 2025, would create 51,269 wind, solar, geothermal, and biomass manufacturing jobs in Ohio. Securing 30% of that opportunity would result in more than 15,000 new jobs in Northeast Ohio (Pre – Summit Briefing, pp.32).

20 "New Energy America", 2004 Apollo Alliance Report, p. 10. http://www.apolloalliance.org/downloads/resources_ApolloReport_022404_122748.pdf

WIND

Wind power has captured the imagination of many Clevelanders and a large wind turbine gracefully generates electricity alongside the Great Lakes Science Center and Lake Erie. This economic sector has already produced more than 220 businesses and research institutions which are involved in Ohio's wind energy supply chain, and more than 1,000 companies have been identified as eligible to transition into manufacturing components for the wind energy supply chain. Cleveland's unique position as a potential pioneer in offshore wind technology could thrust it into the national or global market, as the city and industry garner expertise and develop technology that can be used to produce offshore wind turbines to withstand harsh Midwestern winters and Lake Erie's frozen surface.

SOLAR

Despite Cleveland's overcast and long winters, solar represents another possible economic driver and there are currently more than 115 businesses and research institutions involved in the solar energy supply chain in Ohio, many of which are located in Cleveland (e.g. Ohio Cooperative Solar, Repower Solutions, Cleveland Solar and Wind etc). Solar innovation harnesses institutional knowledge that stems from a historic manufacturing sector and represents a growth opportunity that responds directly to rapidly growing national demand. The solar photovoltaic's is projected to grow from a \$29.6 billion industry in 2008 to \$80.6 billion by 2018, a prediction premised on that fact that for the past 15 years, the industry has experienced annual growth rates of 30 to 40%. Among the renewable energy technologies, solar photovoltaic

systems (PV) create the most jobs per unit of electricity output and are believed to generate almost eight times as many job-years/GWh as natural gas or coal.²¹

As far as benefits of solar energy for households regards, real life cases demonstrate that there is a high potential of money savings. Although different solar technologies as well as their size, location or amount of sunlight entail different benefits, household solar technologies have proven their ability to cut hot water bills by 50% or generate 70% of annual electricity costs.²²

BIOMASS AND FUEL CELLS

Energy derived from biomass and the production of fuel cells represents another opportunity for innovation amongst existent Cleveland businesses and new entrepreneurial activity. There are currently more than 60 businesses and research institutions in Ohio that are involved in the biomass industry and over 1,300 wood manufacturing companies in Ohio produce residues that are capable of being converted into biomass energy. Fuel cell technology represents a similarly exciting opportunity for Cleveland and Ohio is cited as among the top 10 states in battery technology, fuel cell technology patents. There are currently more than 115 businesses and research institutions in the state are involved in the fuel cell industry. Ohio's Third Frontier Fuel Cell Program has resulted in the creation or retention of 295 jobs with an average

salary of \$61,651. They also report a leverage ratio of 4.5, meaning that for every dollar spent the state attains \$4.50 in benefits.²³ On a national level there is large growth potential for the production of fuel cells, particularly in the areas of heating, ventilation, and air-conditioning (Automotive Electric power generation).

Cleveland is positioned to enter as a highly competitive and productive supplier or part of the supply chain within the Advanced Energy sector, which can also lead to lower energy input costs for Cleveland businesses and households. According to a Deloitte survey, 80% of survey respondents reported that energy costs are a problem for their business' competitiveness while households spend between 5-15% of their income on energy. Lower cost advanced energy produced in Cleveland could lower operating costs for businesses and prevent wealth leakage within communities, helping to alleviate poverty and strengthen the fabric of resilience at the very foundation of a competitive and sustainable economy.

21 Wei, M; Patadia, S.; Kammen, D. (2010), "Putting Renewables and Energy Efficiency to Work: How Many Jobs Can the Clean Energy Industry Generate in the U.S.?" Energy Policy, volume 38, p. 919-931. <http://rael.berkeley.edu/greenjobs>.

22 Costs and Savings of Domestic Solar Energy Systems: Some Facts, May 2010, <http://energy-conservation.suite101.com/article.cfm/costs-and-savings-of-domestic-solar-energy-systems-some-facts>

23 <http://www.fuelcells.org/stateintro.pdf>

EXAMPLES OF AVAILABLE FUNDING AT FEDERAL LEVEL

U.S. DEPARTMENT OF ENERGY

Energy Innovation Hubs²⁴

U.S. DEPARTMENT OF TREASURY RENEWABLE ENERGY GRANTS

Granted under the American Recovery and Reinvestment Act and cover up to 30% of the costs for solar, fuel cells, small wind turbines, geothermal heat pumps, microturbines, combined heat and power projects undertaken by tax-paying entities.²⁵

FEDERAL ACCELERATED DEPRECIATION, RESIDENTIAL FEDERAL TAX CREDIT

and other tax incentives.²⁶

EXAMPLES OF AVAILABLE FUNDING ON A STATE LEVEL

STATE ENERGY PROGRAM²⁷

ADVANCED ENERGY FUND

The Ohio Department of Development's Energy Resources Division administers the Advanced Energy Fund, which has so far made more than \$41.9 million in investment in nearly 400 advanced energy projects.²⁸ Another funding opportunity administered by the state is the Ohio Bipartisan Job Stimulus Package – Advanced Energy Component approved in June 2008

(\$150 million) for increasing the development, production, and use of advanced energy technologies in the state.²⁹

CITY INITIATIVES

GREEN TECHNOLOGIES BUSINESS GRANT PROGRAM³⁰

This program is designed to attract and cultivate 'GreenTech' businesses. The grants are targeted toward companies with proprietary technologies who have strong growth indicators and can meet the unique needs of the energy, transportation and electronic industries. Eligible applicants include alternative energy companies, green building product manufacturers, recycled product manufacturers, renewable fuels producers, and others. Approved companies will receive up to \$50,000 per year for three years. The program is available to new and existing green technology businesses that create five or more new jobs in the City.

THE CITY & COUNTY OFFSHORE WIND ENERGY PROJECT BEING LED BY LEED-CO.

This is an important initiative to promote the development of offshore wind projects and to build additional manufacturing capacity within the region around offshore wind capacity and other wind related economic development opportunities. Connects to advanced energy, economic development, manufacturing, R&D, and Operation and maintenance, to get our power through power resources and harnessing our natural resources

sustainably. Estimated costs are \$105,000,000

THE CITY LED MUNICIPAL SOLID WASTE TO ENERGY (MSWE) INITIATIVE

A large municipal waste recycling and waste to energy facility is being built at the Ridge Road Transfer Station in the City of Cleveland. This project will reduce the waste that goes to the landfill, thereby reducing waste disposal costs, and it will increase the recycling rate in the City of Cleveland and participating communities in the region.

ENERGY EFFICIENCY AND ADVANCED ENERGY SPECIAL IMPROVEMENT DISTRICTS

The City and the First Suburbs Consortium recently won the Efficient Gov.org challenge to create Special Improvement Districts for Advanced Energy and Efficiency programs. It is seeking to develop a special improvement district that allows for the voluntary property assessment for energy and energy efficiency improvements. This is an important program to pursue to help bring energy efficiency retrofits to scale along with solar and other advanced energy applications for private property owners.

²⁴ <http://www.energy.gov/hubs/>

²⁵ http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US53F&re=1&ee=1

²⁶ Global Solar Center, http://www.globalsolarcenter.com/government_incentives/

²⁷ <http://development.ohio.gov/Energy/Incentives/GrantsLoans.htm>

²⁸ <http://development.ohio.gov/Energy/Incentives/AdvancedEnergyFundGrants.htm>

²⁹ <http://development.ohio.gov/Energy/Incentives/GrantsLoans.htm>

³⁰ <http://www.city.cleveland.oh.us/portal/page/portal/CityofCleveland/Home/Government/CityAgencies/EconomicDevelopment/EconomicDevelopmentTechnology/GreenTechnologies>

ADDITIONAL POLICIES supporting the advancement of renewable and advanced energy including additional policies around offshore wind development such as a requirement that a portion of the energy supplied in the statewide Advanced Energy Portfolio Standard (AEPS) be achieved through offshore wind. Cleveland's AEPS is 15% by 2015, 20% by 2020 and 25% by 2025

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

(FROM CLIMATE OVERVIEW)

SOLAR PANEL INSTALLATION JOBS

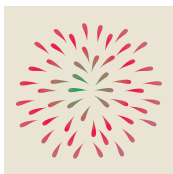
Ohio Cooperative Solar, one of the Evergreen Cooperatives supported by The Cleveland Foundation, is installing solar power on institutional buildings while building a business with Cleveland residents.

ENERGY STORAGE

The Great Lakes Energy Institute at Case Western Reserve University is researching a variety of renewable energy and energy storage technologies to promote sustainable energy. The Ohio Fuel Cell Coalition is promoting Ohio as a center of fuel cell development.

INNOVATIVE START-UP COMPANIES

Local companies are exploring new approaches to clean energy, such as Tremont Electric's approach to kinetic energy generation.



CELEBRATION POINT

WASTE

While the term “waste” generally has a negative connotation, this focus area represents diverse economic and environmental opportunities for Cleveland. By reducing the amount of waste the city produces and sends to landfills, Cleveland can improve human health through the elimination of hazardous waste, protect and increase property values and quality of place, as well as save business, government, organizations and the community money. Additionally, innovative ways of dealing with waste can create new business and employment opportunities through either the re-use and recycling of products or the creative design of innovative products or processes that allow for “waste-to-profit” or “industrial symbiosis” models.

BUSINESS

First, existing Cleveland businesses have the opportunity to improve competitiveness through waste reduction. For example, a Cleveland-based manufacturer of office furniture, Taylor Companies, expects to save \$23,000 in waste hauling from two sites in 2010 through their Zero Waste Initiative.³¹ Similarly, Talan Products, a stamping manufacturer, has reduced waste to landfill by 80% in just over a year. The Great Lakes Brewing Company has managed to reduce trash removal fees by recycling cardboard, glass, paper by 40%.³²

In addition to saving money on operating costs through recycling, re-use, zero waste initiatives, and upcycling, Cleveland businesses can reduce costs further – and even turn a profit by redefining their waste and by-products and selling them as inputs to other industrial or commercial operations. The large manufacturing sector in Cleveland has created fertile ground for establishing productive linkages between industrial and commercial users by closing waste loops. This “modern form of industrial collaboration redefines waste and by-products as inputs to other industrial operations and includes sharing utilities and resources, and creating local sources of energy to

generate heat, steam and other inputs for other companies, businesses or factories.” This new design paradigm can create new sources of profit and foster collaboration and associative relationships, which are important components of a successful cluster. Contrary to an isolated firm, cluster participation offers advantages in perceiving new technological, operating, or delivery possibilities through learning, observing and jointly evolving technology, securing component and machinery availability, developing service and marketing concepts, etc. These will encourage a culture of productive relationships between Cleveland business leaders.³³

31 Jeffrey J Baldassari for Zero Waste Northeast Ohio <http://www.zerowasteneo.org/profile/JeffreyJBaldassari>

32 “Great Lakes Brewing-up a zero-waste initiative”, EcoCity Cleveland. <http://www.ecocitycleveland.org/ecologicaldesign/sustain/industry/glbco.html>

33 Porter, Michael, “Clusters and the New Economics of Competition”, Harvard Business Review, November-December 1998

CITY

Landfills are expensive to create and maintain, they generate groundwater pollution and take up vast amounts of land. They also are a serious environmental justice issue because most landfills are placed near lower income communities. Cities benefit from reduced industrial waste and job creation. By minimizing the production of waste and maximizing re-use and recycling of product, Cleveland has the opportunity to improve the environment and reduce its carbon footprint, as well as to save the city money and to create employment for residents. Ohio has currently more than 40 active landfills collecting household garbage and seven of them are located in Cleveland.³⁴ The number of landfills collecting construction waste is even higher. Furthermore, the process of diverting waste from landfills can actually increase employment, as for every 1,000 tons of waste diverted, 4.7 jobs are created compared to only 2.5 jobs for every 1,000 tons of waste disposed.³⁵

Innovative approaches to landfill management have turned out to be extremely successful in New Zealand's city Christchurch. At a local landfill, land-fill gas, including methane, started to emerge. The City Council realized that landfill gas could be used in sustainable projects to generate heat and electricity. Gas from the landfill is now piped 3.7 kilometers underground to a swimming pool and sports complex and converted in two boilers and a co-generation plant to electricity and heat. The payback period of the

project was four years, and resulted in significant carbon dioxide savings (more than 40,000 tons per year), energy savings in excess of \$1 million a year and a revenue from the sale of carbon credits generated from destroying a greenhouse gas, methane. Council received 200,000 credits from the government's Projects to Reduce Emissions Program and these credits worth \$3.5 million will be used to fund the Sustainable Energy Strategy for Christchurch 2008–2018.³⁶

Seattle is another pioneer in the zero waste field initiatives. With its recent ban on single-use restaurant packaging, it hopes to reduce waste to landfills 6,000 tons of food service-ware and leftover food. The ordinance requires restaurants, coffee shops, food courts, cafeterias and other food service businesses to stop throwing away single-use food-service ware and packaging including napkins, paper bags, wooden coffee stir sticks, clamshells and hot and cold beverage cups and lids among others. Restaurants are asked to use compostable or recyclable materials instead. Similar regulations for single-use food service packaging are being tried in San Francisco and are planned in Toronto.³⁷

COMMUNITY

A reduction of hazardous waste will improve the health of the community by reducing residents' exposure to toxins and contamination. By decreasing the amount of waste that is produced, transported and placed in landfills, property values can be maintained and even increased, so as not to undermine Cleveland's quality

of place, which is a key driver to economic prosperity. Waste reduction on a household level also lowers individual costs and creates a sense of commitment and stewardship within the community to protect and value the place in which people live, work and play.

AVAILABLE FUNDING AT FEDERAL LEVEL

SUPERFUND

U.S. Environmental Protection Agency (EPA) Program established to address abandoned hazardous waste sites. It allows the EPA to clean up such sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-lead cleanups.³⁸

COMMUNITY ACTION FOR A RENEWED ENVIRONMENT (CARE)

by EPA is a competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment. One example is the Neighborhood Leadership for Environmental Health Initiative which has been implemented in Cleveland since 2009 through a collaboration between Environmental Health Watch and The Neighborhood Leadership Institute.

34 Municipal Landfills, 2005, http://www.dispatch.com/live/export-content/sites/dispatch/local_news/stories/extras/landfillgraphic.pdf

35 "The Baltimore Sustainability Plan", April 2009, City of Baltimore, p. 56 www.baltimorecity.gov/sustainability

36 <http://www.ccc.govt.nz/thecouncil/howthecouncilworks/energyefficiencyatthecouncil/projects/wastetorenewableenergyburwoodlandfill.aspx>

37 <http://earth911.com/news/2010/07/06/seattle-bans-single-use-restaurant-packaging-from-landfills/>

38 <http://www.epa.gov/superfund/about.htm>

EPA 2010 AND 2011 ENVIRONMENTAL RESEARCH GRANTS³⁹

ENVIRONMENTAL JUSTICE SMALL GRANTS PROGRAM BY EPA

The program annually awards funding to community-based organizations, and local and tribal organizations working with communities who are facing environmental justice issues.⁴⁰

State Environmental Justice Cooperative Agreements - The EPA supported projects are designed to build broad, results-oriented partnerships that work to improve environmental and public health in communities disproportionately exposed to environmental harms and risks. These projects are designed to be replicable in other communities facing similar challenges. In 2009, EPA selected five state projects to receive funding up to \$160,000 each, totaling \$800,000.⁴¹

CITY INITIATIVES

**COMMITMENT OF BUSINESSES
AND ORGANIZATIONS** taking on zero waste challenges.

THE CITY LED MUNICIPAL SOLID WASTE TO ENERGY (MSWE) INITIATIVE

This is a large development project that allows for the development of a large municipal waste recycling and waste to energy facility at the Ridge Road Transfer Station in the City of Cleveland.

GREEN VENUES PROGRAM

which is highlighting waste reductions, recycling, composting and others excited methods of eliminating waste.

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM (FROM THE CLIMATE OVERVIEW)

ZERO WASTE

Reducing waste cuts consumption and carbon emissions. Local efforts, such as Zero Waste Northeast Ohio, are helping companies think more radically about waste reduction, while helping them save money and spur innovation.

COMPOSTING FOOD WASTE

Nationally, food scraps account for about 12% of all wastes. Local companies, such as Rosby Resource Recycling, are finding business opportunities in providing food waste composting services, which can reduce methane emissions from landfills (as a greenhouse gas, methane is much more potent than carbon dioxide).

CLEAN FUELS

Supported by the Earth Day Coalition's Clean Fuels program, local entrepreneurs are expanding availability of biofuels, such as pure vegetable oil made from waste cooking oil.

CLEAN OIL

Local innovators are developing other ways to conserve petroleum, such as Lube Stop's EcoGuard re-refined motor oil.

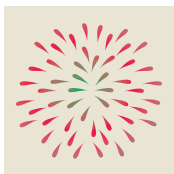
TOURISM

An initiative to make Cleveland a "Green Venue" can promote efficiency and waste reduction while boosting the visitor economy.

³⁹ <http://www.epa.gov/ncer/rfa/>

⁴⁰ <http://www.epa.gov/Compliance/environmentaljustice/grants/ej-smgrants.html>

⁴¹ <http://www.epa.gov/Compliance/environmentaljustice/grants/ej-sejca-grants.html#overview>



CELEBRATION POINT

WATER

Fresh water resources represent an invaluable local asset that has shaped Cleveland's identity, both in the way that the city has perceived itself and how it has been recognized outside the region. While Cleveland's location on Lake Erie – the 12th largest body of fresh water in the world – provides Cleveland with a distinct comparative advantage, the city's reputation has also been blemished by the historic Cuyahoga River fire in 1969 that resulted from excessive levels of pollution caused by heavy manufacturing and industrial contamination. Cleveland has the responsibility to protect the 13,000 trillion gallons of fresh water directly off its shores in order to maintain the city's water supply and ensure that its residents will have clean and readily available water resources for generations to come, but it also has the opportunity to leverage this invaluable asset as a driver of sustainable economic growth and prosperity for the local economy.

BUSINESS

Numerous economic opportunities can emerge from Cleveland's access to a large body of fresh water and its first-hand and unique experience with environmental remediation. There is a growing demand for industries that have expertise in handling and purifying water, as well as the capacity to develop innovative water pollution abatement technologies, namely those that are dependent on freshwater inputs: bio-technology, aqua-culture, water conservation and pollution

prevention technologies. According to Freedonia Group, Inc., a Cleveland-based industry market research firm, the demand for water purification has recorded an average annual increase of 4.8% between 2005 and 2010, and in 2010, the demand for consumer water purification and air cleaning systems is projected to increase by 4.7% to \$1.7 billion in 2010.⁴²

42 <http://www.google.sk/url?sa=t&source=web&cd=1&ved=0CBUQFjAA&url=http%3A%2F%2Fwww.allbusiness.com%2Fmarketing%2Fmarket-research%2F3902248-1.htm&ei=KxhQTP2PLijKOILQqJYB&usg=AFQjCNGWaInLRg-Br1xoFRilp5G-cAUzbw&sig2=EtQ3ojYG5jX3kW8Lhrqzig>

In addition to enhancing the aesthetic beauty of the city and positioning Cleveland as a Green City on a Blue Lake, Lake Erie provides employment and business opportunities that grow out of the local need and capacity for specialized higher education and environmental research that can produce innovative methods to prevent fresh water pollution and reduce levels of toxins and pollutants in existent bodies of fresh water. Currently, the Great Lakes Science Center is seeking to develop a Freshwater

Institute focused on education and research about the Great Lakes. The GreenCityBlueLake Institute and the Cuyahoga County Planning Commission are advancing the concept of Global Water Ventures of Cleveland. This focus could help to establish Cleveland as a center for developing new water-related products and services, encouraging new investment and job opportunities. Tourism is another sector that would allow Cleveland to utilize and commercialize its most abundant natural asset, without depleting or contaminating it in the process, and serving as a draw for outdoor enthusiasts who sail, fish, swim or seek a healthy lifestyle.

CITY

Water creates economic opportunities derived from seeking sustainable solutions and underpins the city's comparative advantage both, within the region and the country. An economic analysis conducted by the Alliance for Water Efficiency estimates that total economic output per million dollars of investment in water efficiency programs is between \$2.5 and \$2.8 million. It estimates that a direct investment of \$10 billion in water efficiency programs can boost U.S. employment by 150,000 to 220,000 jobs.⁴³

By increasing efficient water use, Cleveland has the opportunity to create new revenue streams and reduce the cost of the public utilities for businesses and residents. For example, while rainfall can be an indirect cause of water pollution, a result of urban runoff and sewage into lakes and rivers in and around the city, Cleveland can decrease its investment in the creation and maintenance of traditional infrastructure by retrofitting and

redesigning urban areas to absorb and filter water through bioswales and other low-cost ecosystem services. Wise water use not only saves an invaluable natural resource, it also saves electricity that would otherwise be required to pump, treat, and distribute wasted water, another way of lowering input costs and increasing business productivity.

COMMUNITY

Finally, by caring for and improving water resources, Cleveland reduces costs and makes the city a more desirable place to live. For example, liberating watercourses through daylighting can restore environmental health, while also increasing the city's aesthetic beauty. Daylighting streams and conserving water resources can revitalize surrounding green space and neighborhoods and provide new amenities and provide greater access to nature for Cleveland residents, greatly increasing quality of place and quality of life for Cleveland residents, a main driver for a prosperous economy.

FEDERAL FUNDING

THE AMERICAN RECOVERY AND REINVESTMENT ACT

The law provides for additional funding for drinking water and water pollution control infrastructure projects and the National Clean Diesel Campaign in Ohio. Additional stimulus resources for water and sewer projects are still available.⁴⁴

NONPOINT SOURCE MANAGEMENT PROGRAM - CLEAN WATER SECTION 319

States partner with the federal government to receive this funding and then allocate funds throughout the state accordingly. Grant money

that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects.⁴⁵

CLEAN WATER STATE REVOLVING FUND (CWSRF)

Through the program, each state, including Puerto Rico, maintains revolving loan funds to provide independent permanent sources of low-cost financing for a wide range of water quality infrastructure projects. The federal government provides funds to establish or capitalize the programs with 20% state matching funds. CWSRF programs are currently funding projects that address agriculture runoff, leaking on-site septic systems and urban nonpoint source pollution, including stormwater runoff and brownfield contamination. Funding of nonpoint source and estuary efforts now reaches more than 600 projects annually.⁴⁶

CITY INITIATIVES

- Initiatives to improve the Cuyahoga River with the Cuyahoga River Remedial Action Plan (RAP) and other related activities.
- Development and deployment of such innovative products such as the Green bulkheads.
- Work on the Cuyahoga Valley Initiative is a critical component of improving the vitality and opportunity in the Cuyahoga River Valley.

43 <http://www.americanrivers.org/newsroom/press-releases/2008/green-infrastructure-ohio.html>

44 <http://www.epa.ohio.gov/arra.aspx>

45 grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects

46 <http://www.epa.gov/owm/cwfinance/cwsrf/final.pdf>

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

(FROM CLIMATE OVERVIEW)

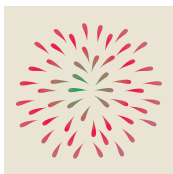
WATER CONSERVATION

Using less water can reduce carbon emissions by reducing the amount of energy needed to pump and treat water. Local campaigns to “Drink Local, Drink Tap” further reduce wastes from packaging and shipping bottled water.

GREEN INFRASTRUCTURE

Rather than addressing problems like stormwater pollution with costly, energy-intensive infrastructure, the Northeast Ohio Regional Sewer District is exploring “green infrastructure” alternatives that work with nature. A common job title of the future might involve ecological restoration.





CELEBRATION POINT

GREEN SPACE

The diverse environmental, economic and social benefits of Cleveland's green space underpin the sustainable development of the city. The expansion of parks and natural areas, community gardens, urban farms, green roofs, landscaped boulevards, bike paths, trails, schoolyards, recreational areas, and other public open green space in Cleveland can help to establish a broad swath of green space and build on the city's surrounding Emerald Necklace. Cleveland has the only national park in an urban setting in the United States and it is the sixth most visited national park in the country.

Green space improves the quality of place and quality of life for its residents, a main driver in economic prosperity and a crucial factor in retaining and attracting residents to a city plagued with depopulation. In addition, stewardship of green spaces, such as parks and natural areas, enhance the city's potential to attract tourism and to increase its profile as a green-tourist destination. Green space also lowers the city's footprint, improves air quality, preserves natural habitat and biodiversity, as well as strengthens the resilience of neighborhoods and increases property values. It provides the opportunity for the utilization of ecosystem services, saving the city and Cleveland

businesses money on operating costs and environmental remediation and improving productivity and competitiveness.

BUSINESS

Green space can enhance labor productivity and economic competitiveness amongst Cleveland businesses. Studies show that consumers are willing to spend up to 12% more on premium goods purchased at stores surrounded by good landscaping, and that people are generally more drawn (because of aesthetics) to businesses that are located within close proximity of a green space area. Green roofs are not only aesthetically pleasing, but can

also lower operating and/or utility costs, cutting the amount of storm water runoff by as much as half and lower ambient air temperature by reducing heat that radiates off the roof, lowering energy costs. They also provide insulation, absorb carbon dioxide and produce oxygen, naturally filtering air and extend the life of a roof by many years and lowering costs even further for Cleveland businesses.

In addition to making businesses more appealing to the consumers and lowering operating costs, green spaces can also serve as productive landscapes that can be used for local food production, urban farms, and other value-added activities that

respond to local demand, capitalize on local capacity, and have the potential to produce as new value-added/ specialized products or processes in Cleveland that can be replicated in other cities in the rust belt.

CITY

Municipal governments in the U.S. such as Chicago, Sacramento and New York, are saving large amounts of revenue by investing in urban forest cover, conserving valuable city revenue that would otherwise be spent on environmental remediation. Chicago's urban forest canopy, which covers roughly 11% of the city's total land, saves the municipal government more than \$1 million every year. Similarly, in the Sacramento metropolitan area, urban forest removes more than 200,000 metric tons of carbon dioxide from the atmosphere each year, saving taxpayers as much as \$3 million annually in pollution mitigation costs. According to the city "it's cheaper for [Sacramento] to plant trees than to generate more electricity." Finally, the removal of air pollution by New York City's existing tree cover saves taxpayers as much as \$10 million each year. The money that is saved can be invested in green infrastructure, research and development in new, clean technologies and/or public transportation, bolstering the enabling conditions for a competitive and sustainable economy.

Due to the high level of foreclosures in the Cleveland Metropolitan Area there are vast swaths of land with vacant buildings, vacant land and brown fields. The approximately 3,300 acres of vacant land and 15,000 vacant buildings within city limits are at risk of becoming targets of illegal dumping and litter, creating an

overall perception of neighborhood neglect. On the other hand, there are currently over 165 community gardens and 40 market gardens in Cleveland! Cleveland has the opportunity to convert vacant land from a liability to an opportunity to strengthen neighborhood resilience and "re-imagine" Cleveland as a Green City on a Blue Lake.

Storm water is another challenge for urban areas and parks in Cleveland. The 22,000-acre Emerald Necklace surrounding the metro area has become the region's catch-basin for storm water runoff. Not only does this cause considerable damages to park properties, the runoff is also accelerating the erosion of hundreds of miles of waterways within the parks system, flushing around 45,000 tons of silt out into Lake Erie each year. Erosion-control problems can be found in at least 13 of the 17 reservations that make up the park system. The repair costs per single site can reach up to \$500,000, all eventually covered by tax payers.⁴⁷ Storm water runoff projects across the city and the county should therefore form an integral part of the green space projects to safeguard the sustainable development of the city.

COMMUNITY

The amount of green space in Cleveland will have a significant impact on property values and can greatly improve its quality of place, a key driver to a prosperous and competitive economy. Green space has been shown to improve the value of property by up to 11.3% and a Roadside Study by the University of Washington found that the value of property decreased by \$4.20 for

each foot of distance from a green space. Quality of life and community health are also important variables associated with green space, which can help to reduce crime and strengthen social communities. According to a research by the Robert Wood Johnson Foundation⁴⁸ having more parks and more park area within a community is associated with higher physical activity levels. Counties with more public land and recreational water acreage also had a lower proportion of the population reporting insufficient physical activity. Another finding was that perceived park aesthetics, condition and safety may be associated with park visitation and physical activity levels within parks. Convenient, consistent, and safe access to open and well-maintained green space provides opportunities for recreation— from sitting, resting, and gardening to creative play, nature exploration, and sports – that are critical to the health and livability of any community.



⁴⁷ http://blog.cleveland.com/metro/2010/04/storm_run-off_is_a_drain_on_th.html

⁴⁸ http://www.activelivingresearch.org/files/Synthesis_Mowen_Feb2010.pdf

AVAILABLE FUNDING AT FEDERAL LEVEL

BROWNFIELD AND LAND REVITALIZATION GRANTS : ASSESSMENT, REVOLVING LOAN FUND, & CLEANUP GRANTS

Communities in 40 states, four tribes, and one U.S. Territory will share \$78.9 million in Brownfield grants to help clean up, revitalize, and sustainably reuse contaminated properties, turning them from problem properties to productive community use. The grants, awarded by EPA, will provide funding to eligible entities through brownfields assessment, revolving loan fund, and cleanup grants. Since the beginning of the Brownfields Program, EPA has awarded 1702 assessment grants totaling \$401.0 million, 262 revolving loan fund grants totaling \$256.7 million and 655 cleanup grants totaling \$129.4 million.⁴⁹

EPA'S CLEAN WATER ACT SECTION 319

Buildings that incorporate green roofing elements may be eligible for grant funding under the EPA's Clean Water Act Section 319, which addresses nonpoint source pollution to lakes, rivers, and streams.

2010 CLEAN WATER AND DRINKING WATER STATE REVOLVING FUND 20% GREEN PROJECT RESERVE

Not less than 20% of the funds made available under both funds will be used by the State for projects to address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities.⁵⁰

EXAMPLES OF

49 http://epa.gov/brownfields/pilot_grants.htm

50 <http://www.efc.unc.edu/projects/subsidization/GPRGuidance.pdf>

AVAILABLE STATE FUNDING

THE CLEAN OHIO GREEN SPACE CONSERVATION PROGRAM⁵¹

supports funding of projects aimed at preservation of open spaces, sensitive ecological areas, and stream corridors.

CITY INITIATIVES

IMPLEMENTATION OF THE RE-IMAGINING A MORE SUSTAINABLE CLEVELAND REPORT through the development of strategies, policies and procedures that further reinforce the recommendations outlined in the report.

CELEBRATE THE CLEVELAND METROPARKS 100TH ANNIVERSARY

Works to connect existing green space and parks through the trail network including the **City of Cleveland Bikeway Master Plan** and the **Tow Path Trail**.

STORMWATER PROGRAM

This program is one of the most important developments for local water quality. An agency with professional staff and construction budget will deal with stormwater on a watershed basis and address water quality problems.

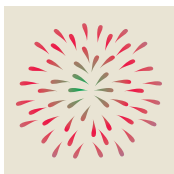


51 <http://clean.ohio.gov/GreenSpaceConservation/>

CLIMATE & GREENSPACE

COOLING CITIES

Programs, such as ReImagining a More Sustainable Cleveland, are studying how to turn vacated urban land into green corridors that restore ecological functions, including the cooling function of trees which reduces energy consumption. Local roofing firms are expanding into the installation of green roofs, which offer more cooling and insulation benefits.



CELEBRATION POINT

TRANSPORTATION

Cleveland's economic identity is historically tied to the automobile industry, as its manufacturing sectors formed part of the industry supply chain. While automobile manufacturing has in the past been a source of prosperity in Cleveland, the rapid decline in automobile manufacturing in the region (21.5% between 2000 and 2008) and the rising price of oil (and carbon) make the city's current dependence on cars economically, environmentally and socially unsustainable.

At the moment, transportation is the single largest contributor to the nation's carbon footprint, greater than emissions from industry, homes or commercial building and accounts for the U.S. 93% increase in oil demand since 1990. With one of the highest levels of automobile dependence in the nation, Cleveland has higher per capita carbon emission from transportation than the national metropolitan average. It is surprising to note that 90% of low-to-medium income working families in the city take a private vehicle to work, while only 4% take public transit, 3% take a bike or walk. New transportation networks, which include more efficient public transit systems, pedestrian and biker friendly infrastructure for the city as well as ride-sharing programs represent an opportunity for lowering costs, increasing community health and the potential for new

sources of wealth, employment and competitiveness.

BUSINESS

While the traditional automobile sector is rapidly declining, there is room and opportunity for research and development on more fuel-efficient cars, advanced materials manufacturing and other innovative products and production processes that respond to local need and that could help to define the way Cleveland traditional industry fares in a low-carbon, renewable energy future.

CITY

A more efficient and user-friendly public transit system is not only a way to reduce Cleveland's carbon footprint, improve air quality and community health, it also represents an opportunity for a high return on investment in terms of potential

employment and governmental revenue. For every \$1,000,000 that a city spends on public transportation, an average of 36 jobs is created. The United States spends about \$47 billion a year on public transportation, supporting almost 1.7 million jobs and a good range of skilled and semi-skilled blue and white-collar occupations.

Currently, Ohio is one of the states investing the least amount in public transportation, spending less than 1% of total transportation spending on public transit. This is less than \$1.42 per capita per year on public transit, "far less than its peer states of Michigan (\$19.91), Illinois (\$38.12), and Pennsylvania (\$66.14)". Other cities have not only benefited from significant environmental benefits of investing in public transportation, they have also earned revenue from

ridership in innovative public transit systems. For example, the light rail in Portland established a project payback period of just over 8 year and has since achieved additional \$76 million in annual revenues for the city.

COMMUNITY

New transportation options are not only necessary to position the city for a future in which carbon, and therefore gasoline, will become increasingly expensive and scarce, but also play a crucial factor in increasing resident's health through an improvement of air quality by a reduction in cars and the opportunity for people to walk and bike. An improvement in energy-efficient, convenient and democratically accessible public transportation options is imperative for a high quality of life and in order to ensure inclusion and diversity amongst the city population. The lowest income families are the most negatively impacted by high transportation costs, with the average low-to-medium income family in Cleveland spending an average of \$10,023 a year on transportation, more than education or food. Without access to public transportation, bike paths and walking paths, certain demographic sectors are marginalized and disenfranchised leading to higher poverty levels and exclusion, eventually undermining a productive and sustainable Cleveland economy.

EXAMPLES OF AVAILABLE FEDERAL FUNDING

THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

In August, 2009, EPA awarded \$25 million in Recovery Act grants through the SmartWay Clean Diesel Finance Program to support projects that reduce diesel emissions and maximize job creation and preservation through the creation of national, state or local innovative finance programs. An additional \$5 million will be awarded in the near future.

TRUCK FINANCING PROGRAMS

These financial assistance programs provide innovative loans to help small trucking firms lower their fuel costs and their carbon footprint by purchasing newer used trucks and idling and emissions reduction technologies.⁵²

TRANSPORTATION FOR LIVABLE COMMUNITIES INITIATIVE

The Northeast Ohio Areawide Coordinating Agency helps communities in Northeast Ohio obtain federal funding and technical assistance for planning transportation projects that strengthen community livability.⁵³

SAFE ROUTES TO SCHOOL PROGRAM

A federal program that is enacted in Ohio through the Ohio Department of Transportation (ODOT). Many communities receive funding for various programs that encourage school-age children to walk or bike to school. For the next Safe Routes to School funding round, applications

will be accepted for infrastructure, non infrastructure and school travel plan projects.⁵⁴

THE HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

is a Federal Highway Administration (FHWA) program that funds highway safety projects aimed at reducing highway fatalities and serious injuries. Though bicycle and pedestrian projects are eligible for funding, HSIP has been largely overlooked as a resource for these projects.⁵⁵

EXAMPLE OF STATE FUNDING

OHIO DEPARTMENT OF TRANSPORTATION TRANSIT GRANT PROGRAM⁵⁶

CITY INITIATIVES

- Support the promotion of the intense infrastructure that we have in place for the region, which can support the further development of economic activity in the region. The Rail, Highway and road, Port and Air port are all critical assets to the region. In addition to these assets there is a need to continue to highlight the logistic capacity of the region and assess to major markets in the U.S. and Canada from this location.
- Development of connecting existing green space and parks through the trail network including the City of Cleveland Bikeway Master Plan and the Tow Path Trail.

⁵⁴ <http://www.dot.state.oh.us/Divisions/TransSysDev/ProgramMgt/Projects/SafeRoutes/Pages/default.aspx>

⁵⁵ http://www.bikeleague.org/resources/reports/highway_safety_improvement_program.php

⁵⁶ <http://www.dot.state.oh.us/Divisions/TransSysDev/Grants/Pages/Transit.aspx>

⁵² <http://www.epa.gov/smartway/transport/what-smartway/financing-clean-diesel-info.htm>

⁵³ <http://www.noaca.org/tlci.html>

- Support of the comprehensive analysis and development of the Cleveland, Columbus and Cincinnati rail connections that focuses on the efficient and convenient transportation between these economic and population centers in the state. Focus the development on leveraging connections such as the Cleveland Hopkins Airport Intermodal center planned to be developed at the Airport.
- Development of strategies for expanding the deployment and use of electric, electric hybrid and other alternatively powered vehicles throughout the region by developing strategies for large institutions and governments to purchase vehicles such as the City of Cleveland has initiated over the past five years.

ILLUSTRATIONS OF CURRENT ENERGY AND MOMENTUM

(FROM CLIMATE OVERVIEW)

IDLE REDUCTION

Cleveland is leading other local communities to adopt ordinances to reduce unnecessary idling of motor vehicles, which in turn reduces fuel consumption and air pollution.

COMPLETE STREETS

Local sustainable transportation activists are advocating for a regional and statewide policy to ensure that transportation projects serve all modes of transportation.

BIKES

Demand for better bicycle facilities continues to grow. A growing bike service sector could follow.

CAR SHARING

CityWheels is pioneering short-term car rentals that can make full-time car ownership unnecessary, while helping people make the transition to more environmentally friendly forms of transportation for most trips.

ELECTRIC VEHICLES

A local company, Myers Motors, is making an attention-getting two-seat electric car.

RAIL JOBS

The revitalization of passenger rail in Ohio will be supported by \$400 million in federal stimulus funds.



RECOMMENDATION FROM THE CLIMATE OVERVIEW

TRANSPORTATION TRANSITION

The transportation sector produces 28% of the greenhouse gas emissions in the seven-county area. Significant reduction will require a major transition in how we move around, including the development of more fuel-efficient vehicles and increased use of transit, bicycles, and walking. In addition, it will require the redevelopment of compact urban and suburban places where more people can live a convenient “low-mileage lifestyle” that is less dependent on driving cars.

We can accomplish this transition, if we work steadily in the coming decades. The result will be communities that offer healthier transportation choices, cleaner air, and attractive, walkable places. Here are suggested transition steps:

Provide better transportation options, reducing the need to travel by car.

Adopt zoning and other land-use policies that encourage the development of compact, walkable places designed around transit.

Improve public transit service, bike facilities, car-sharing and car-pooling programs, and pedestrian environments.

Further reduce the demand for driving cars by instituting flexible work weeks, employer-sponsored transit passes, congestion pricing, and other forms of demand management.

Reform regional transportation plans so that the development of more sustainable transportation options becomes a priority.

Increase efficiency of vehicles.

Accelerate the transition of the vehicle fleet to more fuel-efficient vehicles with local and state incentives, such as tax incentives, cash-for-clunker programs, and preferential parking for hybrid, electric, and other low-emission vehicles.

Educate motorists about “eco-driving” and anti-idling techniques that save gas.

Allow vehicles to be driven more efficiently with improved traffic management to reduce congestion delays.

Increase public transit efficiency by transitioning to hybrid and fuel-cell buses.

Encourage the transition to cleaner truck and ship engines.

Reduce the carbon intensity of fuel that still needs to be burned

Increase the number of fueling points for alternative fuels, such as biodiesel, as well as charging stations for electric vehicles.

Require public fleets to use biofuels, hybrids, and other low-emission vehicles.

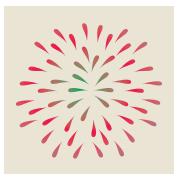
Develop specific carbon intensity limits for fuels.

Make motorists pay more of the true costs driving.

Incorporate the costs of air pollution, congestion, health problems, climate change, and other “externalities” into the costs of driving.

For more details on how to implement the above transition steps, see the climate transition plan for the transportation sector of Northeast Ohio at:

www.gcbl.org/energy/regional-agenda/climate-change/transition-paths/transportation-transition-path



CELEBRATION POINT

VITAL NEIGHBORHOODS

Neighborhoods are the building blocks of a great urban area. They are the real places of daily life — places where people interact face to face, where transactions are made, and where a sense of identity and history is created. They are also the places where most people can live decent lives with the least environmental impact. By bringing opportunities together in close proximity, neighborhoods reduce the need for transportation. And by fostering the development of a vibrant public realm for all to share (great streets, meeting places, parks, libraries, public transit, etc.), neighborhoods can make affordable, low-consumption lifestyles more convenient and attractive. Thus, in many ways, dense, mixed-use, urban neighborhoods are the foundation for future sustainability on Earth.

BUSINESS

Even as the Internet allows more people to work anywhere, attractive urban neighborhoods are becoming more important for business. Innovation is promoted by a social environment with a density of interactions and rapid exchange of ideas, and educated workers of the “Creative Class” seek out cities with walkable neighborhoods, cultural attractions, and green space amenities. The real estate development market is increasingly looking for opportunity in lively, 24-hour cities. Inner-city locations, with their diverse mix of buildings types, are fertile places for business start-ups needing low-cost space. Historic preservationists

point out that the restoration of old buildings creates more jobs than new construction. Indeed, there is an emerging “restoration economy” that offers new business opportunities in urban revitalization and ecological restoration.

CITY

Cleveland neighborhoods have experienced decades of disinvestment and population loss. Many of the underlying causes, including the dynamics of urban sprawl, regional political fragmentation, highway investments, and federal housing and tax policies, are largely beyond the control of the city. But numerous initiatives are working hard to

counter the outmigration, improve neighborhoods for current residents, and rebuild the city’s tax base with new residents and jobs. Cleveland has one of the strongest networks of nonprofit community development corporations (CDCs) in the country. Working with the city departments and nonprofit funding organizations, such as Neighborhood Progress Inc., the CDCs are increasingly focusing investments in neighborhood centers with the strongest market potential, such as Detroit Shoreway, where a new Arts District is attracting new residents and businesses. With underutilized infrastructure and some 3,000 acres of vacant land, the city certainly has room for re-growth.

Innovative planning initiatives, such as the Re-Imagining a More Sustainable Cleveland, are also helping city residents envision a future city that incorporates more green space and ecological restoration into redevelopment strategies. There is an exciting opportunity to transform the old industrial city into a greener and more livable city of the future.

COMMUNITY

Urban neighborhoods can be important places of social and economic diversity. A redevelopment challenge for Cleveland is to rebuild the city in ways that reduce concentrated poverty — by improving the prospects of existing residents and attracting higher-income residents back to the city. Numerous initiatives, from educational reform in the Cleveland Municipal School District to programs to improve access to healthy food to neighborhood safety projects, are underway to do this. Now that the worst cases of industrial pollution have been controlled, city neighborhoods also are being viewed as settings for healthy lifestyles, since walkable streets are a cure for obesity.

EXAMPLE OF FEDERAL FUNDING

COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM⁵⁷

by the U.S. Department of Housing and Urban Development, is a flexible program that provides communities with resources to address a wide range of unique community development needs. The program provides annual grants on a formula basis to 1209 general units of local government and States.

Typical CDBG-Funded ED Activities are:

Loans for Businesses and Commercial Real Estate Development Project (Individual project loan or creation of loan program)

 Business Incubators

 Façade Improvement Programs

 Microenterprise Assistance Activities

 Economic Development Infrastructure Projects

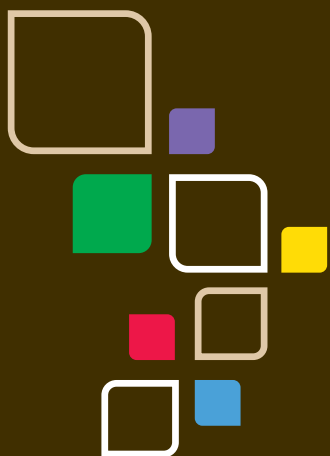
 Job readiness, skills training, and job placement programs

CURRENT MOMENTUM

Recognizing that livable cities are key to economic prosperity, numerous initiatives are working to redevelop the urban core of Cleveland and other metropolitan areas in Ohio. Statewide and regional initiatives include the “Restoring Prosperity” policy agenda of Greater Ohio and the Brookings Institution and the “Regional Prosperity Initiative” led by the Northeast Ohio Mayors and City Managers Association. In the city, the City Planning Commission, NPI, and other organizations have plans for target reinvestment areas in the city, and new neighborhood districts (such as the Flats East Bank and the Avenue District) are ready to be built. Meanwhile, programs such as the Evergreen Cooperatives are creating new business models for city residents. And there is tremendous grassroots interest in building neighborhood economies with business involved in local food, renewable energy, and alternative transportation.



57 <http://www.hud.gov/offices/cpd/communitydevelopment/programs/>



SUSTAINABLE CLEVELAND 2019
ACTION AND RESOURCES GUIDE

SECTION 2

BACKGROUND AND RESOURCE GUIDE

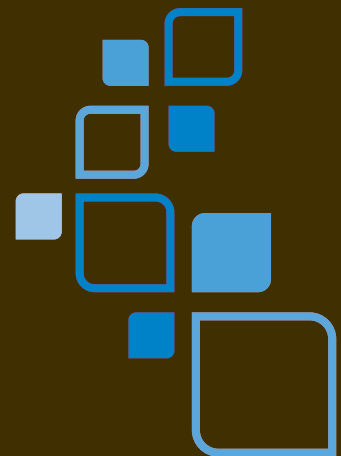
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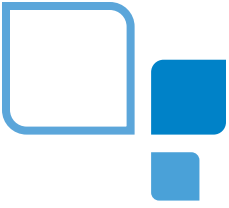
4.1 CLEVELAND'S CLUSTERS

4.2 LOCAL ECONOMY

4.3 CLIMATE PROSPERITY

BIG PICTURE: ECONOMY



**4.1****CLEVELAND'S CLUSTERS****INTRODUCTION: ACCELERATING THE
SUSTAINABLE ECONOMY THROUGH INDUSTRY
CLUSTERS**

In order to compete successfully in the global market, the region's industry clusters must take bold, proactive action. As Cleveland builds its economic engine to empower a green city on a blue lake, Cleveland's clusters will be a vital driving force.

Many clusters are already adapting and transforming themselves in response to new economic, social, and environmental realities, and the process can be accelerated by focusing on the four foundations of a sustainable economy – personal and social environment, natural environment, built environment, and business environment. As these areas are enhanced they will create the enabling conditions for competitiveness and sustainability.

This Chapter will cover the following:

CLEVELAND'S CLUSTERS OVERVIEW

SUSTAINABLE INDUSTRY PRACTICES

STRATEGIES FOR HISTORICAL, MODERN, AND SEED CLUSTERS

LOCAL RESOURCES FOR CLEVELAND'S SUSTAINABLE ECONOMY

CLEVELAND'S CLUSTERS - AN OVERVIEW

CLEVELAND'S CURRENT INDUSTRY CLUSTERS PROFILE INCLUDES:

The region's older, historically developed clusters like iron and steel

Today's modern clusters, such as advanced materials and bioscience

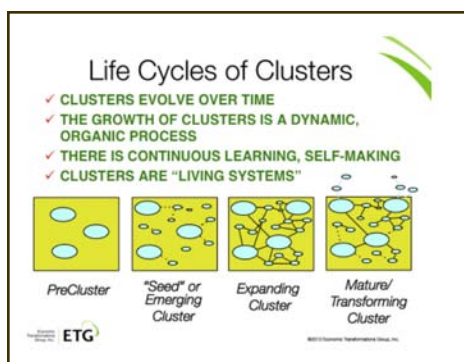
Emerging "seed" clusters like nanotechnology, wind energy, and local food

Companies, clusters, and regions that adapt quickly and provide leadership in sustainable transformations and solutions will have a distinct competitive advantage in the coming years. As Cleveland mobilizes to power up its economic engine in the age of sustainable economy, established industries must adopt and apply sustainability practices within their existing production process. In addition, established clusters and a number of newer "seed" clusters have high potential for innovating new solutions (products and services) that will be marketable in the global economy.

SUSTAINABLE CLUSTER ANALYSIS

Looking at Cleveland's industries through the lens of sustainability requires a multi-dimensional view. A sustainable clustering analysis and process must:

- Track how clusters change, grow, and morph over time
- Highlight linkages within and between clusters
- Emphasize new business opportunities and emerging seed clusters
- Demonstrate how clusters can transition to sustainable practices and production methods by greening their products and their supply chains.
- Explore ways to support the local economy (e.g. aggregate demand for local products and services such as food or energy)
- Investigate opportunities for innovative collaboration with the citizen sector (not-for profits, community based organizations, social enterprises, and public sector initiatives)



EVOLUTION OF CLUSTERS

Clusters pass through life cycles. As shown in the figure "Life Cycle of Clusters", clusters emerge as "pre-clusters", beginning with just a handful of companies. Then, if the factor conditions in the region are favorable, a "seed" cluster can take hold and begin to develop local competitive advantages that permit it to grow to its next stage and become an "expanding" cluster, with a rich set of buyer-supplier company networks and specialized support institutions. Finally, a cluster can evolve to become a "mature" or "transforming" cluster in which it faces competitive challenges from clusters in other regions and can either contract and possibly die or find ways to renew, spin-off, or transform itself.

Historical clusters: Older manufacturing industries that have existed since the 1950s or before.

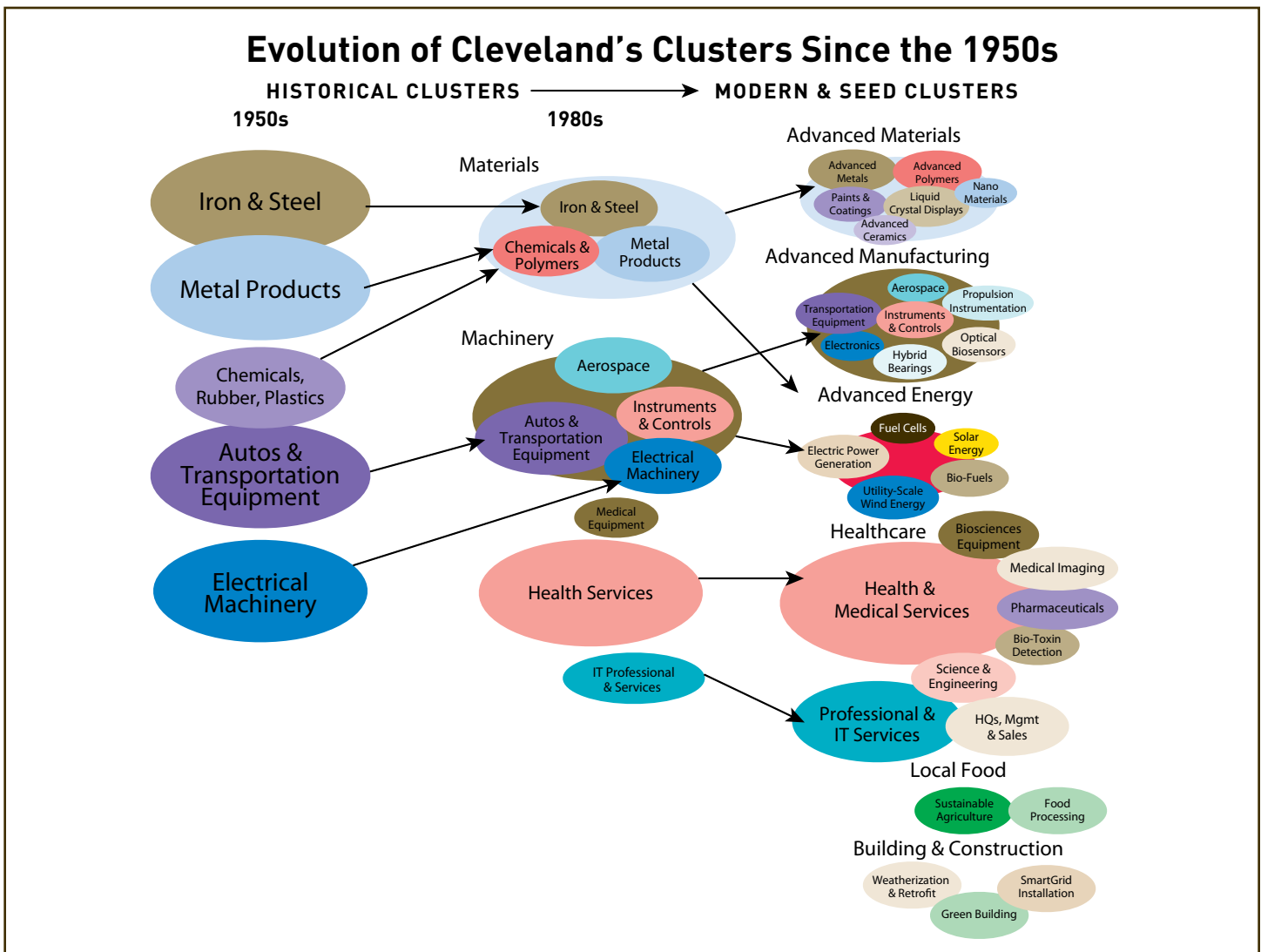
Modern clusters: High-tech, knowledge-based, and services-oriented industries that came into being during the transitions from the 1980 to present.

Seed clusters: Recently emerging clusters with potential for development.

EVOLUTION OF CLEVELAND'S CLUSTERS SINCE THE 1950S

Many of Cleveland's historical clusters are now mature clusters in the process of transformation. In the past 60 years, Cleveland's economy has been in a decades-long process of transforming from a slow growth, heavy industry base to a more balanced economy that will integrate value-added activities and incorporate new manufacturing and materials technology, as well as advanced services such as IT, bioscience, and clean technology. The following figure characterizes the evolution of Cleveland's clusters since the 1950s.

In order to track these patterns and develop strategies to support continued movement towards competitiveness and sustainability, in the following sections, clusters are distinguished as historical clusters, modern clusters, "seed" clusters, and sustainable systems clusters.



Sustainable systems clusters

In the future, using sustainability as a lens, industry sectors may be understood as a part of greater systems that serve to increase our quality of life. Each cluster “system” listed below would be made up of a diversified portfolio smaller clusters

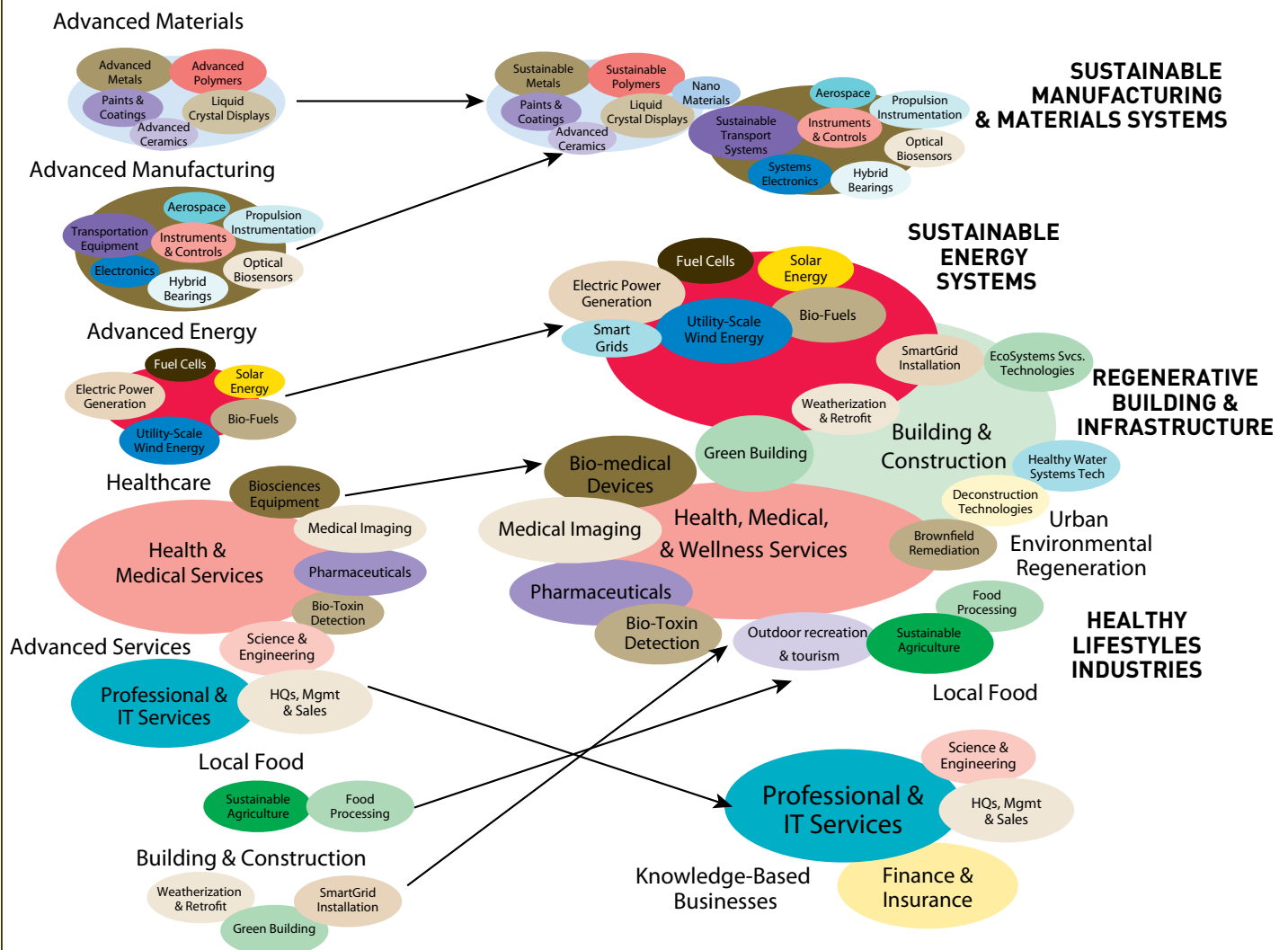
A VISION FOR TOMORROW: “SUSTAINABLE SYSTEMS” CLUSTERS

Cleveland’s clusters have the potential to evolve into “*sustainable systems*”. Instead of imagining each industry as a separate entity, industries can work together to create relationships and processes that are more conducive to full product life-cycle stewardship. These new cluster systems could bring together the actors from all stages of a product or service life-cycle in order to foster innovative solutions. For example, a traditional Health Cluster becomes Healthy Lifestyles, which includes prevention as well as treatment. Advanced materials and Advanced Manufacturing come together, recognizing their increasing interdependence as they search for sustainability solutions.

Evolution of Cleveland’s Clusters

MODERN CLUSTERS

TOMORROW’S SUSTAINABLE SYSTEMS CLUSTERS



EVOLUTION OF CLEVELAND CLUSTERS - SUMMARY

As Cleveland's historical clusters have evolved over the decades to their current form, they have created a rich set of linkages, allowing them to specialize and innovate at rates far higher than companies in regions without this level of specialization of talent, R&D, and industry-specific infrastructure. The transformation processes that were taking place in the historical clusters have paved the way for their descendant – the modern clusters, which, although in different levels, are now better equipped to adapt to market changes over time. This “*clustering effect*” has occurred in Cleveland over the years as many similar firms and their suppliers have located near each other and developed meaningful ways to interact -- far beyond simple buyer-supplier relationships. Clustering resulted in the growth of a specialized set of capabilities – skills, technologies, and business services – that is more than the sum of its parts. This specialization is the reason why Cleveland's historical and modern clusters have been able to adapt and survive over time, in spite of tough national and international competition.

Up until the 1950s, Cleveland was one of the more powerful manufacturing centers in the world, with the five industries shown accounting for more than 60% of the city's industrial employment, roughly the same as before the Great Depression. By the 1980s, Cleveland's historical heavy manufacturing industry clusters contracted significantly, led by steel, autos and transportation equipment, and metalworking, due to aging facilities, mismanagement, outside ownership, and tough international competition. Nonetheless, in the 1980s, some large employers such as Ford, General Motors, and LTV Steel made substantial investments in their existing facilities, and numerous new small manufacturing companies were formed. So, while the overall size of these heavy manufacturing clusters declined from 1950s to 1980s, the historical industries continued to innovate and many survived, even thrived.

From the 1980s onward, all the materials and machinery clusters are significantly smaller in terms of % of employment, but they continue to compete through innovation and productivity improvements. Health services, professional services, and IT clusters enter as significant players in the regional economy between 1950 and 1980 contributing to employment generation and the export of products and services.

In this characterization of the region's industrial evolution, we see how the large historical industrial clusters, which dominated Cleveland's economic landscape in the 1950s have declined over time, yet remain important drivers as the clusters transform to become advanced materials, advanced manufacturing, and advanced energy clusters. Similarly, the diversification of the regional economy is unfolding with growth in the advanced services clusters, particularly health & medical services and professional & IT services. Today, most of these clusters are innovating through high tech advancements such as advanced materials, advanced manufacturing, advanced energy, biosciences, and advanced services. Food processing, sustainable agriculture and green building are emerging as important players in building a more sustainable local economy.

HISTORICAL CLUSTERS

Iron & Steel

Auto & Transportation Equipment

Chemicals, Rubber, Plastics,
Polymers

Paints & Coatings

Electrical Machinery

Cleveland's historical clusters had an illustrious past as the region became the "capitol of steel" and "capitol of polymers"¹ "capitol of polymers"², and early on, Cleveland even gave Detroit a run for its money as the capitol for automobiles. To this day, auto parts and transportation equipment manufacturers are keen competitors and suppliers to Detroit (Eaton Corporation and Midland Steel Products Eaton, Rockwell Automation, Timken, Diebold, Parker Hannifin). In chemicals, polymers and paints, key companies include: PolyOne, Goodyear, Sherman Williams, RPM International, Step2, Lubrizol Corporation, Cleveland-Cliffs (oil). Machinery manufacturers include Nacco Industries and electrical Equipment producers include Diebold.

¹ Metals companies ranged from: U.S. Steel, Cleveland Works, Timken Co. ArcelorMittal, Aleris International, Alcoa

² B.F. Goodrich and Goodyear Tires

CLEVELAND'S HISTORIC CLUSTERS: IMPORTANT ASSETS FOR REGIONAL TRANSFORMATION

WHAT ARE THEY?

Cleveland's historical clusters are industries that have existed in the region for the past 50-100 years.

WHY ARE THEY IMPORTANT?

These industries, although older and declining in employment in recent decades, continue to adapt and survive and represent an important niche of competitive advantage for the region. Their competitive advantages come from their long legacy of industry leadership, strong buyer and supplier company relationships, and concentrations of talented and specialized workforce, specialized R&D institutions, and specialized infrastructure. Cleveland's historical clusters can continue to transform and adapt to changing global conditions and new sustainability opportunities by leveraging the talent, R&D, and infrastructure advantages.

HISTORICAL CLUSTERS OVERVIEW

Many of Cleveland's clusters have evolved from locally operated industries serving manufacturing industries within the region and Midwest to internationally diverse operations dependent upon an international market. Today the historical manufacturing clusters still account for more than half of the region's total manufacturing employment. As shown below, Cleveland's historical clusters account for more than 11% of total employment and 16% of total output of the region.

This rich legacy of a workforce and agglomerated economic infrastructure provides the base on which the region's historical clusters can continue to evolve, transform, and adapt to local and global markets. During recent decades, the viability of Cleveland's historical clusters has been based not so much on proximity to natural resources or areas of product demand as upon the availability of a skilled research workforce and viable companies and institutions to house that workforce.

EMPLOYMENT AND OUTPUT IN CLEVELAND'S HISTORICAL CLUSTERS

Key Historic Clusters	Manufacturing Employment 2007	% of Total Empl.	2007 Gross Product (in billion \$)	% of Total Output
Fabricated Metal Products	61,033	3.3%	\$6.31	3.6%
Transportation Equipment	37,326	2.0%	\$5.6	3.2%
Machinery	32,296	1.7%	\$2.8	1.6%
Primary Metals	27,352	1.5%	\$4.7	2.7%
Plastics & Rubber Products	23,661	1.3%	\$2.1	1.2%
Chemicals	19,315	1.0%	\$4.0	2.3%
Electrical Equipment, Appliances	11,527	0.6%	\$2.4	1.4%
Subtotal for Mature Clusters	212,510	11.3%	\$28.0	16.0%
Total Manufacturing	293,197	15.6%	\$35.9	20.4%
Total All Industries	1,875,375	100%	\$175.4	100%

Source: CSU, Manufacturing Brief—Trends in Manufacturing Industry in Northeast Ohio, 2008

EXAMPLES OF THE GREENING OF CLEVELAND'S HISTORICAL CLUSTERS

In engine technology, Ford now is manufacturing some of its most efficient engines in Northeast Ohio. These actions also need to be oriented towards the requirements of small and medium-size industries, recognizing the high hurdle-rate imposed by their small scale of operation and the peculiar constraints of their business environment. An interesting local greening innovation in the petrochemical industry is Lube Stop's EcoGuard re-refining of motor oil, an innovation in conserving petroleum.

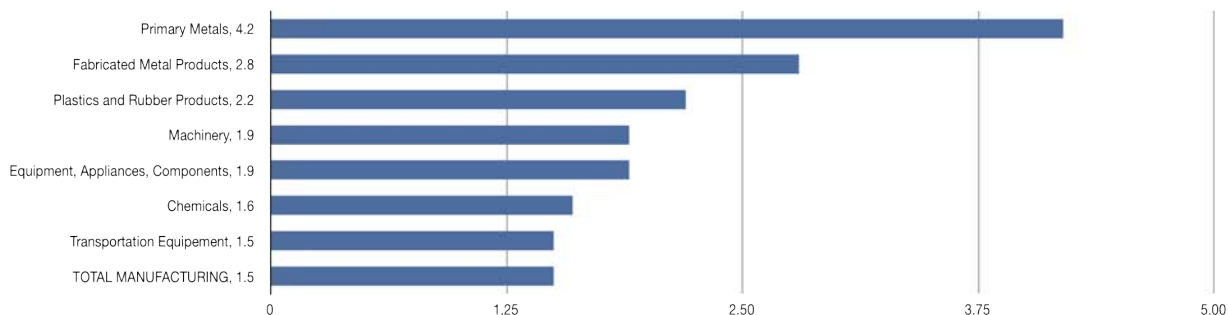
Sherman Williams' sustainable paint product innovations include: zero- and low-VOC paints in recycled plastic containers. Sherman Williams is pioneering the use of renewable or sustainable raw materials in some formulations and energy efficient systems have been installed at all new plant facilities.

Despite their decline over the past decades, they continue to account for a substantial part of the regional economy and continue to be drivers of the regional economy with significant multiplier impacts on regional income and employment. For example, although the region has experienced significant and steady decline in the metals and metalworking industries (including iron and steel, foundries, forging and stamping, machining, screws/nuts/bolt manufacturing, and others) these industries today continue to produce more than \$7 billions of output and employed 94,340, more than 4.6% of total employment in the region in 2004.

However, while still important, these historical manufacturing and services clusters are the region's most vulnerable clusters—and yet vital to many other cluster groups, both as a local supplier and a major local purchaser. These historical industrial clusters are concentrated in and around Cleveland, Akron, and older manufacturing towns, often near major buyers in decline or closing down, necessitating linkages to new sources of demand. These historical clusters work with old industrial facilities against other highly competitive U.S. and global regions that enjoy increasing comparative advantages.

Today, Cleveland's historical clusters, despite their massive declines in employment over the years, have maintained strong local concentrations of similar industrial companies, specialized talent, and specialized economic infrastructure. The graph below shows that employment in primary metals and fabricated metal parts is 4.2 and 2.8 times more concentrated in NE Ohio than in the rest of the country. Similarly, plastics and rubber, machinery, electrical industries, chemicals, and transportation equipment all have relatively high employment ratios indicating that these industries have substantial competitive advantages here than in other parts of the country. From the earliest days of Cleveland's concentration on iron and steel, the region has been a pioneer in materials sciences and products. Today, this field not only encompasses Cleveland's traditional strengths in metals and metals fabrication, but many others including specialty metals, polymers, ceramics, carbon, liquid crystals, bio-materials, and others. This concentration of companies, talent, know-how, centers of excellence in universities, and specialized services is what makes the advanced materials and advanced manufacturing clusters important engines for economic growth of the region.

TRENDS IN MANUFACTURING INDUSTRY IN NORTHEAST OHIO, 2008



Source: Adapted from CSU, Manufacturing Brief - Trends in Manufacturing Industry in Northeast Ohio, 2008

MODERN CLUSTERS:

Advanced Manufacturing (including transportation equipment, aerospace, instruments and controls)

Advanced Materials

Advanced Energy

Healthcare

BioTech

IT and Professional Services

Local Foods

Construction

MODERN CLUSTERS: DRIVERS OF INNOVATION**WHAT ARE THEY?**

Cleveland's modern clusters include the region's high tech manufacturing industries (many of which are the most advanced and evolved parts of historical clusters¹) as well as advanced services clusters including IT/Communications, headquarters' management, science and engineering, and multiple dimensions of the healthcare industries.²

WHY ARE THEY IMPORTANT?

These clusters represent the technology-intensive industries of the region. These advanced services clusters including health and professional and IT, as well as newer industry groups are demonstrating an exciting growth potential on which to sustain and build. These clusters are also drawing competitive advantage from the region's assets in specialized talent, R&D, education, training, and specialized physical infrastructure.

MODERN CLUSTERS OVERVIEW

Employment in Cleveland's high tech clusters grew by 2.7% between 2004-2007, while total employment in the region declined by -0.2%. High tech cluster employment growth was eclipsed by very rapid growth in output as measured by Gross Regional Product-GRP (11.6%) and in productivity growth (6.8%). Since 2004, the high-tech clusters' share of total employment in the region grew continuously, reaching 8.5% in 2007. What is remarkable is that "between 2004 and 2007 the GRP generated by high tech industries in Northeast Ohio increased almost 4 times faster than in the Midwest and 1.4 times faster than in the United States. During 2004 to 2007, all technology clusters in Northeast Ohio were growing faster than those in the Midwest and the United States."³ This growth occurred at a time when industry R&D funding in the region increased by 9% in contrast to declines elsewhere in the state (-18%), in the Midwest (-6%), and in the United States (-5%). This growth in industry R&D funding in the Cleveland/NEO region showed a strong spike of 30% between 2004-2007 compared to a 9% growth in the rest of Ohio and 6% growth in the U.S.⁴ This recent growth in industrial R&D in the region is good because the region lags the state, the Midwest, and the U.S. in R&D expenditures per employee.

Advanced manufacturing and advanced materials are important and dynamic

¹ Note that there is an overlap between historical and high tech clusters, with the historical clusters including a broader range of sub-industries than the high tech clusters. For instance, the historical cluster "electrical equipment" encompasses the existing high tech cluster "electronics," which only includes high tech sub-industries such as computers, communications equipment, semiconductors, control instruments, electrical equipment manufacturing, and repair and maintenance of electronic and precision equipment.

² The Northeast Ohio Technology Coalition (NorTech), CSU, GCP, BioEnterprise, and others have done an excellent job both tracking the region's high tech clusters and in developing programs and systems to support their growth and innovation. NorTech and CSU-Center for Economic Development have produced a series of reports that identify nine high tech groups. These nine high tech groups represent the Cleveland/NEO transforming clusters. The following descriptions of the high tech clusters are drawn from the NorTech/CSU report "Northeast Ohio High tech Economy" 2009.

³ Ibid. Northeast Ohio High tech Economy Report, p.iii.

⁴ Ibid. Northeast Ohio High tech Economy Report, p.v.

CLEVELAND / NEO HIGH TECH CLUSTERS, 2004 – 2007

	Employment		Gross Regional Product		Average Wage		Productivity (GRP/Employee)	
	2007	% Change 2004-2007	\$ millions 2007	% Change 2004-2007	2007	% Change 2004-2007	\$ thousands 2007	% Change 2004-2007
Technology Clusters								
Advanced Manufacturing	17,816	5.6	1,561	15.4	\$51,343	2.9	102.1	9.5
Advanced Materials	15,841	-5.1	2,884	7.4	\$77,481	17.9	210.7	11.6
Electronics	16,435	-0.3	1,758	17.6	\$55,102	9.9	105.2	21
Energy and Power & Propulsion	12,552	4.1	4,736	23.3	\$73,961	15.3	341.1	30.7
Information and Communication	26,844	N/A	3,839	9.3	\$63,141	N/A	152.8	N/A
Management, Sales & Facilities Support	51,624	-2.6	6,615	1.5	\$89,729	23.2	97.6	-4.4
Pharmaceuticals	1,419	N/A	418	25.8	\$79,501	N/A	212.5	N/A
Science & Engineering	28,071	13.6	3,200	19.3	\$60,355	4.0	121.5	6.7
Total High Tech	170,602	2.7	25,011	11.6	\$70,985	12.2	138.3	6.8
Total, All Industries	1,999,668	-0.2	172,329	4.9	\$40,399	5.7	88.7	4.6
		% Change 2000-2007						
BioSciences	12,739	1.8	N/A	N/A	\$77,524	N/A	N/A	N/A
Source: Northeast Ohio High-Tech Economy Report, 2009								

Overall, these high tech clusters of the Cleveland/NEO region, while still a relatively small part of overall employment (8.5%) and GRP (14.5%), are drivers of innovation and productivity growth for the region. Source: Northeast Ohio High-Tech Economy Report, 2009¹

¹ Employment, gross regional product (GRP) for eight of the high tech groups are available using a consistent data base and high tech definitions developed by Daniel Hecker at the U.S. Bureau of Labor Statistics (BLS). The ninth group, bioscience, is based on the definition adopted by BioOhio - Ohio Bioscience Growth Report, December 2007.

emerging clusters in the Cleveland/NEO region—accounting for 10.4% (17,816 jobs) and 9.3% (nearly 16,000 jobs) respectively, of total high tech jobs in the region. As shown in Table x, advanced manufacturing achieved steady growth in employment (5.6%) and very rapid growth in GRP (15.4%) and productivity (9.5%) from 2004-2007. Key industries within this cluster include four industrial machinery and transportation equipment manufacturing sectors and companies include: Lincoln Electric Co., Parker Hannifin Corporation, Gorman-Rupp Co., FMC Foodtech Inc., Demag Cranes & Components and Hydromatic Pumps, Inc., Alcoa Wheel and Transportation Products.

Advanced materials cluster had a decline in employment from 2004-2007, however, its strong growth in productivity (11.6%) and wages (17.9%) over the same period showed that this cluster is becoming highly competitive. Key potential growth areas for polymer advanced materials are particularly promising in the areas of biocompatible, photonic, electronic, conductive, and liquid crystal displays. Key regional companies in the advanced materials cluster include: DayGlo Color Corporation, Lubrizol Corporation, PolyOne Corp., Henkel Adhesive Technologies, PPG Industries Inc., and Sherwin Williams Automotive Finishes Corporation.

The electronics cluster—comprised of five computer and electronic equipment manufacturing industries and an industry that repairs electronic equipment—accounted for 16,435 jobs in 2007, registering a modest decline in employment of 0.3% since 2004. Despite this decline in jobs, the cluster achieved significant growth in GDP (17.6%) and productivity (21%) from 2004-2007, demonstrating a strong growth in competitiveness. This group of industries is represented, among others, by Keithley Instruments Inc., Rockwell Automation Inc., Apsco Inc., Therm-O-Disc Inc., and Emerson Network Power, Energy Systems, North America Inc.

The energy and power & propulsion cluster is a diverse cluster including industries that extract, manufacture equipment, and transport energy and power resources—but dominated by electric power generation and aerospace. Employment was 12,552 in 2007 and grew by 4.1% between 2004 and 2007.

This cluster achieved the highest growth of all high tech cluster in productivity (30.7%), and second highest in and GDP (23.3%) wages (15.3%) during 2004-2007. Among companies representing this group are Parker Hannifin Corp. Airborne Division, CertainTeed Corp., Aircraft Braking Systems Corp., and TransDigm Group Inc.

The advanced services clusters are also important drivers of Cleveland/NEO economy. The IT and communication cluster accounts for 15.7% of high tech jobs in Cleveland/NEO region, nearly 27,000 jobs in 2007. GRP expanded by 9.3 from 2004-2007. Key companies include: Hyland Software Inc., Intuit Inc., Oracle Corp. Brulant Inc. and Quadax Inc.

The largest of the high tech clusters is the so-called Headquarters Cluster (Management, Sales and Facilities Support) which accounts for 30% of all jobs in the high tech industries, with 51,624 jobs in 2007, nearly 40,000 of which are in the management of companies and enterprises, with another 11,000 jobs in wholesale, financial and support service industries. Employment in this cluster declined by 2.6% during 2004-2007. This group accounts for such companies as PartsSource, Inc., ASI Investment Holding Co., Associated Materials Inc., and Siemens Medical Solutions USA, Inc.

Another important advanced services cluster is the Science and Engineering cluster—composed of architectural, engineering, consulting companies, and companies providing scientific R&D services—accounted for 28,000 jobs in the region in 2007. Prominent companies in the cluster include Middough Consulting Inc., Zin

Technologies, Inc., Ricerca Biosciences LLC, Accenture Llp., and McKinsey and Co., Inc.

The largest of the expanding clusters in the Cleveland/NEO region is the Healthcare Cluster. In 2000, employment in the healthcare cluster in the Cleveland MSA accounted for 13.5 percent of total employment, with an employment concentration ration of 1.3, reflecting a high concentration relative to the rest of the country. Despite the slower short-term regional growth in employment from 2000-2005, the share of Cleveland's healthcare employment grew to 14.6 percent compared to 12 percent nationally. The share of the total payroll of healthcare industries in Cleveland increased from 12.6 percent in 2000 to 14.2 percent in 2005. This growth of the region's Healthcare Cluster shows its robustness and reflects a strong competitive advantage.

The Healthcare Cluster includes both medical care and biosciences. In the biosciences cluster, medical device and equipment manufacturers (10,000 jobs), biopharmacy (3,000 jobs), and agricultural biotech (1,419 jobs) are the largest employers. Although biosciences is relatively small, accounting for less than 1% of total employment in North East Ohio, it is growing and pays high wages (averaging \$77,524 per year).

Cleveland's research base for the biotechnology and biomedical industry is \$500 million and more than 500 biotechnology firms are located in northeast Ohio, along with more than 100 research laboratories. The Cleveland Clinic Foundation has the nation's largest hospital-based department of biomedical

engineering. Area colleges offer training in biomedical or bioscience technology; among them are Case Western Reserve University, Cleveland State University, Kent State University, Lakeland Community College, and the University of Akron.

Within biosciences, two promising clusters are orthopedic devises and medical imaging. The region already employs more than 200 researchers in orthopedics and polymers, and more than 50 companies are directly linked with the orthopedic device industry including firms such as Integra Spine, Orthopedic Research Laboratories, and Trust Technologies. These companies take advantage of the region's rich 100-year history in materials sciences and engineering (in both metals and polymers) as well as its extended R&D capabilities, highly educated workforce and knowledgeable capital sources. This merging of the region's traditional strengths and concentration of talent in materials sciences/engineering and the medicine is an example of the pathway to the future, especially when the industry employs sustainability practices.

"The biomedical industry is a driving force in Cleveland+. Today, the region is home to 600+ biomedical businesses with over 230,000 health care and bioscience workers. Biomedical businesses have attracted \$975 million+ in new investment since 2003, and the regions's biomedical industry has grown by 34% in the same period" - Cleveland Plus¹

¹ <http://www.clevelandplusbiomedical.com/>

SEED CLUSTERS: THE FUTURE POTENTIAL

WHAT ARE THEY?

Seed clusters represent the new sprouts of the economy that have the potential to grow and create new competitive advantage for the region. Cleveland's strongest economic drivers in the coming decades will come from seed clusters where:

- There is strong research capability
- There are some firms in the region poised to take commercial advantage of the research
- The cluster in some way benefits from capabilities that derive from existing and historical clusters

WHY ARE THEY IMPORTANT?

Cleveland's seed clusters offer several important advantages for how the region will succeed. First, most seed clusters are identified based on the traditional strengths of existing clusters such as industrial machinery and materials and on the existing centers of technological excellence. Second, seed clusters represent the best opportunities for rapid growth of high value-added jobs. Third, focusing attention on emerging clusters keeps policy dynamic – looking to the future instead of the past.

SEED CLUSTERS OVERVIEW

Similar to historical clusters, which played a significant role in the development of the current existing clusters and their competitiveness among other existing hi-tech clusters in the nation and internationally, so do the presented “areas of expansion” serve as stepping stones in the evolution of new, even more advanced and highly competitive seed clusters in Cleveland. Clustering in Cleveland has been an ongoing process and the emergence and sophistication of seed clusters are the next step.

As an initial exercise to identify the region's seed clusters, ETG started by looking at the intersection of the region's historical and existing clusters and the region's technology centers of excellence. From this industry-technology linkage, seed clusters were identified where analysts identified local strengths in private industry *combined* with strong local technology providers.

To identify these seed clusters, a variety of indicators were utilized including industry data from CorpTech—employment by 17 industries, number of firms by industry, industrial linkage, web searches of specific businesses, and data about local research institutions. Using CorpTech data, it is possible to identify relatively new companies that tend to be clustered around specific product or technology areas. For instance, related to the existing cluster of Advanced Energy, two seed clusters were identified: utility-scale wind energy (5 companies); and biofuels (4 companies). Related to the health cluster, two seed clusters include: medical imaging (12 companies) and bio-toxin detection (4 companies). In polymers and advanced materials, emerged three potential

CLEVELAND'S EMERGING SEED CLUSTERS

Advanced ceramics-fiber molded compounds, and resin-transfer molded materials (branching off the polymers and advanced materials cluster)

Ice protection systems, propulsion design, and hybrid bearings (branching off the advanced manufacturing/ aerospace cluster)

Thermal controls, optical biosensors, and propulsion instrumentation (branching off the advanced manufacturing/ instruments and controls cluster)

Wind energy, biofuels, fuel cells (branching off the advanced energy cluster)

Medical imaging & biotoxin detection (branching off the healthcare and biotech clusters)

Computer system design and IT disaster recovery (branching off the IT cluster)

“seed” clusters worthy of investigation because each had a significant number of related companies: resin-transfer molded materials (7 companies), fiber-molded compounds (7 companies), and advanced ceramics (6 companies).

The company specific data was matched with inventories of the specific strengths of local research institutions and centers of excellent in specific technology areas. The following figure shows NEO’s industries and seed clusters and organizes firms indicating the key research centers from Case Western, University of Akron, Cleveland Clinic, and NASA Glenn Research Center associated with these emerging seed

clusters. Based on this match-up of new companies and local technology competence, a set of companies (large and small) have been identified as part of these illustrative seed clusters of the Cleveland region. (see image to the left)

Our initial analysis provides an approach to identifying promising seed clusters for the region. Some of these seed clusters are already sub-sectors of the high tech industries analyzed by NorTech and CSU. Another seed cluster—nanotechnology—has been identified by NorTech and the Nano Network and needs to be added to the list.⁵

⁵ The Northeast Ohio Nanotechnology Report, NorTech and the Nano Network, January 2008.

The key question for the region is how to nurture and support the further development of these early stage agglomerations of talent, research excellence, innovation, entrepreneurship, and capital. An important further question is how these seed clusters can become part of the vanguard for bringing sustainability into the economy.

Several of the seed clusters identified—such as wind energy and bio fuels—are clearly part of the “clean tech” revolution. In the wind energy seed cluster, for instance, the Great Lakes Wind Network is expanding opportunities for the many local companies supplying components

IT Disaster Recovery   	Computer Systems Design   	Advanced Ceramics   	Fiber Compounds   	Resin-transfer Molded Materials   	Ice Protection Systems   	Propulsion Design   
Hybrid Bearings   	Optical Biosensors   	Thermal Controls   	Propulsion Instrumentation   	Bio Fuels   	Utility-scale Wind Energy   	Biotoxin Detection+ Medical Imaging   

Cleveland area companies within potential seed clusters

for wind turbines. The Lake Erie Energy Development Corporation is developing a wind farm on the lake, which could lead to a turbine manufacturing facility in Cleveland. In the bio fuels seed cluster Arisdyn Technologies, LLC has developed an add-on device for biofuel production to take the process from a batch processing system to a continuous processing system. The company received funds from the Innovation Ohio Loan Fund of Cuyahoga County and the City of Cleveland. Other seed clusters, perhaps existing and yet to be detected—could be developed in many of the clean tech fields such as: 1) Solar Energy; 2) Biomaterials; 3) Green Buildings; 4) Personal Transportation;

5) Smart Grid; 6) Mobile Technologies; and 7) Water Filtration.⁶ One example in the field of clean-tech personal transportation is local company, Myers Motors, which is making an attention-getting two-seat electric car.

All seed clusters (including the companies, institutions, entrepreneurs, workers) have opportunities to be leaders in Cleveland's sustainable economy. In order to stimulate growth, seed clusters typically require input factors that will feed innovation to the marketplace and support start-up companies. A focus on emerging sustainability needs will be critical to support "seed" cluster companies

to lead the charge in the clean tech/sustainable economy. Input factors are outlined in the next section.

⁶ Ron Pernick and Clint Wilder, *The Clean Tech Revolution*, 2007.

WIND ENERGY SEED CLUSTER

The Wind Energy Seed Cluster shows promise for development and expansion in the Cleveland/NEO region. Currently, more than 60 Ohio companies currently manufacture wind components, including local companies like Cardinal Fastener & Specialty, The Dyson Corporation, Lubrizol, Parker Hannifin, and Timken.

More than 220 businesses and research institutions are involved in Ohio's wind energy supply chain, and more than 1,000 companies have been identified as eligible to transition into manufacturing components for the wind energy supply chain. The wind energy cluster offers multiple entry points for existing and new companies to engage with this cluster. A modern wind turbine is composed of approximately 8,000 different components, from steel towers, to precision gear boxes, to specialty lubricants and computerized software. Wind power (new installation capital costs) is projected to expand from \$51.4 billion in 2008 to \$139.1 billion in 2018. An off-shore wind turbine project for Lake Erie is conducting feasibility analyses and economic impact studies to investigate the viability of this cutting edge installation of wind towers in the Great Lakes. What is important is that key local stakeholders in the region are lining up to support the growth of this seed cluster. In the Greater Cleveland Partnership in its 2008-2011 Strategic Plan committed that the GCP will collaborate with Team NEO, NorTech, The Cleveland Foundation and others on a business attraction and development agenda that leverages assets and potential in the advanced energy sectors.

SUSTAINABLE SYSTEMS CLUSTERS:

Sustainable manufacturing/ materials systems—Sustainable transportation systems; Closed loop sustainable manufacturing; Production technologies to dematerialize production process; Sustainable polymers; Non-toxic biodegradable materials; Nano materials

Sustainable energy systems—Biofuels; Fuel Cells; Solar; Wind technologies; Smart grid technologies; Renewable energy installation; Energy efficient lighting; Efficiency technologies & controls

Healthy lifestyles—Healthcare; Alternative healthcare; Biomedical; Biotech; Local foods; Outdoor recreation; Biotoxin detection;

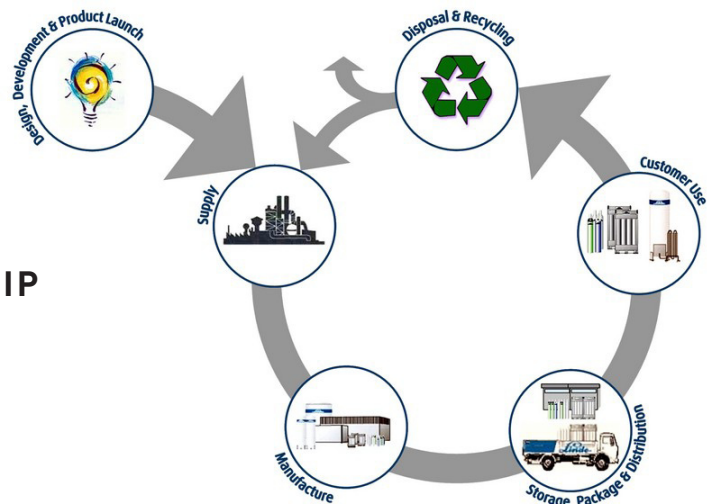
Regenerative Building & Infrastructure—Green building (including Deconstruction technologies, Weatherization); Biotoxin detection; Healthy water systems technologies; Urban agriculture; Ecosystem services enhancement technologies; Air cleaning and materials (mercury, etc. capture technologies); Brownfield remediation;

TOMORROW'S “SUSTAINABLE SYSTEMS” CLUSTERS

Cleveland's clusters have the potential to evolve into “*sustainable systems*” clusters where products and production systems embody a holistic approach to producing products and providing services. As Cleveland continues to build up the four foundations for a sustainable economy—personal and social environment, natural environment, built environment, and business environment—and as Cleveland's industries continue to adapt to the challenges and opportunities of the 21st century, existing clusters will evolve toward an increasingly diversified and sustainable portfolio.

For example, *Advanced and Renewable Energy Industries* could develop closer relationships with *Energy Efficiency Industries*. Often these two sides of the coin are approached separately, in silos. There are many economic opportunities inherent in the challenge of creating energy to meet our needs in a way that is 100% safe and that doesn't cause environmental harm. By working together to address this problem, Cleveland's energy oriented businesses can move ahead of the pack.

PRODUCT STEWARDSHIP SYSTEMS



http://hiq.linde-gas.com/international/web/lg/spg/like35lgspg.nsf/docbyalias/blank_product-lifecycle

CLUSTERS STRATEGY FRAMEWORK: TRANSFORM, GROW, HARNESS

KEY CONCEPTS IN SUSTAINABLE CLUSTERING:

Industrial symbiosis –
“Waste=Opportunity”

Eco-efficiency

Clean-tech

Regenerative development

Closed-loop cycles – “Cradle-to-
cradle cycles”

Up-cycling

Cogeneration

De-materialization

*For a detailed description of these terms
please see pages 28-29 in Chapter 1*

As Cleveland strives to achieve a high performing sustainable economy, its clusters will play a key role in keeping the regional economy more competitive, and efforts to support them to grow and expand are essential. The important question is how these clusters will create new competitive advantage as they bring sustainability into the economy. The basic response to this question is that new sustainability competitiveness directions will be discovered by each of these clusters as they engage in the following three strategic directions: transform, grow, and harness assets opportunities:

TRANSFORM : ADOPT SUSTAINABILITY PROCESSES AND PRACTICES ALONG THE ENTIRE VALUE CHAINS OF THE INDUSTRIES

Entrepreneurs and companies in all of Cleveland’s industry clusters have opportunities to adopt sustainability processes and practices in the design, engineering, production, distribution, and servicing of their products and services as well as those of their suppliers. Clustering collaboration among companies and institutions within and between clusters can help to accelerate the greening of the value chain by sharing “best practices,” pooling demand for green inputs and outputs, supporting green procurement, etc.

GROW : NEW CLEAN TECHNOLOGY INNOVATIONS FOR NEW OR EXISTING MARKETS

A number of Cleveland’s clusters are already directly involved in producing and innovating new clean tech products and services. Companies in the Cleveland region, for instance, have been on the forefront of fuel cell innovation and others are now gaining competencies in wind energy manufacturing. Already, Ohio ranked 8th in the United States in terms of clean energy patents and 17th for venture capital investment. Local companies in the Cleveland region are exploring new approaches to clean energy, such as Tremont Electric’s approach to kinetic energy generation. The region’s other clusters can also be supported to steer their R&D and product development activities to generate new clean tech products. To become a leader in clean tech, the Cleveland region must build on existing efforts and foster connections within and between its industry clusters.

HARNESS—LEVERAGE AND HARNESS EXISTING LOCAL ASSETS THROUGH LOCAL SOURCING AND PROCUREMENT

Existing and high tech clusters can capture value within their clusters and the region as a whole by reducing opportunity leakage and harnessing green/clean assets that can be used within the regional economy (sustainable local sourcing). Local sourcing and procurement among high tech clusters can be easily enhanced simply by raising awareness that local providers exist. All technologies that enhance the capture and conversion of wastes (solid and fluid) and energy reduce imports of more power and create jobs locally. Distributed power generation could be particularly valuable because it can create new revenue to industrial, commercial, and residential projects if appropriately scaled.

CLUSTER STRATEGIES & RECOMMENDATIONS

HISTORICAL CLUSTER STRATEGIES

In order for Cleveland's historic clusters to survive and continue to retain competitiveness, they will need to transform and to apply principles of sustainable economy. Reviving and greening these vulnerable industries is critical to enhancing the region's overall competitiveness and maintaining a range of employment opportunities.

The following strategic directions are a starting place for Cleveland's historic clusters:

Define new regional and export markets that leverage their design and market position.

Identify, acquire, and adapt "best practices" in process and production technologies.

Adopt major "clean tech" process changes: carbohydrate chemistry; by-product recovery; control systems; energy efficiency; alternative fuels.

Finance modernization of plant and equipment;

Remedy, as well as clean up, environmental problems in production and introduce cutting edge sustainability strategies in all areas of business practices, such as industrial symbiosis, regenerative development, clean-tech, eco-efficiency, closed-loop cycles, up-cycling or cogeneration networks.

Develop regional distribution systems (e.g., trucking facilities, roads, electronic data interchange).

Create Individual and Cluster-wide Strategic Sustainability Plans - define goals, strategies, and time-lines, and measure progress. (Emphasis on Carbon)

Engage employees in sustainability transition process

KEY INPUTS RECOMMENDED FOR HISTORICAL CLUSTERS

Recommendations for supporting the transformation of the region's historic clusters are grouped according to the four foundations for a sustainable economy.

BUSINESS ENVIRONMENT

INNOVATION

Increase R&D with major universities directly or through industry alliances focusing on addressing challenges facing existing products and services green factors and opportunities; integrating "cradle-to-cradle" and whole systems product & production process design into company R&D competencies.

FINANCE

- Restructure operations and recapitalization, possibly through spin-offs or acquisitions of early stage companies with needed capabilities, credit guarantees and low interest loans.
- Introduce new financial instruments to support greening and redevelopment ideas.

MARKETING

Break out of the mainstream product development mold into more sustainable products directions and re-brand established companies and products in the cluster.

TAX/REGULATORY CLIMATE

Develop plans to offset impacts of expected carbon tax policies as well as rising energy costs through matching grants and other technology transfer grants. Revise regulations on building guidelines such as the Green Building Code and require buildings to be more energy and resource efficient and environmentally responsible.

PERSONAL AND SOCIAL ENVIRONMENT

WORKFORCE

Adapt workforce skills, assisting displaced workers to move laterally into growing green/clean engineering and technical occupations.

ENTREPRENEURSHIP

Support spin-off of employees and managers with new product and suppliers, enterprise business plans, particularly supporting green/sustainable enterprise development.

BUILT ENVIRONMENT

LOGISTICS

Develop options to reuse or downsize conventional sites and shift to more

distributed operations (risk of loss to overseas or out of region sites).

FACILITIES

- Promote and utilize the City of Cleveland's Industrial-Commercial Land Bank to deliver "shovel-ready" sites for manufacturers and office users in priority economic development areas. This pioneering strategy to attract and retain businesses to properties too impaired for the private sector to redevelop alone has invested over \$8 million to deliver nearly 30 acres to the market (sites include the Midland Steel Property, Crescent Avenue Site, and the Former Cleveland Asphalt Plant).
- Investigate opportunities for improving building efficiency.

NATURAL ENVIRONMENT

ENERGY, WATER AND WASTE MANAGEMENT

Support transition to renewable energy and energy efficiency utilization and zero-waste initiatives:

RESOURCE EFFICIENCY

- Introduce energy efficiency programs and policies to support the reduction of local energy demand and optimize investments into supply-side technologies (renewable energies). Given the energy-intensity of the region's

historical industries, aggressively pursue pilot installations of "smart grid" applications and cogeneration networks. The Cuyahoga Valley has, due to a high concentration of industrial facilities and infrastructure in a small area, an extraordinary opportunity to reap the benefits of cogeneration. Fostering collaboration between industrial facilities generating a part of their electricity and other businesses would therefore lead to identification of cogeneration opportunities in the City and increasing the resiliency of the whole grid.

- Encourage, through incentives and programs, the installation of water efficient technologies. Raise awareness on the cost of inefficient use of water for businesses and develop pilot programs on water efficient technologies to spur experiments in the field.
- Support the awareness and the implementation of industrial symbiosis strategies by leading companies by means of developing a collaborative dialogue between business leaders, economic development institutions, government representatives and research institutions.
- Promote awareness on the economic and environmental benefits of

LEVERAGE LOCAL ECONOMY

Local Economy strategies can include activities that encourage people to buy local goods and services, such as retrofitting buildings for energy efficiency, implementing new waste management solutions that reuse or recycle materials, ecological restoration activities, or pursuing profit enhancing sustainability strategies at the company level. Strategies that stimulate a steady demand for clean, green, sustainable products and solutions innovated for the local market will create an environment in which these solutions can be incubated, perfected, and then supplied to global markets.

“product life-cycle thinking”, help to identify success stories and to **expand collaboration on product development and design with research institutes and introduce specific incentives and programs to foster the implementation of sustainable strategies by companies**, such as closed loop cycles and up-cycling and eco-efficiency to reduce waste generation and energy demands of the industries.

SOILS AND BROWNFIELDS

- **Expand collaboration and implementation by the City, County, Northeast Ohio First Suburbs Development Corporation, and Cleveland-Cuyahoga County Port Authority of the Northcoast Brownfield Coalition to address regional economic problems caused by vacant industrial properties and urban sprawl.**
- **Apply principles of regenerative development and promote the creation of regenerative development zones in industrial brown field sites that can serve for creation and locating of industries focused on sustainable products and processes.** Such opportunities exist, for example, in the Zaclon and Coke Oven site or Kingsbury run. (Cuyahoga River Valley Initiative) **Connect Industrial Valley to surrounding communities with trail connections such as was the Morgana Run trail project.**

HISTORICAL CLUSTER NEXT STEPS

Leadership – Engage leaders of all clusters and stakeholder groups (public and private) in a cross industry economic sustainability partnership designed to address the objectives of transforming, growing, and capturing sustainability in the historic clusters.

Collaborative mechanism – Build action-focused cluster-based sustainability partnerships by historic cluster industry that brings together the value-chain of stakeholders (producers, suppliers, input institutions and even customers) to constructively explore opportunities to transition to sustainable practices and develop clean tech solutions in a facilitated and collaborative manner.

Tracking progress – Progress toward attaining combined cluster competitiveness/sustainability priorities can be monitored at cluster by cluster as well as in term of region wide cross-cutting initiatives:

- a) Cluster-specific initiatives—These cluster-based sustainability partnerships should be structured to define, implement and track their own actions—by having the right demand and supply-side stakeholders at the table.
- b) Regional crosscutting initiatives—Each cluster partnerships should have delegates that can bring up their shared economic sustainability issues to the overarching regional sustainable economy partnership for review and consideration as the basis for potentially broader crosscutting initiatives that will address shared needs and opportunities.

STRATEGIES FOR GROWING SUSTAINABLE INDUSTRIES - MODERN & SEED CLUSTERS

In order to fully capture the potential of modern industries to spur the growth and competitiveness of the regional economy, new strategic directions will need to be engaged. For example:

Respond pro-actively and creatively to risks, leakages, opportunities

Aggregate demand for sustainable products and services

Bring supply and demand-side together to work towards closed-loop and innovative solutions

Lobby at the local, state, and national level for proactive legislation that supports sustainability transitions

Leverage collaboration and new voices

Leverage and support Local Economy where possible - Build a local economy that is more resilient and sustainable by virtue of being rooted in the local community.

Similar to historical clusters, modern and seed clusters should implement cutting edge sustainability strategies, such as Regenerative development, Clean-tech, Eco-efficiency, Closed-loop cycles, De-materialization of the economy, Up-cycling, Cogeneration.

Create Individual and Cluster-wide Strategic Sustainability Plans - define goals, strategies, and time-lines, and measure progress. (Emphasis on Carbon)

Engage employees in sustainability transition process

KEY INPUTS RECOMMENDED FOR MODERN CLUSTERS

The region's modern clusters require key inputs to facilitate their growth and movement toward sustainability. The various input factors are grouped according to the four foundations for sustainable economy.

BUSINESS ENVIRONMENT

INNOVATION

Expanding, high tech and clean tech companies need access to universities, national labs, and research centers in the region and beyond, plus funding to help with converting unproven technologies into viable, marketable products. Innovation flows from discovery to development to deployment and the key mechanisms needed are industry technology alliances focusing on shared challenges.

- Build a critical mass of research in strategic pre-competitive theme areas (related to clean tech) to provide “feedstock” to expanding industries (since research is declining in this economic period).
- Identify and match intellectual property to market-driven problems (pull assets out of university and lab science to address regional industry challenges). Support proof-of-concept funding to scale-up innovations that can be used by regional enterprise.
- Develop collaborative initiatives between high tech clusters companies and investors and secondary market entities interested in competitiveness, diversification,

and sustainability of major cluster companies and their suppliers.

FINANCE

- Create vehicles to reduce cost of development (product development loans or private equity placements)
- Focus on supporting testing and scale-up (public or utility funded demonstrations).
- Expand access to capital for early stage product adoption and capital for expansion
- Strengthen strategic alliances for new development areas
- Expand use of special assessment districts to simplify financing.
- Develop collaborative initiatives between existing/high tech clusters companies and investors and secondary market entities interested in competitiveness, diversification, and sustainability of major cluster companies and their suppliers.

MARKETING

- Support access to marketing channels in global markets
- Build brand positioning.

TAX/REGULATORY CLIMATE

Public policy can play an effective role in streamlining the widespread adoption of new technology through project permitting, inspection processes, and expediting.

- Revise regulations on building guidelines such as the Green Building Code and require buildings to be more energy and resource efficient and environmentally responsible.
- Develop standards that create

market demand (e.g., for energy and adopting LEED plus to pull supply along);

- Develop procurement policies for products that use innovative solutions; and promote investment in public facilities using new or early adoption principles. Public procurements can highlight the importance of solutions that emphasize the use of sustainable and renewable components.

Efforts can also be taken to encourage the attractiveness of the region to clean technology companies.

- Expedite expansions for green companies;
- Streamline and standardize permitting and inspections for clean tech applications and infrastructure; advocate for supportive state and federal policies.
- Cleveland can test financing models that create tax assessment districts to simplify the purchase of photovoltaic systems and more energy-efficient equipment.

PERSONAL AND SOCIAL ENVIRONMENT

WORKFORCE

Demand is growing for skilled workers across an array of occupations in industries providing products and services that reduce pollution or improve resource efficiency. Labor unions are partnering with community colleges and training centers to build a talented workforce that is productive and able to contribute to developing clean tech solutions.

- Align training programs for needs of

high tech and clean tech industry.

- Tap federal, state, and private funding for workforce development.

ENTREPRENEURSHIP

Support would-be entrepreneurs within companies and universities to create new businesses in the high tech and clean tech areas.

BUILT ENVIRONMENT

LOGISTICS AND FACILITIES

Much can be done on a regional level to encourage the co-location of clean technology companies. A number of cities are helping small and midsize businesses find good locations, and a few have supported the formation of business incubators to help new clean and green businesses succeed.

- Create affordable technology park settings with cluster counterparts.
- Provide site location assistance.

The Northeast Ohio Chapter of the U.S. Green Building Council is educating the region's building and design industries about the benefits of high-performance green buildings for industrial uses.

- Apply green building principles in the Regenerative development zones and connect experienced developers who have undertaken green projects with Cleveland's construction and developer companies.
- Raise awareness on the economic, social and health benefits of green buildings.

GREEN INFRASTRUCTURE

- Develop smart grid zones to demonstrate the potential
- Deploy smart meters and make the data available
- Integrate local and urban power generation with plug-in infrastructure

NATURAL ENVIRONMENT**RENEWABLE ENERGY**

Expand the use of regional public procurements for renewable energy

WASTE MANAGEMENT

- Support companies to set goals for energy from renewable sources, zero waste, high resource efficiency, low carbon impacts (sustainable strategies: eco-efficiency, de-materialization, clean-tech, closed-loop cycles, cogeneration). The City of Cleveland is developing a cogeneration plant with advanced waste-to-energy technology, reducing waste disposal costs while producing useful energy.
- Support innovative businesses to convert waste into profitable resources, including energy (methane-gas landfill capture and gasification of industrial and medical waste). There is a significant potential for capturing methane-gas from landfills in the Cuyahoga County, particularly in the Glenwillow Sanitary Landfill and the Royalton Road Landfill in Broadview Heights (Cuyahoga River Valley Initiative). In the County, there are 238 organizations creating medical waste, much of which could be locally gasified. Energy produced in waste to energy would serve as alternative energy resources for

nearby industries, and would match the goal of efficient distributed power generation.

NEXT STEPS FOR MODERN CLUSTERS**LEADERSHIP**

Major institutions and leaders have stepped forward to lead the growth of the region's existing clusters. NorTech is working to grow the specific technology sectors, and leads, leverages and launches initiatives that impact all of the sectors in the areas of talent, investment and entrepreneurship, and innovation infrastructure. Similarly, Team NEO is focused on attracting businesses that complement existing or emerging regional strengths through external attraction marketing and deal packaging. In fostering entrepreneurship, JumpStart is helping to create more entrepreneurial ventures in the region in seed clusters through technical assistance and investments that leverage additional private capital. BioEnterprise is accelerating the development of new bioscience companies in the region by working in concert with the region's healthcare industry and with private investors. Finally, E4S and the Corporate Sustainability Network are both supporting awareness raising about sustainability among the region's business community.

COLLABORATIVE MECHANISM

In order to drive combined competitiveness/sustainability priorities within Cleveland/NEO region existing clusters, NorTech, E4S and the Corporate Sustainability Network could spearhead a collaborative effort bringing together delegates from each firm to brainstorm breakthrough strategies to build their green value

chain as well as innovate and diversify in clean technology, while locally sourcing where appropriate.

TRACKING PROGRESS

A system for supporting and monitoring follow-through of competitiveness/ sustainability action initiatives is needed in addition to an overall metrics system for measuring the progress toward competitiveness and sustainability priorities and outcomes, including employment, productivity, and progress toward emissions reduction.

KEY INPUTS**RECOMMENDED FOR SEED CLUSTERS****BUSINESS ENVIRONMENT****INNOVATION**

- Build a critical mass of research in strategic pre-competitive theme areas (related to clean tech) to provide "feedstock" to industry start-ups or spin-offs.
- Build virtual incubation systems that parallel the university academic system to enable intellectual property to be transformed into new enterprise.

With any new technology, financing is vital not only for R&D but for the commercialization process and the widespread adoption of the new technology.

- Support companies to develop new technologies and their applications into the marketplace by linking to local centers of excellence and identifying and registering intellectual property (IP) that leverages the regional base of companies and research institutions.

UNIVERSITIES

Scientists and programs ready to work on spinning-off IP and participating in commercialization in clean tech.

ACCESS TO TECHNOLOGY

Provide testing/prototyping resources, technology commercialization partnerships by private and public, state and local agencies interested in enterprise growth.

FINANCE

- Support entrepreneurs with proof of concept to leverage SBIR and seed stage capital to grow more early stage companies.
- Develop initiatives to create higher deal volume with reduced risks, as well as cultivation of stronger Angel networks with increased awareness about clean tech opportunities.
- Help find investors: deal packing services with “angel” investors (high net worth).

MARKETING

- Support business planning to help position seed stage companies.
- Launch green business certification programs and “buy local” programs for green products and services.

TAX/REGULATORY CLIMATE

- Launch rebates and tax breaks for investments in renewable energy technologies or restrictions on fossil-fuel emissions.
- Require power producers to invest in renewable energies, especially wind projects.
- Launch green pricing programs allowing consumers extra contributions for energy coming from renewable resources.

- Support companies with demonstration permits.
- Establish dedicated sites zoned for clean technology business development and testing, with streamlined permitting. Many regions are establishing these in brownfields. Example: Hunters Point, San Francisco and former Alameda Naval Air Station (Oakland, CA).
- Create City/Region agreements to procure locally.

HUMAN ENVIRONMENT

WORKFORCE

Support with creating management for start-up companies.

ENTREPRENEURSHIP

Managers and partners recruited regionally (or externally) ready to help form and build clean tech enterprise

HUMAN CREATIVITY

Provide best practice demonstrations, training, and visits for seed cluster entrepreneurs companies to learn and engage in “cradle-to-cradle” design and other whole systems design and sustainability practices (e.g., biomimicry)

BUILT ENVIRONMENT

LOGISTICS

Facilitate clean green transportation for production and for employees.

FACILITIES

- Support “green” incubators and sites for demonstration of new solutions. Demonstration centers and prototyping facilities with the latest equipment help startups conserve capital.

- Support companies to set goals for creating green, people-first built environments.

NATURAL ENVIRONMENT

ENERGY AND WASTE MANAGEMENT

Support companies to set goals for increasing energy from renewable sources, moving towards zero waste, increasing resource efficiency, and lowering carbon impacts.⁷ There is both the opportunity to test and deploy waste conversion and energy generation technologies by emerging stage developers and vendors, as well as opportunities to link these into co-generation or CHP sites as demonstrations (utilities and other partners are essential here)

SEED CLUSTER NEXT STEPS

LEADERSHIP

Identify co-leadership from companies and research institutions to support seed cluster development. Anchor institutions, like the universities, NorTech, BioEnterprise can host seed cluster activities in their early stages.

COLLABORATIVE MECHANISM

Implementation of “seed” cluster strategies will be accelerated by organizing seed stage candidates into clean technology commercialization partnership.

TRACKING PROGRESS

Develop targets and monitor progress in short term by focusing on process activities to nurture growth seed clusters and in medium long term by tracking job, patent, and company growth, and the meeting of sustainability targets.

⁷ Sustainable strategies: Regenerative Development, Clean-tech, Eco-efficiency, Closed-loop cycles, Dematerialization of the economy, Up-cycling, Cogeneration, Waste to Energy

CLEVELAND'S INFRASTRUCTURE FOR SUSTAINABLE TRANSFORMATION (A SNAP SHOT)

Comprised of sets of institutions and specialized infrastructure, Cleveland's infrastructure for sustainable transformation will leverage competitive advantages of historic, existing and seed clusters and accelerate their trajectory towards sustainability. These assets include specialized research and economic development institutions, foundations, private sector organizations, public sector bodies on the municipal and state level as well as infrastructural assets ranging from transportation, healthcare, or simply resulting from the City's strategic position on Lake Erie, that emerged as a result of the great market size of the local economy over previous decades. This infrastructure for sustainable transformation will support Cleveland and its clusters as they move towards sustainable economy, and is grouped according to the four sustainability foundations: built environment, business environment, personal and social environment and natural environment.

BUILT ENVIRONMENT (URBAN INFRASTRUCTURE, HOUSING, BUILDINGS)

THE NORTHEAST OHIO CHAPTER OF THE UNITED STATES GREEN BUILDING COUNCIL (USGBC)

Works to transform the way buildings and communities are designed, built and operated to improve our quality of life and protect natural resources for future generations.

CASE WESTERN INSTITUTE FOR SUSTAINABILITY RESEARCH

Comprised of an interdisciplinary group of researchers, the Case Western Institute for Sustainability Research directs its research towards the areas of water-resource and urban sustainability, with water technology and urban infrastructure development specifically being two of the key focus areas.

KENT STATE UNIVERSITY

Kent State University features a strong faculty in the area of sustainable urban design. It leverages this and enables the transition of academic knowledge into the real world through its Urban Design Collaborative, which is a program directly linking the expertise of the University's graduate Urban Design program to the public urban design activities of the Urban Design Center of Northeast Ohio.

BUSINESS ENVIRONMENT (ACCESS TO TECHNOLOGY, ECONOMIC DEVELOPMENT)

NASA GLENN RESEARCH CENTER

Employs more than 3,000 civil service employees and contract personnel. It is a national leader in the high tech research fields of fluids, combustion, and reacting flow systems.

NORTECH

Is the leader in shaping and driving the technology-based economic development strategy in the region, including identification of the emerging technology clusters which should receive focused attention and resources.

TEAM NEO

Focuses on attracting businesses that complement existing or emerging regional strengths such as in the financial services, medical devices and bioscience, the chemical, aerospace, and advanced energy industry sectors.

JUMPSTART

Creates more entrepreneurial ventures in the region in high tech, high growth potential sectors through technical assistance and investments that leverage additional private capital.

BIOENTERPRISE

Is aimed at accelerating the development of new bioscience companies in the region by working in concert with the region's healthcare industry, private investors and universities.

CIVIC INNOVATION LAB

Supports high tech innovation in the Northeast Ohio with its own unique approach: It not only provides crucial funding to emerging entrepreneurs, but also partners them with mentors—current business and civic leaders—who help them better leverage their ideas by providing key insight on current industry trends.

COUNCIL OF SMALLER ENTERPRISES (COSE)

The key to a growing and vital economy is the ability for small businesses to prosper. COSE supports small businesses by advocating for group healthcare purchasing programs and supporting beneficial legislation.

As new companies begin to take advantage of Northeast Ohio's transformation towards sustainability, COSE will continue to play an integral role in assisting them.

GREATER CLEVELAND PARTNERSHIP (GCP)

Recognizes that Cleveland is a city of diversity and supports the region's 17,000 small business while integrating the various ethnicities present in the region. In order to maintain the results of these efforts, the GCP always keeps a focused eye on sustainable development in all of its endeavors.

E4S: ENTREPRENEURS FOR SUSTAINABILITY (E4S)

Has a network of over 7000 entrepreneurs and holds the belief that sustainability principles are vital to new business development in the region. With this vision in hand, E4S will continue to use its vast resources to help forge Northeast Ohio's sustainable economy.

THE MANUFACTURING ADVOCACY AND GROWTH NETWORK (MAGNET)

Works with the region's manufacturing companies to improve their competitiveness and innovation.

PERSONAL & SOCIAL ENVIRONMENT (EDUCATION, HEALTH)

HEALTHCARE INFRASTRUCTURE

Cleveland possesses a set of world-class healthcare institutions such as the evolving Medical Mart/Convention Center, the new

research and treatment facilities at the Cleveland Clinic and University Hospitals, the Science and Medicine Magnet School in University Circle. The Department of Biomedical Engineering at the Lerner Research Institute at the Cleveland Clinic - focuses on medical research that transitions scientific discoveries to biomedical engineering solutions.

BALDWIN-WALLACE UNIVERSITY

Baldwin-Wallace University is a Northeastern Ohio educational institution with many faculty professionals in the area of sustainability. From hosting sustainability symposiums on climate change, to installing wind turbines on its own campus and receiving awards for its renowned Sustainability major, Baldwin-Wallace is at the forefront of making sustainability a reality in the region.

LAKELAND COMMUNITY COLLEGE

For 2010, Lakeland Community College has launched an engineering specialization in wind turbine technology, as well as a course on solar panel installation. This is an example of an educational institution tailoring its traditional curriculum for the purpose of giving future professionals an understanding of how to incorporate sustainability into their chosen profession.

CLEVELAND BOTANICAL GARDEN GREEN CORPS PROGRAM

Work/study program founded by Cleveland Botanical Garden

in 1996. High school students transform vacant lots into flourishing urban farms and learn job skills, leadership, contributing to a healthier, greener community for themselves and their neighbors. "Ultimately, these young people learn to appreciate the earth's capacity for abundance and, in the process, begin to realize their own abundant potential."

CLEVELAND STATE UNIVERSITY

Cleveland State is a major educational and research establishment that is well positioned to support Cleveland in its march towards a sustainable economy. From its own energy-friendly renovations that are projected to save the university \$60 million over the next ten years, to its Engaged Learning initiative that engages faculty, students, and the community in the aggregation and dissemination of sustainability research, Cleveland State is a vital asset in the current economic transformation.

CLEVELAND PUBLIC LIBRARY (RESEARCH)

Has a special "Green Resources" research denomination. This research section offers literature with specific information on green building, green design, renewable energy, and other topics that are vital in transitioning into a sustainable economy.

TRI-C (CUYAHOGA COMMUNITY COLLEGE)

Offers programs in Advanced Manufacturing & Engineering and Alternative Energy/ Biosciences,

Cuyahoga Community College trains inexperienced workers to take advantage of emerging opportunities and gives experienced workers a critical skills upgrade that allows them to adapt their traditional skill set to the advancing high tech and sustainable economy in the Northeast Ohio region.

that the community has yet to maximize, including the lakefront redevelopment, relocating the Port Authority etc.

Cleveland's parks and recreational assets, including Cuyahoga Valley National Park.

ENVIRONMENTAL HEALTH WATCH

A leading organization in supporting a healthier environment in the Northeast Ohio region. Through direct services, training and consulting, research, and policy development and advocacy, EHW will continue to take initiatives in order to make sure that the region's economy develops in a sustainable and environmentally-friendly manner.

POLICY BRIDGE

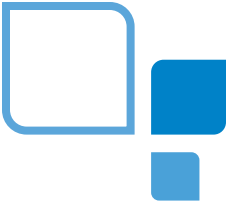
Recognizes that the vitality of a healthy economy not only depends on sustainable industry practices but also on the engagement of the entire workforce. By promoting public policy that provides career opportunities for the entire range of ethnicities present in the Northeast Ohio region, Policy Bridge acts to ensure that no one will be left out of the region's coming transformation.

CONTINENTAL HUB AT HOPKINS INTERNATIONAL AIRPORT

The only major airline hub located inside Ohio.

NATURAL ENVIRONMENT

Cleveland's location on Lake Erie Represents an enormous asset



4.2

LOCAL ECONOMY

LOCAL ECONOMY

A local economy can be defined as the sum of transactions conducted by people in a given area with sources as close as possible to where they reside, that satisfy their needs and wants.

OTHER “LOCAL” DEFINITIONS: (How are we using the term “local?”)

Local – serving local demand

Local – located here

Local – local ownership

GLOBAL ENVIRONMENTAL AND SOCIAL TRENDS ARE CHANGING THE WAY LOCAL AND GLOBAL ECONOMIES INTERACT

At the turn of the late 19th century, people streamed off farms and into rapidly growing cities to make and buy the things that could not be produced on a large scale in the household and cottage industries of small towns. For the first time in history, products and services were no longer made in the same place where they were consumed. The end of the 19th century is characterized by a robust series of local economies centered around these rapidly growing cities. At the end of the 20th century, unprecedented levels of connectivity and communication made it possible for people to buy and sell products from other industrial cities and countries around the world. Currently, the global economy is going through another profound transformation, one in which climate change will play a part and in which local and global economies will interact in new, more sustainable ways.

The need for a strong local economy has been overlooked in the past two decades in the context of expanding globalization and as a result of our ability to access anything – from information to food - from any part of the world. People have forgotten why the local economy existed in the first place. The purpose of this section, though, is not meant to undermine the importance of the global economy, nor make an argument that people in Cleveland should not buy oranges from California or light bulbs from China. Rather, the Local Economy section is meant to highlight how:

A competitive and sustainable economy is rooted in a strong local economy

A local economy is increasingly important in the context of globalization and climate change

A strong local economy with a sophisticated consumer base can actually increase a country, region, or city’s competitive advantage in the global economy.

The local economy provides opportunities for each stakeholder group.

As part of the global automobile supply chain, Cleveland prospered. People bought American-made cars because they were the best product at the best price. When Japan started to make cheaper cars with better gas mileage, that people could purchase anywhere, the game began to change. Cleveland jobs were lost or outsourced and local factories in the automobile supply chain were shut down or relocated to the Sun Belt in order to lower the cost of making

an automobile and compete with foreign auto makers. Like the rest of the United States, Cleveland has reluctantly shifted from a primarily export-based economy to an import-based economy and is now more and more dependent on buying products and services from other parts of the U.S. and the world.

While products from other parts of the world are often cheaper than locally produced options, the sticker price often fails to reflect the true cost of the good. When someone buys a product at a large chain supermarket or restaurant, dollars don't cycle back into the local economy, but rather go directly to fuel another regional economy where the store is headquartered and the product manufactured. The percent of funds that do stay in the local economy are in the form of low-wage jobs. Each dollar that is spent at a local business or a non-chain restaurant, has the potential to create twice as much revenue within the local economy.¹ In this scenario, less money leaks out of the local economy.

Global forces such as climate change and economic cycles make Cleveland vulnerable to unexpected change. For example, CFC's produced over the industrial areas of Detroit are now affecting the amount of SPF people have to wear in New Zealand, as the largest hole in the Ozone Layer hovers over this small nation in the Pacific Ocean. The 2008 financial crisis exploded on Wall Street and left Cleveland with one less headquarter bank as PNC purchased National City Bank.

While Cleveland cannot control global forces, it can control the level

of resilience of its economy. It is important to be locally equipped to deal with unexpected challenges that could come from down the street or across an ocean. In the sense that the globalized economy has and will produce results that we cannot predict, it is important to focus on certain, basic facets of the economy that can be under Cleveland's protection and guidance. Sectors like energy, food, and shelter are traditional economic industries that have been subject to outsourcing and demonstrate rapidly rising costs, but also represent the most basic needs of an economy and a local demand that will never disappear. Energy, food and shelter present an opportunity for strengthening Cleveland's local economy.

Local Economy does not mean that Cleveland should no longer try to compete in a global market or try to satisfy all it's needs and wants locally, rather that Cleveland should strategically focus on areas of the local economy that will bring the most benefit to the community and to the economy.

People will always need energy, food, shelter and in the near future they will want – and demand – low-cost renewable energy, local, organic, healthy food, and lower-cost, longer-lasting green buildings. Why not produce these products, and produce them in the most efficient, sustainable way, here in Cleveland?

Cleveland should strategically focus on certain facets of the local economy:

THOSE FACETS WHERE CLIMATE CHANGE CREATES SPECIAL RISKS OR OPPORTUNITIES

THOSE THAT REPRESENT THE MOST MARKET OPPORTUNITIES LOCALLY

THOSE THAT ARE MOST CLOSELY LINKED TO THE PEOPLE'S BASIC NEEDS.

¹ New Economics Foundation in London

EVERGREEN

is an employee owned business that consists of three branches – a green industrial scale laundry, a solar energy and weatherization company, and an urban hydroponic green house (to be opened later this year). It so innovative that it has captured the imagination of the media and is being referred to as “the Cleveland Model”. It not only provides “green” services and community invested jobs, it has also proven to be a pathway out of poverty, helping even ex-offenders by giving them a living wage and an investment in the company.

The newest Evergreen Cooperative business, Green City Growers, is set to launch this year and will be a large-scale, food production hydroponic greenhouse that will grow approximately four million heads of lettuce per year, as well as 300,000 pounds of herbs such as basil. While lettuce and herbs may seem simple inputs, the idea is for the business to grow food locally that can be sold to the anchor institutions and other businesses rather than importing it from out-of-state. “Currently, there are 4,000 to 5,000 universities around the country that are major economic engines in their areas. By leveraging the purchasing and investments of these institutions, virtually any city in America could create new, local jobs and business opportunities for its citizens.”¹

¹ Buffa, Andrea “Evergreen Cooperatives Forge an Innovative Path toward High Quality Green Jobs,” Apollo Alliance: Clean Energy, Good Jobs. (April 15, 2010)

BASIC NEEDS ECONOMY

A balanced focus on local goods and services is important for Cleveland’s economy, especially for sustainable products and services that respond to basic needs such as food, energy and shelter.

Balancing local and global products and services is not only an opportunity for Cleveland to make its economy more resilient and buoyant in the context of change, it also suggests an opportunity for Clevelanders to thrive and compete on a global market. When consumers buy local products it is often not because they are worried about dependence on foreign sources of basic goods and services, but rather because local providers often respond most cost-effectively and attentively to a unique local demand. Many times local businesses can provide much better basic products - food, energy, clothing, shelter - and services such as security, safety, health care and education, because they respond to a particularly local demand in a context that they understand.

In a sense, local demand based economies give people the opportunity to better express their values through the market place. Local demand gives businesses the incentive to develop specialized products and services rather than making a low-quality copy of what is produced in another place. A well-defined sense of what customers want and need in a product or service enables local firms to offer appropriate production and process solutions. Groups of demanding local customers will encourage industry firms to continuously innovate and stay on the leading edge. This also provides opportunity for new businesses to emerge with innovative

new products, services, or production methodologies.²

Many people in Cleveland, for example, value local food and alternative energy. As the demand grows, the local supplies have begun to respond with creative business solutions. Cleveland Hospitals are aggregating their demand and using procurement to get low-cost, locally grown food and solar-powered electricity from the Evergreen Cooperative, an employee-owned, sustainable local business. By aggregating demand, communities and neighborhoods can also help to achieve scale-economy improvements in all aspects of sustainability, whether through individual purchasing or shared investment. Industry parks, commercial districts and franchises can aggregate their demand so they can achieve larger scale improvements and identify shared solutions. Similarly, local schools, hospitals, libraries, municipal offices can pool their demand and work together directly or indirectly to meet their specific sustainability needs met from local suppliers.

INPUTS AND SUPPLIERS

An appropriate focus on local inputs and suppliers can make Cleveland businesses more sustainable and more competitive

There are several reasons for the Cleveland business community to stand behind a balanced approach to supporting local business. This is not “local for local’s sake” -- if properly leveraged, a local focus can actually make existing businesses more sustainable and competitive.

² Porter, Michael, “Clusters and the New Economics of Competition”, Harvard Business Review, November-December 1998, pp. 214

AGGREGATE DEMAND

Aggregating demand for products reduces costs as companies, governments, or even communities transition to sustainability.

Large businesses and institutions often aggregate their demand in order to save money – they guarantee a supplier that they will buy a product in bulk as long as they get a lower price. This same technique can be used to support a sustainable local economy. Businesses and institutions can get sustainable products and services from local suppliers in a way that is cost effective and perhaps even cheaper than traditional inputs from non-local sources. Basically they create a micro-economy of scale for products and services that benefit are both sustainable and sourced locally.

One exciting example of the power of procurement is the relationship between some of Cleveland's most well established institutions and a radically innovative local company called The Evergreen Cooperative. University Hospitals, the Cleveland Clinic and Case Western Reserve University (considered "Anchor Institutions") are pooling their demand to purchase solar energy, laundry services and healthy, local food from Evergreen. They are able to leverage \$3 billion dollars to buy things that they would need to buy anyway³ while improving their company's reputation locally and nationally. Not only are the institutions able to support their own transition to sustainable practices, they also help new innovative businesses develop and thrive.

Similarly, many industry clusters in Cleveland, like Manufacturing or

LEVERAGING THE POWER OF PROCUREMENT

VANCOUVER BC

The city of Vancouver is currently "modeling the way" and aggregating demand through a cutting edge green procurement strategy that would go far beyond the current Ethical Purchasing Policy. Vancouver municipal government has already spent \$1 billion in order to promote positive environmental outcomes. "An even more comprehensive green procurement strategy could save money, reduce waste, promote emerging technologies and help new green enterprises."¹

CLEVELAND

In 2010, The City of Cleveland implemented a Local Purchaser, Local-Food Purchaser and Sustainable Business Preference code. The Ordinance established incentives for local producers, including local food growers and local sustainable businesses. This cutting edge policy promotes self-help for the regional economy by providing incentives on competitively bid contracts. Specifically three types of companies can take advantage of the incentives:

- Companies head-quartered within the five-county region which fabricate, process or supply goods in the region. Also companies headquartered in a larger 15 county region which grow food within the wider region.
- Companies headquartered in the five-county region which meet certain sustainability practices set by the Office of Sustainability.
- Companies located anywhere which purchase at least 20% of the amount of their City contract from local food producers.

¹ Greenest City: Quick Start Recommendations: City of Vancouver, April 27, 2009, pp. 10

Building and Construction, can work together to pool their demand in order to transition to sustainable practices. They can buy green products tailored to their specific needs and services in bulk and at the lowest cost. This is not simply something one should do to "do the right thing", but rather procurement is a unique opportunity for more traditional industries to transition together to green practices and production methods, while continuing to be competitive and viable businesses in the process. This

transition is often costly for businesses in the short term, but has a large return on investment in the medium to long term. Procurement and aggregating demand can lubricate the transition process, while improving industry reputation, encouraging collaboration across silos, and creating an environment for innovation. By collaborating, Cleveland businesses can reach an economy of scale based on procurement of local, green inputs.

NEW OPPORTUNITY FOR EXISTING AND NEW BUSINESSES

Businesses not only have the opportunity to transition to sustainable practices and production methods at a low cost, they also have the opportunity to innovate by responding to local demand. As mentioned above, some of the most innovative products and services are born out of the need to solve immediate, local problems. Cleveland has faced some of the largest problems – Cuyahoga River Fire – out of which the most innovative solutions have been born, such as water pollution remediation technology and new, national level legislation (Clean Water Act).

For example, Cleveland will not be the first city to produce wind turbines, but it could be the first city to produce wind turbines that function well in fresh water and withstand harsh winters and ice. Tapping into Cleveland's local capacity and demand can lead to innovative products and services that could be exported on a national, or even a global, level. For example, communities with fresh water lakes and similarly harsh winters are likely to import an innovative Cleveland-made wind turbine.

Locally produced products and services respond to the particular taste, feel, culture of the community and local context. Cleveland is growing its reputation as a source of sophisticated food that reflects the character of the city itself – as a result, many of its locally-owned restaurants have been featured on a national level. Cleveland is exporting its unique combination of sophistication and simplicity – food that reflects the character of the city itself as presented by its notable chefs.

TAX BASE, HEALTH, QUALITY OF PLACE

A focus on local is important to the city of Cleveland because it helps preserve the tax base, the health of the community and Quality of Place, a key driver of prosperity.

TAX BASE

A balanced focus on local is important for the city of Cleveland in the sense that it will help to retain a tax base that is rapidly decreasing, will enhance levels of resilience for the long term viability of the economy and will lower the costs of maintaining a healthy and productive base of citizens – costs that are externalized in the long-term.

HEALTH

For example, the local food sector has concrete economic benefits for local businesses and the dollars that are cycled back in the local economy have a multiplying effect. Not all benefits from local economies are taken into effect by traditional economic indicators. In fact, traditional indicators fail to recognize very critical positive externalities created by robust local economies. For example, fresh vegetables and fruits are imperative to human health. Local access to fruits and vegetables increase the chance for all Clevelanders to improve their personal health and wellness because local fruits and vegetables are higher in vitamins and minerals than those picked early for transport. Improving the health of Cleveland citizens is important for lowering health costs for the city and businesses that pay for their employees' health care. More local food can result in lower health costs.

A strong, vibrant local economy is also an underpinning of a high Quality of Life and Place, both essential

drivers of prosperity in any economy.⁴ The advent of widespread social networking, distribution of meaningful work to the level of the individual, and decentralized, collaborative governance structures is re-orienting local economies to dense, urban centers of innovative, creative people, not only agglomerations of common industries.

QUALITY OF PLACE

Cities like Seattle, San Francisco, Austin, Raleigh, and Boston now have two or three times the concentration of college graduates of Akron or Buffalo.⁵ “Well-educated professionals and creative workers who live together in dense ecosystems, interacting directly, generate ideas and turn them into products and services faster than talented people in other places can.”⁶ Part of creating an attractive “dense economic ecosystem” is a city’s local character and resilience - where young people can stay (or come) to work in interesting jobs in a modern, local economy that encourages innovation and creativity.

4 “Brookings Report: Restoring Prosperity 2010.” pp. 44

5 Florida, Richard “How the Crash Will Re-Shape America,” The Atlantic (March, 2009)

6 Florida, Richard “How the Crash Will Re-Shape America,” The Atlantic (March, 2009)

LOCAL ENTREPRENEURSHIP

A focus on supporting the local economy can help to alleviate poverty by increase local jobs through encouraging community entrepreneurship.

Entrepreneurship is a way for individuals to make sustainable products and services in a better, more cost-effective way. Entrepreneurs are those who search for change, respond to it and exploit it as an opportunity.⁷ Individuals can create new businesses that are on the cutting edge and leverage innovative production methods that don’t require large overhead investments, which is often what leads to higher costs for the final product.

By creating their own businesses, Clevelanders can become employers rather than employees. Entrepreneurship represents the greatest opportunity for individuals to create their own jobs by responding to local demand, rather than waiting to be employed or for jobs to be created. This changes the paradigm from dependence (on an outside source of employment) to independence (the ability to create one’s own livelihood).

7 Dees, J. Gregory. The Meaning of “Social Entrepreneurship.” (2001)

LOCAL FOODS CASE STUDY

Clevelanders will continue to buy the majority of their food from non-local sources, as many products simply cannot be produced here due to the ecosystem and climate. Certain types of food, though, can and should be grown and/or produced locally due to the region's comparative advantage. All over the country, food systems are currently being re-localized and connected to well-integrated business ecosystems in recognition of both the opportunity to leverage natural assets and to restore local resiliency. Cleveland is on the path to doing the same – over the last several years there have been many new farmers markets established making fresh fruits and vegetables more available. Strong local food systems not only support resilient and competitive economic development, they also contribute to ecological and environmental health, social justice, and encourage collaboration, participation and celebration.⁸

First, the environmental benefits of strong local food system are imperative to the resilience of Cleveland and necessary for its sustainable future. Positive environmental benefits of localized

food systems include, but are not limited to, higher levels of carbon sequestration and reduced emissions, and an improvement in soil (structure) and cleaner water (through better water storage and filtration). The provision of food in the U.S. creates 20-25% of the average resident's carbon emissions⁹, although many of these emissions are not captured in urban emission calculations because they occur at the production and household level. Some carbon emissions can be mitigated by a focus on local food, although not all. In order to understand and measure carbon emissions for local vs. global products, it is necessary to do a life-cycle analysis and look at all the aspects of how the product gets from food to fork. Increasing the amount of organic matter and green space locally, through green roofs, urban gardens and urban agricultural plots, could undoubtedly help to offset carbon emissions in Cleveland. According to the NEO Local Food Assessment Plan, "a 5% increase in soil organic matter in the top 12 inches of topsoil would off-set carbon emissions in the United States released since the 1950's"¹⁰

"Local food can be a powerful economic driver, supporting farmers, processors, and retailers, and keeping money circulating in the local economy. Eating local reduces your ecological footprint, decreases the need for packaging, supports the preservation of diverse heirloom and heritage varieties, and reduces concerns about food safety. Local food is also fresher, more nutritious, and better tasting."¹¹

⁸ Greenest City: Quick Start Recommendations: City of Vancouver, April 27, 2009, pp. 25

⁹ Vancouver 2020: A Bright Green Future. An Action Plan for Becoming the World's Greenest City By 2020, pp. 60

¹⁰ Shuman, Micheal. "Northeast Ohio Local Food Assessment and Plan"

¹¹ Vancouver 2020: A Bright Green Future. An Action Plan for Becoming the World's Greenest City By 2020, pp. 60

BUSINESS

Local foods is an important focus for the Cleveland businesses buying food inputs, either to feed their employees and customers (Cleveland Hospitals, Universities), or as inputs in a supply chain that form part of final products to be sold to local, national and global markets (restaurants, bakeries, grocery stores or packaging plants like Smuckers). Typically 10-20 % of a regional economy has strong relationships with local agricultural ecosystems and are linked through local growers, suppliers, processors, distributors, marketers, grocers, restaurants, and food-service providers.¹² As regional farmers direct more of their production to local markets and retailers shift their inventory to local and sustainably produced foods, businesses collaborate and develop stronger linkages. These linkages provide finance, logistics, technology, and equipment to the growing local food economy. The result is a business ecosystem that nurtures a healthy agricultural ecosystem and vice versa.

Local foods is also an area of opportunity for the creation of new value-added products, restaurants and brands. This is especially true for Cleveland businesses and restaurants specializing in local and organic food, an area in which Cleveland is particularly strong - having many non-chain restaurants and the second largest local food movement in the United States.

ZINGERMAN'S IN ANN ARBOR, MICHIGAN

is an example of a successful local foods business that started locally in 1982 with two entrepreneurs and their deli and has grown to a group of eight production, retail and services businesses: a bakery, catering services, coffee wholesaler, creamery, roadhouse restaurant, training business for bakers, and a consultancy for other food producers. The business has grown to 525 employees and even in the current recessed economy, has produced over \$35 million in revenue.¹³

Local foods systems maximize the percentage of jobs and production in firms that are locally-owned. There is overwhelming evidence that locally-owned businesses contribute, per dollar of sales, substantially more income, wealth, and jobs to a given community because they are more reliable than globally mobile firms.¹⁴ Local food systems can have multiple direct economic benefits, such as job creation, new enterprise development, increased community wealth and more profound, resilient economic linkages. Achieving 25% localization of food in Northeast Ohio, is estimated to create 10,000 new jobs, stimulate \$346 million in earnings and produce \$1.4 billion in output for the Cleveland economy.¹⁵

¹² Porter, M. 1998. *The Competitive Advantage of Nations*. New York: Free Press.

¹³ "How 24 Local Food Businesses Compete" Bloomberg BusinessWire

¹⁴ Shuman, M. *The Small-mart Revolution: how Local Businesses are Beating the Global Competition*. San Francisco: Berrett-Koehler. (2006)

¹⁵ Shuman, Micheal. "Northeast Ohio Local Food Assessment and Plan"

THE CITY

The environmental and social benefits of local food systems, can have extremely positive and cost-saving impacts for a city like Cleveland. For example, local food systems and the associated social networks, can help to alleviate community poverty and food insecurity by creating entrepreneurial and job opportunities for those from disadvantaged households.¹⁶

The jobs created through employee owned companies – as we have seen in the Evergreen Cooperative example – are associated with lower poverty rates in the long run. This is an extremely important point, as Cleveland currently has one of the highest poverty rates of any American city. While the poverty rate in Cleveland declined in the 1990s, it still ranked third highest amongst the 23 target cities in the 2000 U.S. Census. Cleveland also has the second highest black and Hispanic poverty rates of the 23 target cities.¹⁷ Opportunities to foster more companies with innovation such as the Evergreen Cooperative only exist when communities are committed to strengthening the local economy.

THE COMMUNITY

There are many positive social benefits to strong and resilient local food systems, as they help to improve community health, social equity and stimulate urban renewal. Currently Clevelanders living in impoverished areas have limited access to fresh, healthy food. The low density of grocery stores in the inner-city neighborhoods prevents many Cleveland communities from accessing fresh fruits and vegetables for an appropriate cost. At the moment, only 20% of Cleveland adults consume five servings of fruits and vegetables a day and 25% of middle school students eat one or more servings of fruit or vegetables on a daily basis.¹⁸ In most inner city and inner ring suburbs it is most convenient and affordable to eat at fast food restaurants, convenience stores, liquor stores, gas stations and drug stores.

These areas of the city are identified “food deserts,” areas in which there is limited access to affordable, healthy food and which are predominantly composed of low-income communities.¹⁹ On a national level, the lowest-income communities have an average of 30% less supermarkets and grocery stores than the highest income neighborhoods.²⁰ This lack of access to fresh fruits,

vegetables and produce can cause malnourishment, chronic disease, poor health and premature death among low-income residents.²¹ Ethnicity and income levels?? point to individuals with limited food access and other unhealthy environmental factors, showing why minority groups are the most likely to develop related health problems. “Nationally, black and Hispanic adults are 1.3 to 1.9 times more likely to have diabetes than white adults and its prevalence is rapidly increasing, especially among Hispanics.”²² In a similar sense, the Clevelanders living in the most impoverished areas are suffering from a lack of access to fresh produce and fresh, healthy organic food. Access/proximity to fresh vegetables is currently the number one indicator of premature death in the country.

Strong local food systems also help to guarantee equitable access to fresh, healthy foods in order to improve community health. “Community gardens directly increase food access by providing fresh produce for residents. They can involve and benefit low-income residents of various ages, races and ethnic backgrounds and help create a sense of community.”²³

Local food systems can also help to beautify the city and improve the quality of life of all neighborhoods. When creating space for urban

16 Chokie, M., Partridge, M. 2008. Poverty Dynamics in Canadian Communities: A Place-Based Approach. *Growth and Change* 39(2):313-340.

17 Making Cleveland a City of Choice: A Strategy for Development and Revitalization in Cleveland. January 2007, pp.6

18 Taggart, Morgan. Land Use Policy: Agriculture in Cleveland, Ohio OSU Extension.

19 Taggart, Morgan. Land Use Policy: Agriculture in Cleveland, Ohio OSU Extension Food Access in Colorado. “Food Access in Colorado” The Colorado Health Foundation, November 2009, pp. 2

20 “Food Access in Colorado” The Colorado Health Foundation, November 2009, pp. 7

21 Jones, Susan. “Government Pushing Americans to Eat more Fruits and Vegetables,” *CNSNews.com* (September 30, 2009)

22 “Food Access in Colorado” The Colorado Health Foundation, November 2009, pp. 4

23 “Food Access in Colorado” The Colorado Health Foundation, November 2009, pp. 7

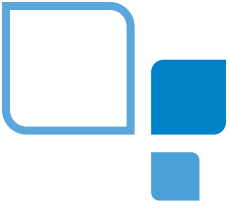
agriculture or community gardens, the city can convert vacant land and brown fields into productive agricultural spaces for urban farming. These urban agricultural spaces can improve the quality of a place – an identified driver of prosperity - and its aesthetic beauty, as well as bring together people from diverse backgrounds for a common purpose. The development of community gardens have been identified as important neighborhood assets that “build social connections, offer recreation, education and economic development opportunities and provide open space and local food source.”²⁴

LOCAL FOODS ECONOMY SUMMARY

The twenty-first century is beginning to give rise to local economies, which are creating new opportunity for business and communities to foster sustainable economic growth. A focus on local sourcing of basic wants and needs, such as food, energy and shelter, provides focus to communities seeking to move intentionally onto the path of strengthening local economy. A deliberate move in this direction gives communities and their economies an opportunity to create economic resilience.

Through its robust local foods movement, Cleveland is on the way to recognizing co-benefits of local foods economy by way of better health and wellness and blighted land turned into asset. Urban food deserts are disappearing in the wake of flourishing gardens that restore and regenerate air and soil while producing much needed access to fresh fruits and vegetables. Cleveland’s nationally-known local chefs and restaurateurs are finding competitive advantage over their national chain counterparts because of their menus including local food. Opportunity to transform other need-based value chains such as energy and shelter remain on the horizon for Cleveland and its economy.

²⁴ “Food Access in Colorado” The Colorado Health Foundation, November 2009, pp. 8



4.3

CLIMATE PROSPERITY

CLIMATE CHANGE ACTION AND ECONOMIC OPPORTUNITY

Climate change has emerged as a defining issue of the 21st century. There is an overwhelming scientific consensus that climate change is real and poses a serious threat to the future stability of the earth's life support systems — and thus to human civilization. Climate change is being caused by unprecedented emissions of carbon-based greenhouse gases, mainly carbon dioxide from the burning of fossil fuels. In response, the world community is moving toward market-based trading systems and/or taxes to regulate carbon emissions. The overall goal is to reduce carbon emissions on the order of 80-90% by 2050.

U.S. MAYORS CLIMATE PROTECTION AGREEMENT

In 2006, Mayor Frank G. Jackson signed the U.S. Mayor's Climate Protection Agreement. This signature acknowledges that the City of Cleveland takes climate change seriously and will make efforts to reduce the City's overall carbon footprint.

The transformation to a low-carbon way of life will affect almost everything — including production and use of energy, design of buildings and cities, modes of transportation, growth of food, and patterns of consumption and waste. The changes will be especially dramatic in Northeast Ohio, where we have an energy-intensive economy and much of our energy

comes from burning high-carbon fuels, such as coal and oil.

The big question is whether we will treat the imperative to reduce carbon emissions as a threat or an opportunity. Will we resist change? Or will we embrace the challenge and move to the forefront of a new clean energy economy?

Fortunately, there is growing interest in becoming a leader. From business leaders working on advanced energy to neighborhood residents advocating for better bicycle facilities, more and more people are envisioning how a transition can be the key to a positive future. They realize that most of the actions needed to address climate change are “no-regrets” actions we would want to do anyway. It’s all about saving energy and saving money, becoming more innovative and competitive, developing green jobs, and improving health and quality of life.

Thus, the outline of opportunities presented here is grounded in the belief that acting strategically to reduce carbon emissions can be a driver of progress toward a more resilient economy.

CALCULATING OUR CARBON FOOTPRINT

The first step toward understanding our metropolitan area’s share of greenhouse gas emissions (also called our “carbon footprint”) is to take an inventory of all the sources. Using computer software that cities around the country are using, the GreenCityBlueLake Institute did this inventory for the seven-county region (Cuyahoga, Lorain, Medina, Summit, Portage, Geauga, and Lake counties). The data came from 2005, and, in the future, progress toward emissions reduction can be measured against this baseline year.

The following carbon sources were included in the inventory:

- Kilowatt hours of electricity used by Northeast Ohio residents, businesses, and industries.
- Cubic feet of natural gas burned in Northeast Ohio.

- Tons of solid waste generated and method of disposal.
- Vehicle miles traveled by on-road transportation.
- Gallons of fuel consumed and kilowatt hours of electricity used for public transportation.
- Consumption of all other home heating fuels (e.g., wood, coal, oil, propane).
- Consumption of fuels by large industrial facilities with air pollution permits.

The inventory revealed that Northeast Ohioans in the seven-county area generated about 64 million tons of carbon dioxide equivalents (CO2 equivalent) in 2005. Electricity generation (mostly from burning coal), natural gas consumption, and

the burning of gasoline and diesel fuel in vehicles are the main sources of emissions (see Figure 1).

Another way to look at the breakdown is by the sector where energy is used. Figure 2 shows that the major sectors are buildings (residential and commercial), transportation, and industry. Since much of the emissions from buildings are related to the use of electricity, power generation is another key sector.

Carbon emissions are expected to increase if we don’t take action.

Action should focus on the reducing carbon emissions from three key sectors: electricity generation, transportation, and buildings. Detailed transition plans for these sectors are on the GreenCityBlueLake website.

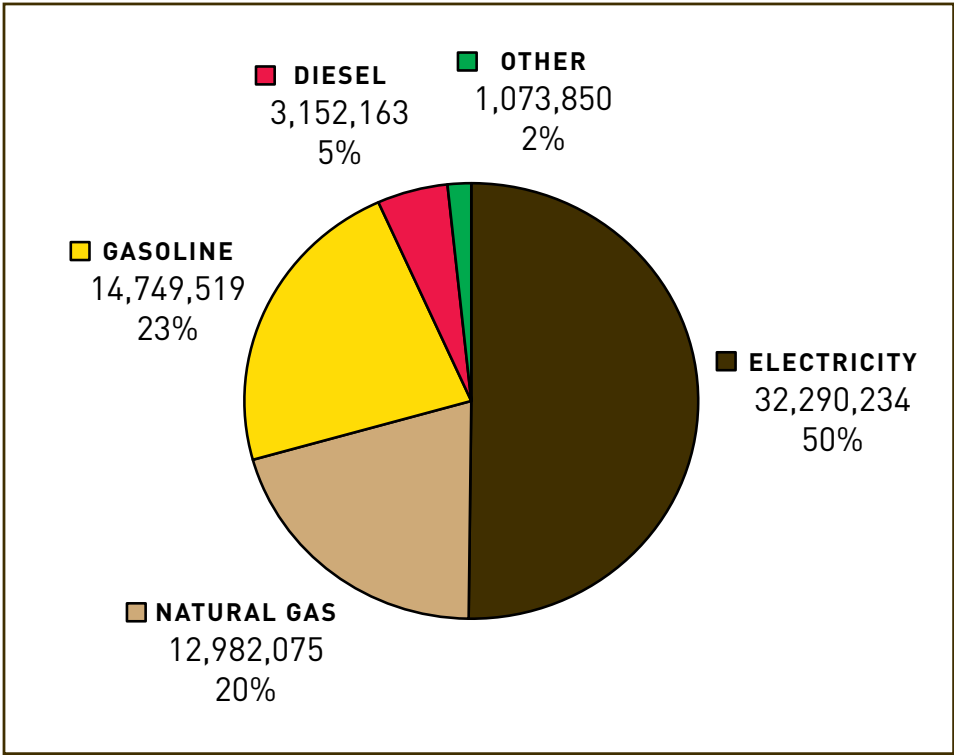


Figure 1: Metric tons of CO2 equivalent by energy source for Greater Cleveland area, 2005 baseline inventory (Source: GreenCityBlueLake Institute)

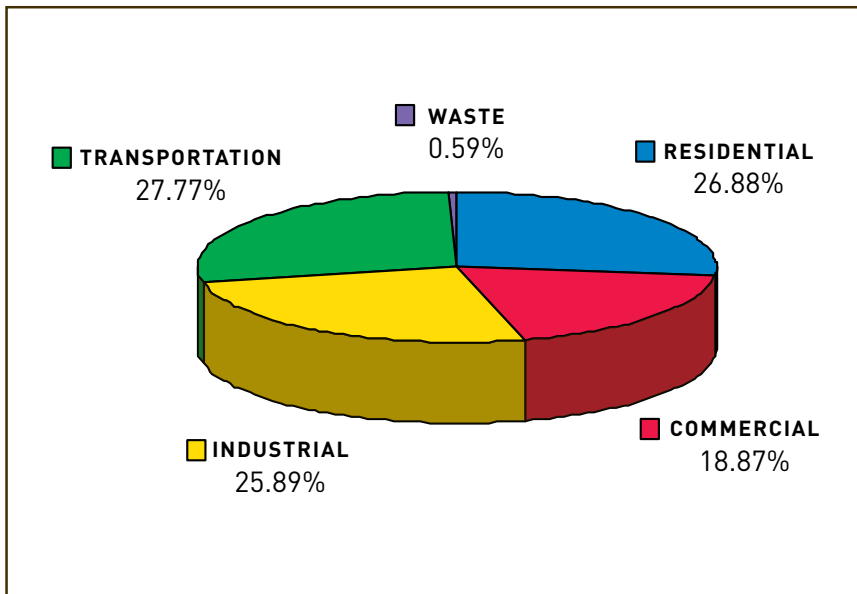


Figure 2: Distribution of carbon emissions by point of energy use in Greater Cleveland area, 2005 (Source: GreenCityBlueLake Institute)

MORE INFORMATION

The breakdown of greenhouse gas emissions for the operations of a city looks different. A recent inventory by the City of Cleveland, for instance, reveals that the biggest source of emission (40%) is the energy required for water and wastewater systems, mostly for pumping water. Next come buildings and other facilities at 35%, street and traffic lights at 19%, and city transportation at 6%.

For more detailed information about the carbon footprint of Northeast Ohio, see:

http://www.gcbl.org/energy/NEOCarbonFootprintProject_2005

To calculate your own carbon footprint, see the calculator on the website of the Cleveland Carbon Fund:

<http://www.clevelandcarbonfund.org>

CARBON BUDGETS

It's hard to imagine 64 million tons

of carbon emissions or what it might mean. To translate the number into something one can comprehend, it's useful to think about one's individual carbon budget.

On a per capita basis, the greenhouse gas emissions for a typical Ohioan works out to about 25 tons per person (CO₂ equivalent). Figure 3 provides some graphic perspective on how we compare to the people in other states and countries. We are higher than the national average, which makes sense considering our energy-intensive manufacturing economy. And we are much higher than states like California, which has been working intensively on energy conservation and which has cleaner sources of electricity, and New York state, which has many people living in high-density urban environments where they live in smaller homes and drive much less. We also have nearly three times the carbon emissions per capita of European

nations. Such comparisons illustrate just how much potential for reduction there is in places like Ohio.

Figure 4 provides insights about how your personal carbon budget can be allocated among various activities. The diameter of each circle is proportional to the amount of carbon emissions for each activity. In center is a small circle called "2050 target." This is the per capita amount we need to reduce down to by the year 2050 to achieve a globally fair carbon emission level. The large size of the other circles illustrates how far we will need to go. For example, energy use in a typical large, American home or driving a large car 15,000 miles a year will put you way over your annual budget.

Thus, you can start to get a sense of the magnitude of changes that will be required to reduce our per capita emissions 90%. We will need to develop things like net zero-energy homes and much more fuel-efficient cars. More of us will need to live in walkable neighborhoods so we can drive less. And we will need an energy sector that powers our communities with clean, renewable power. Altogether, we will need to do thousands of things, big and small, at home and at work, individually and together as a community.

It's actually quite possible — and desirable — to make this transition, as the next section explains. And progress in Northeast Ohio can make a global difference. The region has a large share of Ohio's economy, which in turn is the 23rd largest in the world. Our actions and successes can become a model for other metropolitan regions around the world.

THINKING STRATEGICALLY ABOUT THE TRANSITION TO A LOW-CARBON FUTURE

A climate change action plan for the region should focus on the three major sectors of carbon emissions — electricity generation, buildings, and transportation. The GreenCityBlueLake Institute has developed transition plans for each of these sectors. The plans list the many actions and policy changes that can produce large-scale carbon reductions in the coming decades. We don't have to do everything at once. But we will need to work steadily year by year. Following is a summary of each sector.

ELECTRICITY GENERATION TRANSITION

About half of the greenhouse gas emissions in Northeast Ohio come from the production of the electricity we use. The region has relatively carbon-intensive electricity because more than 70% is generated from the burning of coal.

A 90% emissions reduction from this sector will require a major transition in the way we use and generate electricity, including greatly expanded programs for energy conservation and efficiency, the gradual phase-out of coal-burning power plants, and a shift to clean, renewable power sources tied together by a smart electrical grid. Transition steps should include:

REDUCE DEMAND FOR ELECTRICITY BY PROMOTING EFFICIENCY AND CONSERVATION

Change regulatory policies so utilities have a greater incentive to promote conservation than sell more electricity.

Support stronger standards for appliance and lighting efficiency, and

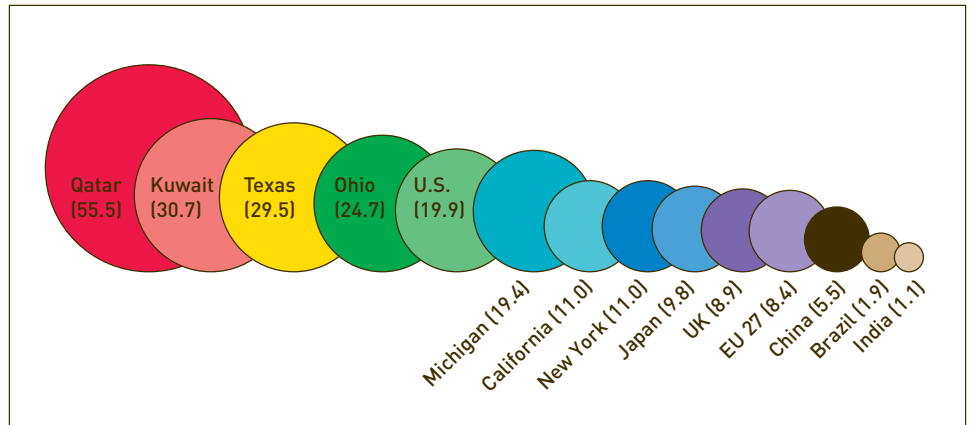


Figure 3: Carbon emissions, metric tons per person by state or country, 2005 (Source: data compiled by GreenCityBlueLake Institute)

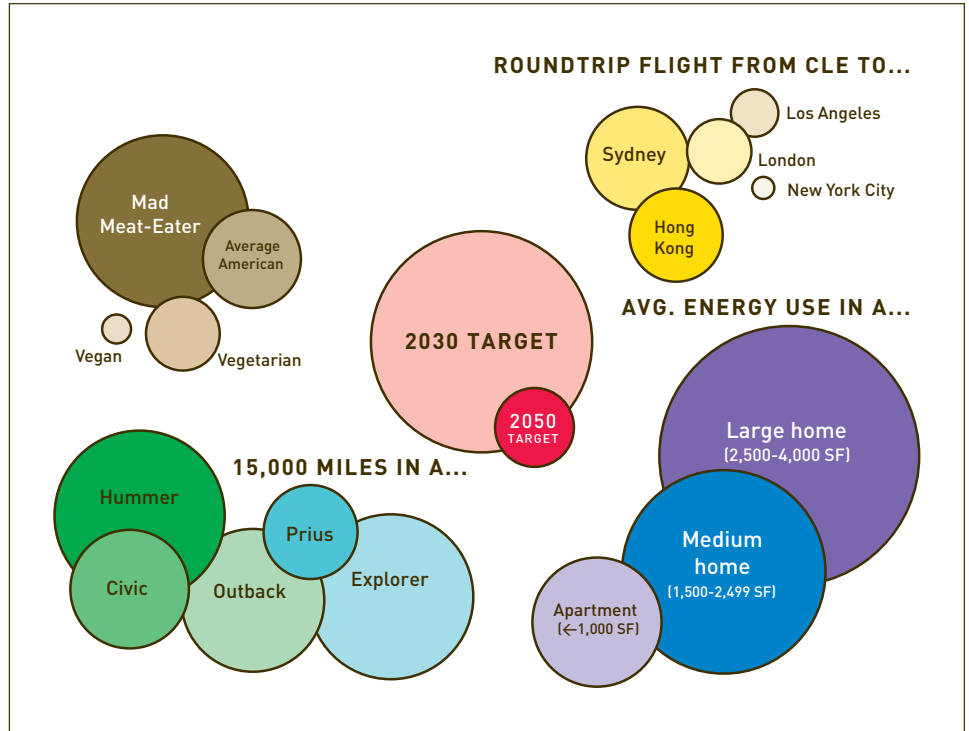


Figure 4: Relative amount of carbon emissions from various activities (data analysis by GreenCityBlueLake Institute)

offer incentives to encourage rapid adoption of more efficient technologies in homes and businesses.

Educate consumers about cost-effective ways to reduce power consumption.

Reduce electricity consumption in buildings through high-performance, green design.

CHANGE THE MIX OF POWER SOURCES, SHIFTING TO MORE EFFICIENT GENERATION AND CLEANER FUEL SOURCES

Develop efficient plants to produce combined heat and power close to consumers to reduce transmission losses.

Retire aging coal-fired power plants at the end of their useful lives.

Rapidly phase in wind, solar, and other clean power sources.

BUILD A SMART POWER GRID TO TAKE ADVANTAGE OF INTERMITTENT, DISTRIBUTED SOURCES OF POWER

Make the electric grid more like the Internet—capable of connecting and managing many sources of energy.

Develop storage capacity (e.g., with compressed air, pumped water, fuel cells) to smooth out power supply.

Tie electric vehicles into the grid to create a mass network of storage devices.

Figure 5 shows how the region's mix of power sources can shift over time.

For details on how to implement the above transition steps, see the climate transition plan for the power sector at:

<http://www.gcbl.org/energy/regional-agenda/climate-change/transition-plans/>

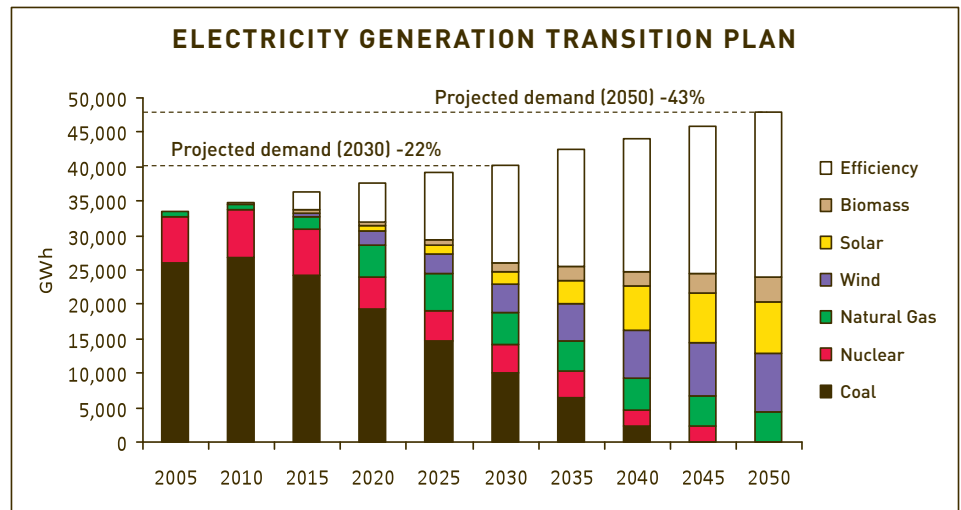


Figure 5: A scenario for shifting the power mix (Source: GreenCityBlueLake Institute)

electricity-generation-transition-plan

BUILDING TRANSITION

Nearly half of the greenhouse gas emissions in the seven-county region come from energy used in residential and commercial buildings, primarily from burning fossil fuels for lighting, heating and cooling (note that emissions from this sector include emissions from the electricity generation sector). A 90% reduction of these emissions by 2050 will require a major transition of our building stock, creating buildings that are more energy efficient, cheaper to operate, and healthier to live in. Transition steps should include:

RETROFIT AND RENOVATE EXISTING BUILDING STOCK

Of the 1.2 million existing homes in Northeast Ohio, 900,000+ are 30 years or older.

Expedite permitting for green renovations; increase contractor education.

Increase availability of energy-efficient appliances and products in the region.

Provide incentives for energy conservation and efficiency retrofits and installation of renewable energy.

ACHIEVE AGGRESSIVE ENERGY REDUCTIONS (AND ENERGY PRODUCTION) IN NEW BUILDINGS

Between 8,500 and 12,000 new homes are built each year in the region.

Starting in 2010, all new homes should be constructed to use 60% less energy than homes of standard construction, achieving a Home Energy Rating System (HERS) Index of 40.

Increase home energy performance

year by year to achieve widespread construction of net-zero energy homes by 2050.

EDUCATE AND IMPROVE BUILDING OCCUPANT ENERGY-USE BEHAVIORS

Encourage programmable thermostats, cold water washing, air drying of clothes, etc..

Provide feedback about the energy consumption of household devices.

Provide building energy scorecards.

IMPLEMENT DISTRICT-WIDE SOLUTIONS, INCLUDING EFFICIENT LAND USE PLANNING

Promote zoning and planning codes that require efficient buildings and siting to maximize passive-solar design or renewable energy production.

Encourage developments to share highly efficient district energy systems, such as cogeneration.

See a detailed transition plan for the building sector at:

<http://www.gcbl.org/energy/regional-agenda/climate-change/transition-paths/buildings-transition-path>

TRANSPORTATION TRANSITION

The transportation sector produces 28 percent of the greenhouse gas emissions in the seven-county area. Significant reduction will require a major transition in how we move around, including the development of more fuel-efficient vehicles and increased use of transit, bicycles, and walking. In addition, it will require the redevelopment of compact urban and suburban places where more people can live a convenient “low-mileage

lifestyle” that is less dependent on driving cars.

We can accomplish this transition, if we work steadily in the coming decades. The result will be communities that offer healthier transportation choices, cleaner air, and attractive, walkable places. Here are suggested transition steps:

PROVIDE BETTER TRANSPORTATION OPTIONS, REDUCING THE NEED TO TRAVEL BY CAR

Adopt zoning and other land-use policies that encourage the development of compact, walkable places designed around transit.

Improve public transit service, bike facilities, car-sharing and car-pooling programs, and pedestrian environments.

Further reduce the demand for driving cars by instituting flexible work weeks, employer-sponsored transit passes, congestion pricing, and other forms of demand management.

Reform regional transportation plans so that the development of more sustainable transportation options becomes a priority.

INCREASE EFFICIENCY OF VEHICLES

Accelerate the transition of the vehicle fleet to more fuel-efficient vehicles with local and state incentives, such as tax incentives, cash-for-clunker programs, and preferential parking for hybrid, electric, and other low-emission vehicles.

Educate motorists about “eco-driving” and anti-idling techniques that save gas.

Allow vehicles to be driven more efficiently with improved traffic management to reduce congestion delays.

Increase public transit efficiency by transitioning to hybrid and fuel-cell buses.

Encourage the transition to cleaner truck and ship engines.

REDUCE THE CARBON INTENSITY OF FUEL THAT STILL NEEDS TO BE BURNED

Increase the number of fueling points for alternative fuels, such as biodiesel, as well as charging stations for electric vehicles.

Require public fleets to use biofuels, hybrids, and other low-emission vehicles.

Develop specific carbon intensity limits for fuels.

MAKE MOTORISTS PAY MORE OF THE TRUE COSTS DRIVING

Incorporate the costs of air pollution, congestion, health problems, climate change, and other “externalities” into the costs of driving.

For more details on how to implement the above transition steps, see the climate transition plan for the transportation sector of Northeast Ohio at:

<http://www.gcbl.org/energy/regional-agenda/climate-change/transition-paths/transportation-transition-path>

ECONOMIC OPPORTUNITIES FROM CLIMATE TRANSITIONS

Working on the issue of climate change is really about working on energy — working to conserve energy, use energy more efficiently, switch to energy sources with lower carbon content, or design products and processes that require less energy. All this work creates business opportunities.

In many ways, businesses and organizations in the region are already finding these opportunities. Indeed, the pursuit of advanced energy has become a centerpiece of economic development efforts in Northeast Ohio. The region's manufacturing base is well suited for the production of wind turbine components and other energy devices. National studies have found that Ohio is one of the states best positioned to gain “green” jobs from the growth of energy efficiency and renewable power.

As examples of what is possible, here is a sampling of some of the initiatives being envisioned — or are already underway. Some help the local economy by developing innovative new companies with new products. Others help by reducing the need to import energy, thus keeping more dollars circulating in the region. The initiatives are grouped according to the annual celebration points of the 2019 plan.

ENERGY EFFICIENCY

STATE POLICY

Prompted by the supportive state policy of SB 221 enacted by the Ohio General Assembly in 2008, investor-owned utilities in Ohio are investing in energy efficiency to obtain a portion of their power. This could lead to innovative projects between utilities

and community groups to help people save energy in their homes.

GREEN BUILDING

The Northeast Ohio Chapter of the U.S. Green Building Council is educating the region's building and design industries about the benefits of high-performance buildings. The City of Cleveland is phasing in tougher energy requirements for projects receiving city funding.

RETROFITS AND CODES

The Sustainable Cleveland 2019 Green Building Work Group is promoting an aggressive program of building retrofits to save energy and create jobs, as well as new building codes with tougher energy requirements.

DEEPER RETROFITS

Environmental Health Watch's Green and Affordable Housing Program is piloting “deep energy retrofits,” which can turn ordinary homes into near zero-energy homes.

ENGINE TECHNOLOGY

Ford is manufacturing some of its most efficient engines in Northeast Ohio.

LIGHTING TECHNOLOGY

Northeast Ohio is a center of advanced lighting research with companies such as GE and TCP.

DONATIONS FOR CARBON REDUCTION

The Cleveland Carbon Fund accepts donations and invests in projects, such as light bulb replacement efforts, that reduce carbon emissions

while creating jobs in Cleveland neighborhoods.

LOCAL FOODS

TRANSITIONING TO A LOCAL FOOD SYSTEM

Buying food grown close to home can reduce the transportation carbon content of food and keeps food dollars in the local economy. Buying local food grown with fewer inputs of petroleum-based fertilizers and pesticides also reduces the carbon content of food, while creating opportunities for local labor. Numerous programs are underway to strengthen the local food economy, including the support of new food processing businesses in the city.

WASTE

ZERO WASTE

Reducing waste cuts consumption and carbon emissions. Local efforts, such as Zero Waste Northeast Ohio, are helping companies think more radically about waste reduction, while helping them save money and spur innovation.

ENERGY FROM WASTE

The City of Cleveland is developing a cogeneration plant with advanced waste-to-energy technology, reducing waste disposal costs while producing useful energy.

COMPOSTING FOOD WASTE

Nationally, food scraps account for about 12% of all wastes. Local companies, such as Rosby Resource Recycling, are finding business opportunities in providing food waste composting services, which can reduce methane emissions

from landfills (as a greenhouse gas, methane is much more potent than carbon dioxide).

CLEAN FUELS

Supported by the Earth Day Coalition's Clean Fuels program, local entrepreneurs are expanding availability of biofuels, such as pure vegetable oil made from waste cooking oil.

CLEAN OIL

Local innovators are developing other ways to conserve petroleum, such as Lube Stop's EcoGuard re-refined motor oil.

TOURISM

An initiative to make Cleveland a "Green Venue" can promote efficiency and waste reduction while boosting the visitor economy.

RENEWABLE RESOURCES

WIND TURBINE SUPPLY CHAIN

The Great Lakes Wind Network is expanding opportunities for the many local companies supplying components for wind turbines. The Lake Erie Energy Development Corporation is developing a wind farm on the lake, which could lead to a turbine manufacturing facility in Cleveland.

SOLAR PANEL INSTALLATION JOBS

An Advanced Energy Improvement District in Cleveland and inner-ring suburbs will remove cost barriers for businesses to install renewable energy. Ohio Cooperative Solar, one of the Evergreen Cooperatives supported

by The Cleveland Foundation, is installing solar power on institutional buildings while building a business with Cleveland residents.

ENERGY STORAGE

The Great Lakes Energy Institute at Case Western Reserve University is researching a variety of renewable energy and energy storage technologies to promote sustainable energy. The Ohio Fuel Cell Coalition is promoting Ohio as a center of fuel cell development.

INNOVATIVE START-UP COMPANIES

Local companies are exploring new approaches to clean energy, such as Tremont Electric's approach to kinetic energy generation.

CLEAN WATER

WATER CONSERVATION

Using less water can reduce carbon emissions by reducing the amount of energy needed to pump and treat water. Local campaigns to "Drink Local, Drink Tap" further reduce wastes from packaging and shipping bottled water.

GREEN INFRASTRUCTURE

Rather than addressing problems like stormwater pollution with costly, energy-intensive infrastructure, the Northeast Ohio Regional Sewer District is exploring "green infrastructure" alternatives that work with nature. A common job title of the future might involve ecological restoration.

TRANSPORTATION

IDLE REDUCTION

Cleveland is leading other local communities to adopt ordinances to reduce unnecessary idling of motor vehicles, which in turn reduces fuel consumption and air pollution.

COMPLETE STREETS

Local sustainable transportation activists are advocating for a regional and statewide policy to ensure that transportation projects serve all modes of transportation.

BIKES

Demand for better bicycle facilities continues to grow. A growing bike service sector could follow.

CAR SHARING

CityWheels is pioneering short-term car rentals that can make full-time car ownership unnecessary, while helping people make the transition to more environmentally friendly forms of transportation for most trips.

ELECTRIC VEHICLES

A local company, Myers Motors, is making an attention-getting two-seat electric car.

RAIL JOBS

The revitalization of passenger rail in Ohio will be supported by \$400 million in federal stimulus funds.

GREEN SPACE

COOLING CITIES

Programs, such as Reimagining a More Sustainable Cleveland, are studying how to turn vacated urban

land into green corridors that restore ecological functions, including the cooling function of trees which reduces energy consumption. Local roofing firms are expanding into the installation of green roofs, which offer more cooling and insulation benefits.

VITAL NEIGHBORHOODS

GREEN NEIGHBORHOODS

The overall energy and environmental impact of neighborhood-scale developments is under study in three LEED (Leadership in Energy and Environmental Design) for Neighborhood Development pilot projects in Cleveland.

SMART GROWTH

Regional and state policies to reduce suburban sprawl and reinvest in cities, are among the best ways to help people live a low-carbon lifestyle and create the exciting urban neighborhoods that attract highly educated workers. The Regional Prosperity Initiative led by the Northeast Ohio Mayors and City Managers Association is exploring options for better regional land use planning. Greater Ohio has worked with the Brookings Institution to develop the “Restoring Prosperity” policy agenda for the state.

HEALTH SAVINGS

Healthier transportation options, such as walking and biking, help people stay fit, reducing health care costs.

CITIES ON THE FRONT LINES OF CLIMATE CHANGE

Cities are laboratories of change — testing new policies, incentives, and forms of community action at the point of impact. Such experimentation is

absolutely necessary as we try to figure out how to design a human civilization that can be compatible with a stable climate on Earth.

There are good-government reasons for cities to be proactive on climate change. Actions can save money, reduce risk, and improve quality of life. Moreover, cities can argue that cities themselves are a major part of the solution. As David Owen argues in his recent book, *Green Metropolis: Why Living Smaller, Living Closer, and Driving Less are the Keys to Sustainability*, urban density is what makes it possible for most people to live a decent life with less ecological impact. Thus, it’s encouraging that so many people who are concerned about the long-term sustainability of Northeast Ohio are also advocates for the redevelopment of the regions urban cores — Cleveland, Akron, Youngstown, Lorain. The redevelopment of cities should be the foundation of all strategies to reduce carbon emissions.

A number of local cities — including Cleveland, Akron, and 18 others — have already made commitments to take action on climate change by signing onto the U.S. Mayors Climate Protection Agreement. The City of Cleveland has begun the process of conducting a carbon emissions inventory and a climate action plan identifying opportunities to improve buildings, vehicle fleets, office practices, waste collection and recycling, water pumping, street and traffic lights, etc.

A city can play a number of important roles to reduce carbon emission. Internally, it can take steps to reduce emissions from city operations, change operational procedures, and educate

city workers about the importance of climate change. Externally, it can affect the larger community with policy changes and public education to encourage the private sector to reduce emissions, as well as overall leadership to set high expectations.

As part of prudent strategic planning, more cities in Northeast Ohio should be developing climate action plans. A lot of resources are available to guide a city through the process. For example, an excellent climate toolkit for local governments is available from the GreenCityBlueLake Institute at:

<http://www.gcbl.org/energy/regional-agenda/climate-change/what-we-can-do-as-a-region>

The toolkit includes recommendations and resources related to transportation, energy, buildings, waste, land use, adaptation, and advocacy.

CONCLUSION

There is no “silver bullet” solution to climate change. Carbon emissions are a product of almost everything we do in modern society. So we need many solutions, and everybody has a role to play, including individuals, businesses, nonprofit organizations, and governments. And the great thing about reducing carbon emissions is that so many of the solutions have multiple benefits — environmental, social, and economic.

That is why climate change mitigation activities should be at the center of the region’s sustainability planning. If we all do our part and work steadily in the coming years and decades, our cumulative actions will add up to transformational change.

PROMISING PRACTICES

CHICAGO & PORTLAND

CHICAGO

“The scientific and economic analysis commissioned by the [Chicago Climate Action Plan] Task Force makes one thing clear: there is no time to lose. If Chicago continues on its current path, just like many other cities, its greenhouse gas emissions could increase 35 percent by the year 2050. If the world continues on its present path, Chicago could experience extreme heat in the summer, many more heavy rain storms, growing flood risks, stresses on our public health and threats to the city’s economy.

“The Task Force agreed that Chicago needs to achieve an 80 percent reduction below its 1990 GHG emissions level by the year 2050 in order to do its part to avoid the worst global impacts of climate change. To achieve this 80 percent reduction, the Task Force proposed an initial goal of a 25 percent reduction below 1990 levels by 2020, a midterm goal that was far enough in the future to allow time for major infrastructure and behavioral changes, but soon enough to ensure we are on the right course.

“Beyond helping to solve a global problem, cities and their residents can immediately benefit from their efforts to reduce emissions. One result will be better air quality, leading to improved health for everyone. Raising the energy efficiency of buildings saves money, lowers housing costs for families and creates jobs, especially for local businesses. Economic development gets a boost. As people are able to live closer to work, schools and services, they enjoy a better quality of life.”

<http://www.chicagoclimateaction.org/>

PORTLAND

“In 2007, Portland City Council and the Multnomah County Board of Commissioners adopted resolutions directing staff to design a strategy to reduce local carbon emissions 80 percent by 2050...The 2009 Climate Action Plan will guide future efforts by the City and County and provide an innovative framework for the region’s transition to a more prosperous, sustainable and climate-stable future. In doing so, it will strengthen local economies, create more jobs, improve health, and maintain the high quality of life for which this region is known.

“The broad-scale coordination and planning required to achieve the 80-percent carbon reduction goal will demand that governments, businesses, civic organizations and residents collaborate extensively and take the lead in their own activities.

Fossil fuels are a finite and costly resource, as disruptive swings in oil and natural gas prices make clear. A “low-carbon” society — one markedly less reliant on fossil fuels — will be more stable, prosperous and healthy.”

<http://www.portlandonline.com/bps/index.cfm?c=41896>



CHAPTER 5.0

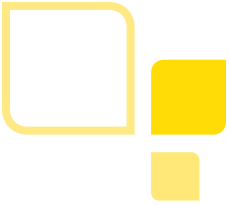
5.1 SC2019 COLLABORATIVE

5.2 INITIATIVE DESIGN

5.3 MEASURING PROGRESS

5.4 COMMUNICATION

IMPLEMENTATION



IMPLEMENTATION TOOLS

*“There are many ways of
going forward, but only
one way of standing still.”*

- Franklin D. Roosevelt

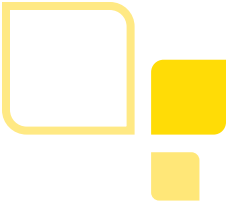
The Implementation Tools in the following section will support the process of moving theory and strategy into action. Developed within the time scope of the first version of the SC2019 Resource Guide, these structures are starter-kits with recommendations for next steps.

A full-scale SC2019 organizational structure, a final prioritization framework, an on-going system for measuring progress, and a branding and community engagement plan will be developed over the next year and throughout the SC2019 process.

In order to be effective, these structures must be developed with the full participation of the SC2019 Stewardship body, and with the input of key stakeholder groups. The details must be fully owned and understood by stakeholders.

FOUR IMPLEMENTATION TOOLS:

- 5.1 SC2019 Collaborative
- 5.2 Initiative Design Framework - Shaping & Prioritizing
- 5.3 Measuring Progress - Metrics Recommendations
- 5.4 Communication: Brand & Outreach



5.1

SC2019 COLLABORATIVE

LEADERSHIP FOR SUSTAINABLE CLEVELAND 2019

In order to accomplish the Sustainable Cleveland 2019 mission—*engaging people from all walks of life to create a new sustainable economic engine*—we must collaborate and harness the energy, commitment, and focus of Cleveland’s diverse public and private stakeholders. The following section outlines an organizational structure called the **SC2019 Collaborative**. The Collaborative’s primary goal is to implement effective and engaging leadership that will integrate, focus, and align the efforts of diverse stakeholders and activities. It will support and encourage both formal initiatives and the creative chaos of thousands of informal experiments.

THE SC 2019 COLLABORATIVE

To ensure leadership and governance, SC2019 will establish the Sustainable Cleveland 2019 Collaborative (SC Collaborative) to support both the formal and informal structures of the Sustainable Cleveland Network. Acting as a hub, the SC Collaborative will provide guidance for the diverse range of stakeholders, networks, and actions that will implement steps toward a sustainable economy over the next ten+ years. The SC Collaborative will model leadership and governance that is inclusive, bringing together champions from government, business, and non-government organizations (NGOs), leveraging resources, and focusing action towards the establishment of Cleveland’s sustainable economic foundations.

SC2019 COLLABORATIVE



The purpose of the SC Collaborative is threefold: to promote, steward, and support the implementation of the SC Action Guide as follows:

PROMOTE

TO PROMOTE AND LEGITIMIZE SC2019 WITHIN THE COMMUNITY

Communicating progress and stories

Fostering a culture of celebration and positive self-image

STEWARD

TO STEWARD AND GUIDE EFFORTS OF THE SC2019 NETWORK

Fostering collaboration, alignment, and momentum among all stakeholders, enhancing, expanding and cross-pollinating supporting networks to leverage existing organizations and institutions

Encouraging and supporting creative chaos and experimentation outside "official" strategies

SUPPORT

TO HELP IDENTIFY, COORDINATE, ATTRACT, AND MOBILIZE RESOURCES FOR TRANSFORMATIVE AND PRIORITY SC 2019 ACTION INITIATIVES

Attracting resources and guiding and coordinating utilization

Coordinating and guiding implementation

PROPOSED STRUCTURE

To address the above, the SC Collaborative will be structured to include a Stewardship Council, an Executive Stewards Team, and an Integration Team. Each are further described as follows:

STEWARDSHIP COUNCIL MEMBERSHIP

A 25 to 30 member Stewardship Council will provide the leadership / governance arm of the SC Collaborative. The Stewardship Council will operate like an Advisory Board with its members representing all key sectors that have a stake in creating a sustainable economy. Membership on the Stewardship Council will rotate alternatively every three years and include:

- Sustainability leaders from the City of Cleveland, the business community (both large and small), major institutions, and the NGO community. These sustainability leaders on the Stewardship Council will either be CEO level leaders or sustainability chiefs with a direct report to CEOs.
- SC 2019 network delegates drawn from the various SC2019 Action Initiative teams, communities of practice/interest from each of the “Foundation Themes”, Celebration Councils, the Volunteer Corps, and Ambassador teams.

ACCOUNTABILITIES

As with any member of the SC Collaborative, the Stewardship Council is accountable for promoting, stewarding, and supporting SC 2019. More specifically, members of the Stewardship Council are expected to:

- Establish and promote the SC 2019

Vision, Action Plan, and Compact within the community

- Ensure a balanced portfolio of SC Action Initiatives to advance the SC Project Plan
- Provide advice, leadership coaching, and overall guidance and stewardship to the SC2019 community
- Attract new funds and resources to support larger-scale priority SC Action Initiatives

FORMATION PROCESS

This fall, the Mayor’s SC2019 Advisory Council will transform into the SC2019 Stewardship Council. Additional members will be appointed by the Mayor to strengthen the four sustainability foundations and to more accurately reflect the stakeholders engaged in SC2019.

EXECUTIVE STEWARDS TEAM MEMBERSHIP

A twelve-member Executive Stewards Team will lead the SC Collaborative Stewardship Council, acting much like an executive committee for a non-profit board. Its membership will be drawn from the Stewardship Council and will include:

- 1 representative from the Mayor’s Office of the City of Cleveland
- 3 representatives from the business community (representing large and small business),
- 2 representative from non-profit organizations.
- 1 representative from academia
- 1 representative from health care (or other major institutions)

- 4 representatives from the four Sustainability Foundations Communities of Interest and Practice (1 for each of the 4 foundation areas-- Human and Social Assets, Built Environment, Natural Assets, Business Environment)

ACCOUNTABILITIES

The Executive Stewards Team will be accountable for:

- Executive decisions and direction for the implementation of the SC Action Guide.
- Providing oversight of and leadership for the Integration Team
- Establishing priorities to ensure an effective, balanced portfolio of SC Action Initiatives
- Ensuring funds and resources to support larger-scale priority SC Action Initiatives

FORMATION

The Stewardship Council will nominate Executive Stewards Team members for 2-year terms, with terms organized so that half the team would rotate each year providing overlapping leadership. Ideally, the Executive Stewards would be true sustainability champions (individual leaders) from business, government, and community, not merely representatives designated by institutions.

INTEGRATION TEAM TEAM

The Integration Team runs SC Collaborative operations, providing day-to-day management and supporting the implementation of the SC 2019 Action Guide through the SC Network and Action Initiatives. The team will report to the Stewardship

Council working most closely with the Executive Stewards Team.

The Integration Team will work with and through the Cleveland Office of Sustainability. The team will be housed with the Office of Sustainability and will work with other key sustainability leadership non-profit organizations. This relationship will foster innovation, teamwork, and collaboration by being co-located and integrated with the work of the office of sustainability. This team will also work closely with representatives of the four Sustainability Foundations Communities of Interest and Practice (one from each Foundation area) who will provide an advisory body for the team.

ACCOUNTABILITIES

Operationally, the Integration Team manages the day-to-day management of the SC2019 process. In general, the Integration Team is accountable for:

- Coordinating, connecting, and integrating the actions and actors of the broader network to accomplish the SC Action Plan
- Support and Promote SC 2019 Compact
- Helping to mobilize resources around priority projects
- Communicating progress, stories
- Supporting organizational learning and knowledge management
- More specifically, the Integration Team is accountable for:
- The SC 2019 Collaborative Website
- Marketing and PR and Brand dissemination

- Training and equipping SC2019 “ambassadors” (multiple groups of two SC2019 representatives who understand the whole SC2019 Action Plan and how it is relevant to different stakeholders and go out and act as ambassadors in the community)
- Tracking and communicating metrics (dashboard)
- Celebration points
- Compiling a comprehensive list of projects
- Maintaining the SC 2019 Project Prioritization Framework
- Capacity development / building within the Alliance

OPERATIONAL AND LEGAL STRUCTURE, AND FUNDING FOR THE SC COLLABORATIVE

OPERATIONAL AND LEGAL STRUCTURE

Initially the SC Collaborative will not be established as a formal legal entity, although it may evolve into one (e.g., a 501(c)3) should that make sense down the road. This start up phase will support organizational autonomy and will encourage collaboration and partnerships among the SC20109 Network. During this start-up phase, the SC Collaborative would operate and be funded per an agreement (M.O.U. or charter) between key collaborators.

FUNDING

Funding for the first three years of the SC Collaborative of are estimated between \$150,000 and \$250,000 per year to cover staff salaries and operational expenses for the activities of the organization. Funding would come from stakeholder companies and

organizations from the SC Stewardship Council. Additional funding of an estimated \$250,000 per year would be needed to support the implementation of priority projects. This “seed capital” fund would be used to provide limited support (\$2-20K) for early stage implementation activities (feasibility studies, benchmarking, study visits, pilot activities, etc.) of priority projects in order to help them be better positioned to leverage additional implementation funding and support.

ATTRIBUTES

SC Collaborative is designed as a learning organization, with an evolving, adaptive leadership and execution structure to match the rapidly changing emergent future in the new age of sustainable economy. The SC Collaborative is also designed to ensure that the whole of the SC 2019 Initiative advances while supporting focused and concrete action, and that informal emerging forms and activities (grassroots/self-organizing) are integrated with the more formal (structured, top-down, corporate/institutional) forms and activities.

PROPOSED EVOLUTION OF THE SC COLLABORATIVE

During the fall of 2010 the current advisory council and the mayors office will develop a transition plan to transform the current organizational structure.



5.2

INITIATIVE DESIGN FRAMEWORK

In order to align SC2019 initiatives with a common language and a common definition of what is important, the Initiative Design Framework offers a useful starting place. It provides a structure that can be used by individuals and organizations to develop their projects in-line with SC2019 values and priorities. It can help existing projects expand their perspective of what is possible.

SC2019 emphasizes not only the “what” of projects, but also the “how.” This focus is key to facilitating the mindset shift that will underpin Cleveland’s transition to a high performance economy that works hand in hand with creating a high quality of life for all.

The purpose of this framework is two-fold. First, the Initiative Design Framework can give stakeholders some simple, shared criteria and a common language to use for designing new projects and for aligning existing projects to the goals and achievements of SC2019. Second, it can provide transparency, shared understanding, and a tool to support consensus decision making in any evaluation process.

THIS SECTION ADDRESSES THE FOLLOWING TOPICS:

Overview (Where is the action?)

Planning Action

Communicating action

Prioritizing action

OUTSIDE THE BOX

There are many exciting projects that are vital to Cleveland’s future and quality of life, but don’t fit neatly into strategic priorities of this project. In no way is this Initiative Design framework meant to hinder these ideas or initiatives. A vibrant future depends in large part on the type of creative chaos and innovation that doesn’t fit into preconceived strategies.

SC2019 is focused specifically on sustainability as economic development - on finding direct economic value and opportunities from sustainability solutions. Projects outside the purview of the Strategic Framework, but in the spirit of a vibrant high quality of life for all, should be endorsed in the SC2019 family projects, and should be celebrated and acknowledged as a vital part of the greater transformation.

THE FRAMEWORK CAN HELP INITIATIVES:

CONNECT

Connect with potential collaborators or resources

LEARN

Learn from others involved and engaged in complimentary activities

DO

Become more energized and empowered to implement projects.¹

¹ "Connect, Learn, Do" is an effective action network process designed and implemented by social entrepreneur Holly Harlan of E4S. (E4S.org)

Cleveland is home to a plethora of economic development organizations defined by many characteristics such as geographic region, industry type, business size and stage of operation (e.g. JumpStart, Bio Enterprise, COSE, GCP, Beachwood Chamber, etc.). The region also has a robust group of non-profit organizations that hold sustainable economic development, restoration of the natural environment, promotion of the sustainable built environment and focused on quality of life as their missions (e.g. E4S, GreenCity Blue Lake Institute, Northeast Ohio Chapter of the US Green Building Council). Among the initiatives in the appendix are a few illustrations of the programs these non-profits operate that support SC2019 goals.

WHERE IS THE ACTION

Central to the SC2019 plan is the notion of action – action towards goals that support the sustainable economy. The breadth of opportunity and need compels everyone to find a role in the sustainable economy – among people at home, on the neighborhood level, through community & social organizations and at work. Within the SC2019 framework and action plan there are many types of initiatives that will lead to positive outcomes.

THE SC2019 STEWARDSHIP CAN INTERACT WITH THREE TYPES OF ACTION-INITIATIVES:

- a) Aligned Initiatives - projects that are created, championed, and implemented outside SC2019, but which are aligned with SC2019 mission, vision, and values. These projects can be endorsed as a part of the SC2019 Family of Initiatives.
- b) Championed Initiatives - projects that are supported and created outside SC2019 formal structures, but are championed within SC2019 networks. This could include leveraging connections to create new opportunities, endorsing the project to aid in fund-raising from other sources, promoting the project to raise its public profile and attract media attention, etc.
- c) Supported Initiatives - SC2019 Supported Initiatives are projects that SC2019 deems to be essential for its continued success - these projects could include organizational development and capacity building, catalytic projects, projects that support the government in creating the conditions for sustainability, etc. SC2019 Executive Team would brokerage funding for these projects and possibly oversee implementation.

ROLE OF THE DESIGN FRAMEWORK

In order to be endorsed or aligned with SC2019 any initiative can be described using the basic language and structure of the Design Framework. This will allow projects to be organized and communicated within the SC2019 framework and action plan. This process can help clarify how projects and initiatives are related to each other and to the common goal of growing the sustainable economy. It will also help SC2019 in its mission to coordinate, integrate, and communicate progress across sectors and traditional boundaries.

By creating a central clearing house of all projects in the spirit of SC2019, projects can be connected with other like projects, and can be promoted both within Cleveland and to the outside world. Initiatives that would like a specific type of support can describe the project in more depth using the framework to both shape and explain the project. This will help determine what type of support the project can receive.

An illustrative list of initiatives communicated in the format of the Design Framework can be found in Initiative Post Card Appendix. The list included was primarily derived from projects proposed by the SC2019 Summit Working Groups, and others were gathered from a variety of other SC2019 aligned sources (see sidebar).

PLANNING & ALIGNING THE ACTION

Carefully designed and thoughtfully led projects and initiatives are the cornerstone of sustainable economic transformation. Using the Initiative Design Framework, SC2019 initiatives can develop a business plan that explains the project, how it works and why it matters. As a starting point, the business plan should address four main elements of the project's design: Alignment, Impact, Return on Investment, and Leadership.

INITIATIVE DESIGN FRAMEWORK OUTLINE

The primary questions that need to be asked and answered when designing and evaluating a project or initiative are the following:

1) HOW WELL DOES IT ALIGN WITH SC2019?

- a. Does it align with the Celebrating Progress Year?
- b. Does it fit into our strategic framework?
 - i. Does it support an economic foundation?
 - ii. Is it in alignment with one of the priority areas?
 - iii. Does it help us to achieve a stated goal?

2) WHAT IS THE OVERALL IMPACT ON A SUSTAINABLE ECONOMY?

- a. What is the environmental impact?
- b. What is the social impact?
- c. What is the economic impact?
- d. How is the project/initiative transformational?

3) WHAT IS THE RETURN ON INVESTMENT?

- a. Investment: time, money, energy, effort, reputation
- b. Return: What is the impact of the project?

4) DOES IT HAVE COMMITTED LEADERS AND GOOD PARTNERSHIPS?

- a) Does it have a technical leader and an influence leader?
- b) Does it leverage interesting partnerships?

INITIATIVE DESIGN FRAMEWORK OUTLINE:

- 1) How well does it align with SC2019?
- 2) What is the overall IMPACT on a Sustainable economy?
- 3) What is the return on investment?
- 4) Does it have committed leaders and good partnerships?

1) ALIGNMENT WITH SC2019 ACTION PLAN

There are two ways that projects can align with SC2019 Action Guide: A) Through SC2019 yearly celebrations points and B) through the Strategic Framework. Understanding the Strategic Framework and the Year of Celebrations clarifies where the work needs done. Any initiative should begin with clear articulation of alignment with SC2019.

2) PROJECT IMPACT

We have identified four main components to consider when evaluating a project's impact. What are the economic impacts, environmental impacts, social impacts and does it embody transformational change?

All initiatives should be based upon delivering positive outcomes and the design should clearly articulate where impact is likely to occur.

The project should also be transformational in its design. It is important to ask: Is the project changing the culture of Cleveland for the better? Does it energize people? Is it getting away from business as usual?

The four main points for consideration in this section reflect the design of our sustainable economic model, which balances economic, environmental and social factors, and also recognizes

the importance of embedding transformational process design into projects so that action and change are embedded. This is in order to model the way. Transformational projects will garner support and resources and thus everyone is encouraged to consider how all initiatives can create transformational change.

3) RETURN ON INVESTMENT

The third element that should be considered is the project's return on investment. This element looks at the worth of investing time/money/effort/energy in a project for the level of impact it has on the SC2019 goals. While the second element considers level of impact, this third element considers level of investment required to achieve that impact. When referring to "investment" we are also considering energy, time, reputation, not simply a monetary value. How much energy does it take to get a low impact? High impact? Is this a high effort low impact project? If so, it may not be worth funding. If it is low effort but low impact, it may be an easy win or low hanging fruit and thus can be considered as such. Being able to articulate the return on investment, in language that is consistent with the Alignment Framework, will make it easy for people and organizations to decide if they will support an initiative.

4) CLEAR TECHNICAL AND INFLUENTIAL LEADERSHIP

Each initiative should have two kinds of leaders. One leader should be a technical leader and the other should be an influential leader. Having two leaders underscores the importance of a "Culture of Collaboration" that is part of the SC2019 Strategic Framework. Technical leadership can be provided by a person or organization that understands the nuts and bolts of a project – the "what" of the initiative. An influential leader is a co-leader of the initiative whose job it is to develop support and partnership around the idea. Influential leaders focus on finding ways to leverage other resources, initiatives and efforts for mutual, beneficial gain. Projects that have only one type of leader should first focus on finding the other – initiatives that are led without technical savvy or without influential leaders are likely to miss opportunities for strategic connection.

POSTCARDS

POST CARD FORMAT

FOUNDATION	Which Foundation or Foundations does it fall under?
CELEBRATION POINT	Does it relate specifically to a Celebration Point?
PRIORITY AREA	What priority Area or Areas does it address?
INITIATIVE SUMMARY	Short Description (up to 300 characters)
PRIMARY GOAL AREA	What goal or goals does it address?
UPFRONT COST	Initial Start-up cost
ANNUAL COST	Yearly Maintenance
TYPE	What initiative types is it? (see Descriptions)
TIME FRAME	When will benefits be realized? Quick-win, Medium term, Long term, On-going?(see Descriptions)
EFFORT REQUIRED	Soft Effort (not money) (See Descriptions)
CHAMPIONS	Technical Leader, Leader of Influence
PARTNERS/ COLLABORATORS	Partnerships
POTENTIAL FUNDING	Creative Sources of Funding
CO-BENEFITS	Priority Areas or Goals
TRANSVERSAL	Equity, Carbon, Health
POTENTIAL IMPACTS	(See Descriptions)
BUSINESS OPS	Potential for Entrepreneurial Activities
ADDITIONAL QUESTIONS	Longer Descriptions of how it effects the following areas:
SOCIETY	How does it improve the strength of the community?
ECONOMY	How does it improve the economy?
ENVIRONMENT	How does it improve the environment?
PROCESS	How is the process transformational?

EXAMPLE POST CARD

COLLABORATIVE CAMPUS NEIGHBORHOOD PROJECT

FOUNDATION	Personal & Social Environment
PRIORITY AREA	Culture of Learning
INITIATIVE	Facilitate sustainability awareness, applied learning opportunities, school-to-career and policy enrichment in the Preschool, K-12 and 12-16 education sector in order to create sustainable neighborhoods.
GOAL	Sustainability learning for all
TYPE	Learning
TIME FRAME	Up to 5 years with milestones to be met every 12-months
EFFORT REQUIRED	As an idea, this initiative requires significant commitment among leaders to fully develop a business model for this idea – and then to implement the plan.
CHAMPIONS	Michael Schoop, Tri-C Metro Compus and Terrell Pim, CWRU
PARTNERS/ COLLABORATORS	Roger Saillant, Fowler Center for Sustainable Value, Peter Whitehouse CWRU, Nancy Meyer-Emerick CSU
POTENTIAL FUNDING	County/state/federal government and foundation grants
CO-BENEFITS	Vibrant Downtown & Neighborhoods; Agile Workforce
TRANSVERSAL	Equity, Carbon, Health
BUSINESS OPS	Curriculum that can be resold

DEFINITIONS

SOCIETY	CO-BENEFIT	Culture of Collaboration	Creates linkages between people, organizations, thoughts and networks
	CO-BENEFIT	Culture of Learning	Builds knowledge and skills among people
	CO-BENEFIT	Improves Neighborhoods	Focuses on improving the quality of life in neighborhoods
	IMPACT	Increases Access	Equity Centered Infrastructure Development, Access to Sustainable Mobility, Nature, ect.
	IMPACT	Encourages mindshift	Causes people to think in a new way about what is possible, needed or happening
	TRANSVERSAL	Optimizes human health	Improves the mental and physical health stakeholders
	TRANSVERSAL	Fosters inclusion/equity	Creates an environment where all voices are part of the work, leadership and decision making
ECONOMY	CO-BENEFIT	Discover New Business Opportunities	Grows New Businesses, Implements Sustainable Strategies, Strengthens Local Economy
	CO-BENEFIT	Re-aligns Incentives and Regulations	Government structures, legislation, regulation and taxes are aligned with sustainable economic goals
	IMPACT	Whole Systems Accounting	Encourages whole system accounting, which takes into consideration traditional costs and benefits that are not recognized in traditional accounting processes
	IMPACT	Encourages private sector solutions	Encourages business to solve and identify social need
	IMPACT	Good Jobs	Develops career pathway, Creates potential for job longevity (jobs that are community-vested by way of ownership or compensation structures)
	TRANSVERSAL	Innovation & Entrepreneurship	Spurs or incentivizes innovation and entrepreneurship in product, process or service
	TRANSVERSAL	Restoration & Regeneration	Restores and regenerates ecosystem functioning and improves quality of the environment
ECOLOGY	CO-BENEFIT	Restore & Regenerate	Restores and regenerates ecosystem functioning and improves quality of the environment
	CO-BENEFIT	Radical Resource Efficiency	Shifts use to renewable resources where possible and encourages high levels of efficiency.
	CO-BENEFIT	Smart Growth Infrastructure	Infrastructure that leverages ecosystem services and is designed to foster equitable, mixed-use growth and increase urban density.
	IMPACT	Reduces Ecological Footprint	Lowers negative impact on ecosystems at any point in a product or project lifecycle
	IMPACT	Improves access / use of nature	Improves opportunity for people to use nature in a way that creates benefit for all
	TRANSVERSAL	Reduces Carbon Foot Print	Activities that reduce carbon foot print
	TRANSVERSAL	Restoration & Regeneration	Restores and regenerates ecosystem functioning and improves quality of the environment

DEFINITIONS

PROCESS	IMPACT	Includes fun factor	Concept is alluring and interesting and helps to strengthen the Cleveland's story
	IMPACT	Encourages leadership	Helps others see the way to their leadership potential, and emphasizes leading by example
	IMPACT	Scalable	Has the potential to rapidly scale-up and effect many people
	IMPACT	Accelerates systemic or catalytic change	Spurs other initiatives to achieve higher results because it removes barriers to action or it creates new conditions fertile for transformation
	IMPACT	Inspires followership	Inspires many people to get involved and contribute to the shared vision
	IMPACT	Engages new voices	Includes promising practices and ideas from people not traditionally part of the dialogue
	IMPACT	Enhances organizational capacity	Builds capacity for organizations (profit, government or non-profit) to do more of what they do best in a sustainable way
	IMPACT	Leverages feedback loops	Creates opportunity for transparency by building in feedback among all parties involved for continuous learning and improvement
TIMING			
		On-going	Results are realized through on-going efforts
		Quick Win	Results realized in <24 months or requires urgent attention to other factors
		Medium Term	Results realized 2-5 years
		Long Term	Results realized >5 years
EFFORT		Financial commitment required	Significant financial resources are required to launch project and/or significant on-going funding required
		Self Funding potential	Project has built-in opportunity to generate funds to take care of more than 50% of annual operating costs or reduces cost to operate or offsets operational costs
		Ease of implementation	Implementation is void of red tape, bureaucracy, significant politics, policy hurdles, inertia
		Social capital commitment required	Requires social capital outlay by leaders to get project off the ground
		Person hour commitment required	Requires significant person hours to start and maintain project
		feasibility (political, economic)	Policies / market already in place to launch project
		pilot	First of its kind project
		take advantage of current momentum	Builds upon current activities
		simplicity	Is easy to understand and relatively simple to get started (small acts)
		Strong champion present	Is led by a champion with passion, skills and social capital

INITIATIVE TYPES

LEAD BY EXAMPLE

Some initiatives will form when people take bold action in a new direction for the purpose of inspiring others to follow suit. Example: Setting a Zero Waste goal.

AGGREGATE DEMAND

To spur economic growth in emerging industries and markets, some initiatives will center around connecting buyers more favorable buying conditions. Example: Collaborating with neighbors, competitors and collaborators to buy sustainable products and services.

EXPERIMENT

The sustainable economy requires new process, product and services. Some initiatives will promote new ways of solving problems. Example: Installing wind turbines on Lake Erie.

POLICY/LEGISLATION

Some initiatives will involve the design and advocacy of new policies and legislation that remove barriers to sustainable economic development. Example: Changing zoning and building codes to support green building improvements and renewable energy installations.

CATALYST

In some cases, certain actions and efforts will benefit from sparks of progress that encourage desired outcomes, and some initiatives will be the sparks of progress needed to drive change. Example: Launching “Year of” Celebrations to focus attention and activity towards common goals.

OPERATIONS

Changing the way business is done and homes are managed and governments are run to facilitate sustainable outcomes. Example: Focusing buying power on local providers of goods and services.

RESEARCH

Continuous learning and discovery are the foundations of sustainable economies and some projects. Example: Mapping industry trends to identify emerging markets and economic strength.

LEARNING

With the call to action for everyone to find a role in sustainable growth, many initiatives will focus on providing the basic information that moves people into action. Example: Webinars that explain how to evaluate and implement energy efficiency improvements in business.

“Every social and global problem and issue of our day is a business opportunity in disguise - just waiting for the innovation, the pragmatism, and the capacity of great companies to think higher.”

– Peter Drucker

One of the key outputs of a sustainable economy is new business formation. Initiatives are likely to spur business development because they will involve people and organizations coming together to test ideas about how to solve problems. Several of the Initiatives captured in the appendix are new ideas to solve social (economic) problems – but are headed towards the formation of non-profit solutions. Sustainable job creation comes from the private sector, not from the non-profit / government sectors.

It will be incumbent upon every person working to advance the sustainable economy to watch out for the opportunity to create business, and resist the idea to form new non-profit organizations. Growing socially responsible business is a priority area of SC2019. Growing the number of government programs and non-profit organizations is not.

COMMUNICATING THE WORK

If you have a great idea that will lead to sustainable economic growth, people need to know! With a basic business plan in hand, especially one that is crafted using the Design Framework, it will be much easier for leaders to communicate their ideas. In crafting their initiative, leaders take responsibility for finding ways to connect with other SC2019 initiatives, resources and activities. These connections present opportunities to learn more about how to improve the initiative and how it relates to the greater community of effort. Three questions should be central to initial communication about an initiative:

1. IS IT UNIQUE?

Maybe someone else has the idea or already tried it. By testing the idea for its uniqueness with others, initiative leaders can uncover opportunities for collaboration and alignment with other like-minded people. Initiative leaders should frame a question such as, “Have you heard of any idea like this before or do you know anyone who has tried something like this?”

2. HOW CAN IT BE IMPROVED?

Inviting other people in to the process of shaping an initiative creates opportunity for co-learning and collaboration. When people learn and collaborate together, people create community. When community is formed, collective action is easier to build and sustain. Initiative leaders should ask everyone they know, “What would you do to make this initiative stronger or to take it to the next level?”

3. WHO ELSE SHOULD KNOW?

Because there are so many people committed to sustainable economic growth, it is important to keep people abreast of new ideas and new momentum. Inviting people to make connections about an idea helps to foster connections among people and resources. Initiative leaders should be specific in next steps and ‘immediate needs’ that can inform a question such as, “Who else should know about this idea if we are really in need of start-up capital?”

Initiative leaders are likely to feel pressure to find funding to get an idea off the ground. Often, emerging ideas lose track of the opportunity to engage people and other organizations and initiatives in the collective action as they work tirelessly (and sometimes unsuccessfully) to find start-up funds. In forming an SC2019 initiative, consider how to accomplish the work – and invite others to design it with you – in a way that values all of the resources people and organizations can bring to the table (time and talent). In other words, recognize that financial resources are not the only resources valued in SC2019 initiatives.

When it comes to making decisions about supporting initiatives with SC2019 resources, a “Prioritization Framework” is needed. The Prioritization Framework follows the same logic and asks the same questions as the Design Framework, but it allows people to assign values to different criteria, thereby making a tool for decision-making and prioritization. The specific criteria can be adjusted, as can the weighting. Especially in group decision making, a weighted prioritization can be a good tool though which to create consensus and compare options in an objective framework that considers all members opinions to be equal. The tool it can be an effective tool for focusing conversation and maximize productive dialog. It is flexible and should be used as an important input in decision making.

The example Prioritization Framework holds constant the elements of the Alignment Framework, yet provides a place for people to assign values to each criteria. In this way, the Prioritization Framework is a tool for decision-making. The process of assigning a value to criteria allows people and organizations to customize the Prioritization Framework in a way that suits their needs and overall strategies. The process of assigning values will have to be done by each organization or person using the Prioritization Framework and not all organizations or people will create the same values for each criterion. That is okay! What is most important is that there is some level of consistency among the various people and organizations who are deciding to engage with SC2019 initiatives so initiative champions can be strategic and thoughtful about where to go for help and support. This consistency feeds the notion of a Culture of Collaboration because it allows people to quickly convey a message such as, “We share information about any SC2019 initiative that has to do with Radical Resource Efficiency in our weekly e-blast. If your SC2019 initiative is about Radical Resource Efficiency, email us so we can include it!”

The numbers shown here are only examples - the actual weights must be determined by the SC2019 Stewardship Group or by whomever is interested in using the matrix.

DOES IT FILL OUT THE APPROPRIATE PORTFOLIO OF PROJECTS?

a. Is it a quick-win, medium-term, long-term, or is it on-going?

b. Does it balance the priority areas and goals?

When funders, organizations and leaders use the Prioritization Framework to make decisions about how or if they will communicate, connect or support SC2019 initiatives, transparent decision-making is possible. Transparency in decision-making is a requirement of a Culture of Collaboration, and critical to SC2019 success. The Prioritization Framework provides the basis for people and organizations to be clear about how they will make decisions about how to engage with SC2019 initiatives. For example, a foundation could decide to support only projects that have Natural Environment as the core benefit area or as the primary co-benefit area.

The City could decide to place special emphasis on supporting initiatives with immediate benefit (“quick-wins”). Business leaders could decide to promote to their employees initiatives that have high need for volunteer support. Leadership organizations that have the attention of hundreds and thousands of Alumni could choose to launch signature projects that correlate to SC2019 goals. Each of those criteria – a foundational area, timeline for impact and volunteer support needs are elements of the Alignment Framework and thus part of the Prioritization Framework.

NEXT STEPS

Conduct a Short training session on Prioritization Framework with SC2019 Stewardship Group

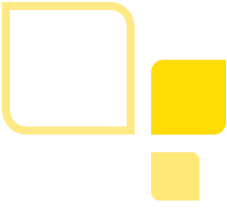
Validate Criteria with SC2019 Stewardship Group

Identify options within particular portfolio areas¹

Test matrix, make adjustments if necessary

Create a how-to guide that can be distributed to stakeholders

¹ For example - quick wins with low effort, that are focused on sustainable mobility



5.3

MEASURING PROGRESS

“Not everything that can be counted counts, and not everything that counts can be counted.”

APPENDIX X INCLUDES:

Sustainable economy metrics Starter Kit

SC2019 Strategic Framework Indicator Examples

References for Sustainable Metric Systems

Sample Dashboards

Sample Questions for a SC2019 Survey

METRICS : KEEPING SCORE ON PROGRESS

In baseball, the scoreboard defines the game. Most people agree that what gets measured gets done. It is also true that you can't manage what you don't measure.

In a complex adaptive system, such as the SC2019 Action Guide, how do you pick the most powerful measures that help keep the everyone on the team inspired, that drive good decisions, and that encourage better performance? As Einstein reminds us, “Not everything that can be counted counts and not everything that counts can be counted.” First you must choose indicators, and then you must construct and maintain a display that is accessible to everyone who needs to know what is expected, what resources are and how well we are doing to meet expectations.

Even after selecting the most promising ideas in the coming years, how will SC2019 participants know that initiatives are indeed achieving intended outcomes and strengthening the foundations for a vibrant city and economy? A system for monitoring and reporting will be needed to track progress and provide feedback for future decisions.

The SC2019 Action & Resources Guide recommends three levels of measurement to track progress towards a sustainable economy:

1) REGION-WIDE SUSTAINABLE ECONOMY “MACRO” INDICATORS

Is the economy improving, are peoples lives improved, is the environment improving, is Cleveland's carbon footprint decreasing? Are Cleveland businesses reporting on their progress towards sustainability? How does Cleveland communicate its progress?

2) SC2019 STRATEGY FRAMEWORK INDICATORS

Is Cleveland making progress towards achieving goals within each priority area of the strategic framework? What types of indicators make sense? How is progress towards each goal linked to the big picture? How does SC2019 communicate progress?

3) SC2019 PROJECT PROGRESS INDICATORS

Are SC2019 projects successful by their own criteria? How many projects have been completed, how many have been successful? What are the lessons learned? How are the successful projects impacting SC2019 goals and priorities?

Choosing the right indicators and the right targets must be a participatory process and must be convened and finalized by the SC2019 Stewardship structure. The next step is to collect and display the data in easily accessible form for multiple audiences.

1) REGION-WIDE SUSTAINABLE ECONOMY “MACRO” INDICATORS

Macro-indicators of the economic, social, and environmental health of the city and the region are important, and there are a number of existing and emerging sets of sustainability indicators. For example, one of the most promising new systems for local governments is the STAR Community Index, which is being developed by ICLEI – Local Governments for Sustainability in conjunction with the U.S. Green Building Council.¹

In particular, it’s recommended that Cleveland develop a rigorous capacity for tracking carbon emission, both for city operations and the largest community organizations that can track data through their supply chains. In addition, the SC 2019 process should encourage more businesses to participate in voluntary sustainability reporting using tools such as the Global Reporting Initiative (GRI). They should be looking at not just Comprehensive Utility data including Electricity, Natural Gas, Other Energy Sources, Water, Waste Diversion, Carbon Footprint, Business Travel, employee commute travel.

¹ The STAR Community Index is a national, consensus-based framework for gauging the sustainability and livability of U.S. communities. Much as [HYPERLINK “http://www.usgbc.org/DisplayPage.aspx?CategoryID=19”](http://www.usgbc.org/DisplayPage.aspx?CategoryID=19) LEED™ transformed the building industry, STAR will transform the way local governments set priorities and implement policies and practices to improve their sustainability performance. It will become the definitive means by which local governments measure and “certify” their achievements. www.iclei.usa.org/programs/sustainability/star-community-index

In the Metrics Starter-Kit Appendix is a recommended “starter kit” of sample indicators that could measure the overall progress towards achieving Cleveland’s Sustainable Economy. This starter kit is offered in advance of what will be coming through the ICLEI “STAR Community Index. The starter kit has three basic categories of indicators:

A) OVERALL PROJECT SUCCESS OF SC2019

Measures of how successful is the execution and progress of the SC2019 project process, for instance, number of people involved, public visibility and perception of SC2019, overall community satisfaction, and number of outreach events. For example, one key measure of overall project success is growth in the number of people involved with SC2019. While the starter kit identifies a handful of indicators of project success, additional measures can and need to be determined.

B) OVERALL ECONOMIC HEALTH OF CLEVELAND

Measures of job growth, income growth, average wages, and unemployment rate. For example, increasing income growth is an important measure of overall health of the Cleveland economy.²

² The work by Cleveland economists on the “Regional Dashboard of Economic Indicators 2009: Comparative Performance of Leading, Midwest, and Northeast Ohio Metropolitan Areas” will provide useful inputs to refining the indicators measuring Cleveland’s overall economic health.

C) STATUS OF FOUNDATIONS OF SUSTAINABLE ECONOMY

Measures of growth and development for each of the four foundations (Personal and Social Environment, Natural Environment, Built Environment, and Business Environment). For example, in the Foundation of Personal and Social Environment the indicator of community college certificates awarded reflects the degree to which all Clevelanders, especially the disadvantaged, have access to training and jobs with advancement potential.

The starter kit proposes the development of a “dashboard” for these macro indicators, such that the indicators within each of these categories may be combined to create an index for 1) overall project success; 2) overall economic health of Cleveland, and 3) for each Foundation – The Personal and Social Environment, the Natural Environment, the Built Environment, and the Business Environment. This dashboard will enable very quick assessment of year-to-year changes in SC2019 progress. Many of these indicators can be found in the sample “starter kit” of macro indicators for SC2019 project, but many others will need to be aggregated from other sources. A more detailed set of suggested indicators relating to the priority areas and goals of the SC2019 strategic framework is shown in the metrics appendix.

2) SC2019 STRATEGIC FRAMEWORK INDICATORS

In addition to macro indicators, SC2019 must be able to evaluate and make course adjustments based on specific progress made within the Priorities, Goals, and Strategies of the Strategic Framework.

In order for these measurements to be meaningful and communicate well, the indicators should be selected by an open, participatory process. They should be easy to understand, have data readily available, and should be reliable bellwethers of key sustainability trends. Ideally, it will be possible to collapse the indicators into a single index or number, so the public can easily track progress being made towards each goal.

In the Metrics Starter Kit Appendix, a set of indicators is suggested for each priority area and goal of the SC2019 Strategic Framework. These are merely examples to begin the conversation, and they are by no means comprehensive. Establishing indicators is often a lengthy and delicate process that should not be done hastily behind closed doors.

The sample below illustrates suggested indicators for goals of optimizing renewable energy, systematic energy efficiency, and zero waste related to the priority area of Radical Resource Efficiency within the Natural Environment Foundation strategies. Many of the SC2019 Summit Working Groups have already made progress towards identifying key indicators, and their input should be solicited and incorporated.

3) INDIVIDUAL SC2019 INITIATIVES PROGRESS INDICATORS

Initiatives and projects that are included in the overall SC2019 portfolio of actions will be measured against each project's stated goals and objectives. Not every project will have perfect "success" – a key part of success will be the ability to learn from mistakes and communicate lessons learned. SC2019 actively encourages experimentation and innovation, the ability to recognize a wrong turn, to self-correct, to learn, and to communicate. High levels of innovation within an organization are directly linked to a top-down tolerance and support for risk taking and honesty.

NATURAL ENVIRONMENT	
PRIORITY AREA	Radical Resource Efficiency
GOAL	Optimize Renewable Energy
INDICATOR	# of kWh of Energy sold back to the Grid (assumes policy change)
INDICATOR	% of Energy from Renewable Resources (RPI)
INDICATOR	# Zero Energy Buildings
GOAL	Systemic Energy Efficiency
INDICATOR	# Public Buildings Retrofitted
INDICATOR	# Homes tested / Retrofit and Certified as performing efficiently
INDICATOR	Utility, City and Federal incentives are integrated
GOAL	Zero Waste
INDICATOR	% Landfill Diversion
INDICATOR	# businesses employing recycled materials
INDICATOR	R&D investment for advanced "cradle-to-cradle" materials

RECOMMENDATIONS/NEXT STEPS

The following activities are recommended as next steps in tracking and communicating progress with SC2019:

- 1) SELECTING RELEVANT INDICATORS FOR SC2019 (HOW-TO)
- 2) DESIGN A DISPLAY AND REPORTING MECHANISM (DASHBOARD)
- 3) SUPPORT AND INCENTIVIZE GOVERNMENT, BUSINESSES, INDUSTRIES TO CREATE PUBLIC SUSTAINABILITY REPORTING PROCESSES

1) SELECTING RELEVANT INDICATORS FROM THE DATA STEW

Indicators, in and of themselves, are not enough to drive change. For indicators to be useful, the indicator presented in the starter kit must be further developed with the active participation of those that will use and learn from them and be easily accessible. Every initiative/project has outcome targets that may affect one or more goals in the framework. Every strategy, goal, priority and foundation area needs some measures – all of which add up to Sustainable Cleveland. People won't pay attention, however, to more than a few targets – preferably ones they understand. How can we support the selection of the key set?

Select a cross-functional technical advisory team from stakeholders (many of whom will be data partners) to define Cleveland's relevant indicators and systems for data collection. The Starter Kit provides an entry port for the team. (Right)

GOOD INDICATORS

Are consistent with our Sustainability principles

Legitimize interests and concerns of all stakeholders

Are simply understood and value related

Are bellwethers that reflect fundamentals of long-term regional health

Link economic, social and/or ecological factors

Measure outcomes rather than inputs

Will trigger action and can be seen to move

Are responsive to interventions

Are reliably available

Have cost effective collection processes

Are comparable to other reference points and standards

Bring a refined Starter Kit set to stakeholders through a democratic tool – a briefing/training strategy designed to engage citizens in informed discussions about goals, priorities and indicators. Begin with the stakeholders at the 2010 Summit.

Select a set of indicators and perhaps prepare some indices that are aggregates of several indicators that give insight and inspiration for the Public. The Genuine Progress Indicator (GPI), which is being developed by the GreenCityBlueLake Institute, is an example of an index that will most certainly be included.³ Keep data that allows for information that can be used to guide strategic and operational decision makers. (Below)

Design the data collection system. Who will be accountable to keep track of and submit information to a central location

³ <http://www.gcbl.org/state-sustainability-2009/genuine-progress-indicator-northeast-ohio>

2. DESIGN A DISPLAY AND REPORTING MECHANISM

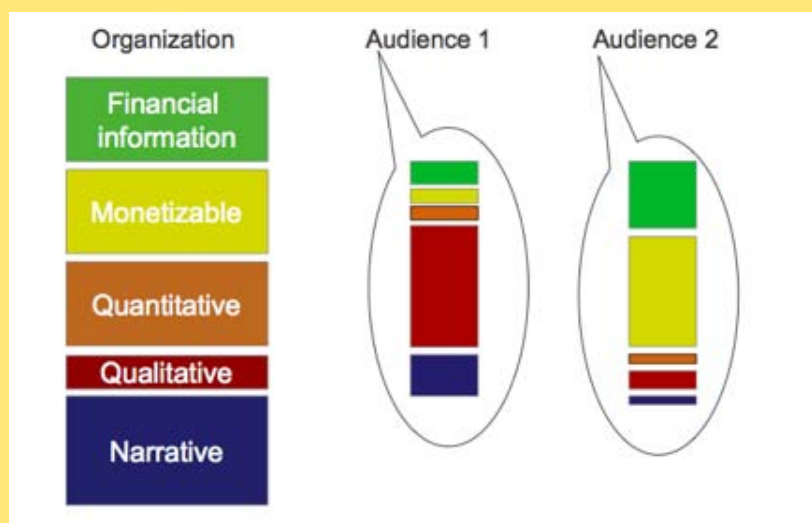
Include a display as part of the SC 2019 interactive website that is accessible to data partners and to citizens who can contribute stories and suggestions.

Communicate results through periodic reports and/or updates for individual indicators in the data commons. Use it not only to document progress, but as a way to influence how citizens think, talk and plan for SC 2019.

Compare results with other cities. The city is engaged with International Council for Local Environmental Initiatives (ICLEI) who is developing the STAR Index for Local Governments. Benchmarking is a great way to get people motivated.

DATA FOR DIFFERENT STAKEHOLDERS

Communicating progress can vary depending on stakeholders or audience, including City staff, community, business, academia and beyond. Although the final index would be consistent, the data extracted to address the specific interests of different stakeholders could vary. The graphic below is intended to show that you can extract different pieces of information from a common data bank to create audience appropriate presentations



3) SUPPORT AND INCENTIVIZE GOVERNMENT, BUSINESSES, INDUSTRIES TO CREATE PUBLIC SUSTAINABILITY REPORTING PROCESSES

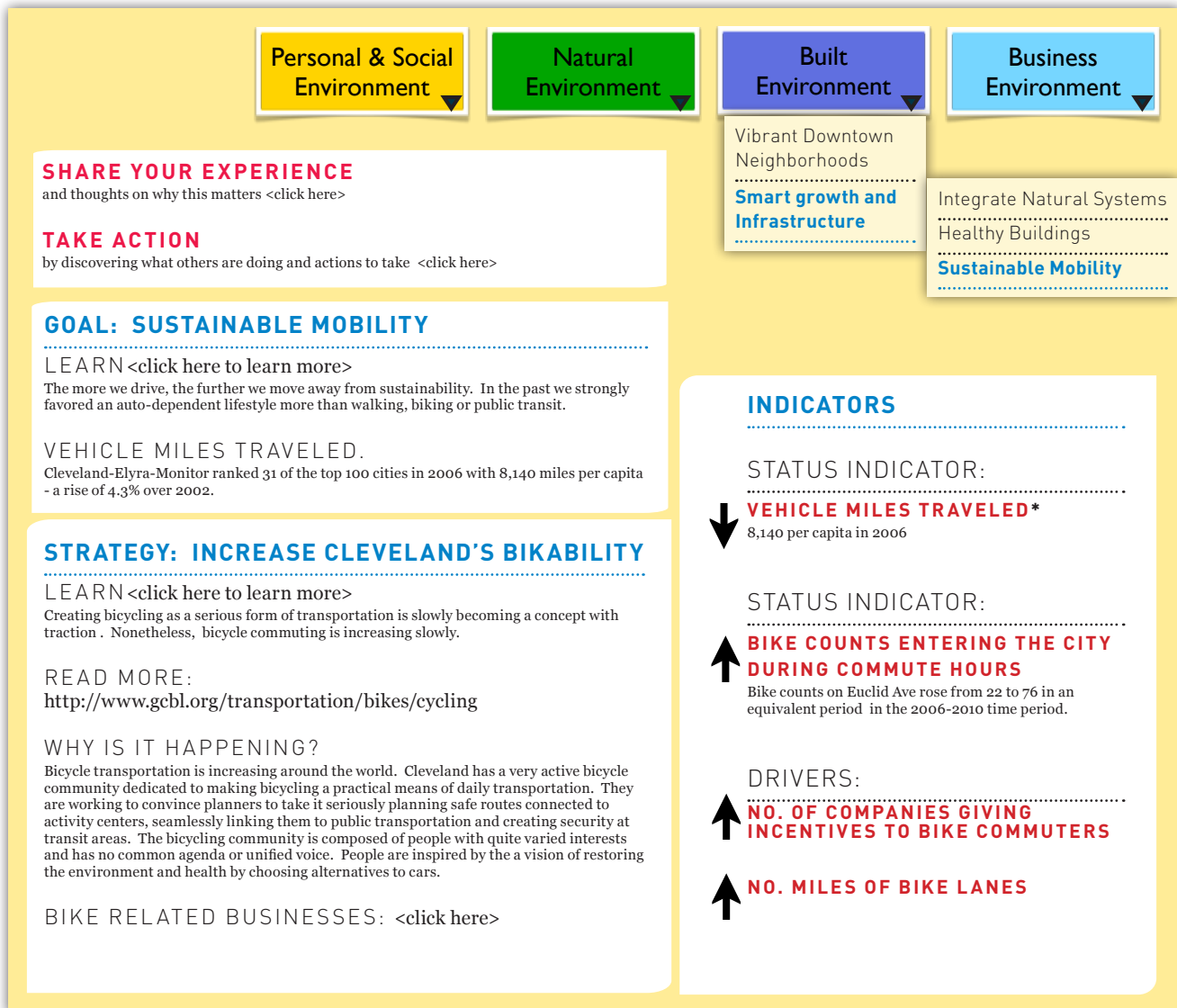
a) Support Government Collaboration Towards Comprehensive Sustainability Reporting

The process of creating an effective sustainability reporting system can be a catalyst for increasing collaboration at several levels. Cleveland can create a collaborative process across departments, and it can also use the opportunity to collaborate across scales (from Neighborhood to City to County), and across multiple boundaries – between local regional

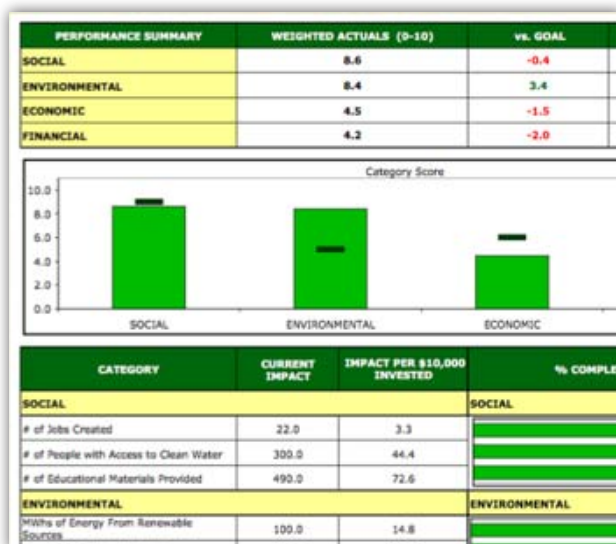
governments. A strong regional sustainability reporting system can position Cleveland to receive state and federal funds, and it will be attractive to cutting-edge businesses. Furthermore, the process itself can be leveraged to create more communication and establish connections and buy-in that will set the precedent for collaboration on other regional and bioregional issues in the future.

SAMPLE DASHBOARD SC2019 "GOAL: SUSTAINABLE MOBILITY"

This sample dashboard shows how sc2019 can tell the story about Cleveland's progress in achieving its goal of Sustainable Mobility.



ANOTHER EXAMPLE DASHBOARD



SVT Group (copyright 2009). B. Galimidi and S. Olsen.

b) Support Organizations developing their own Environmental Management Systems.

The probable future is that companies and organizations will be mandated to develop management systems that systematically embed doing the right thing into standard practice. International Organization for Standardization (ISO) 14000 series provides a framework and certification for organizations to chart their environmental impacts. Companies who develop an Environmental Management System (EMS) will be ahead of this standardization process. Wisely used, not as mere compliance, reporting has intrinsic value for driving innovation, continuous improvement and business value. Providing some technical assistance will help move this process quickly.

c) Tracking Carbon Emissions through the Supply Chain

In the probable future, Carbon will be counted and taxed. We recommend that the City, the Utility and a representative group of local corporations and NGOs consider providing rigorous quantitative carbon emission results for a wide variety of environmental impacts through a hybrid life-cycle analysis system leading to an environmental dashboard. Such an analysis, currently being undertaken by the California Utility, PG&E with The University of California and the contractor, Climate Earth. Numerical results for environmental impacts are contextualized and made practical by comparing them with financial and other data sources. For example, by processing the City of Cleveland's procurement data it will be easy to

review environmental impact by suppliers, materials, departments, geographic areas, tax base/revenues, or almost any other useful metric supported by the City's existing data sources.⁴

d) Promote Corporate Social Responsibility Reporting

Survey the number of large businesses in Cleveland that are using a voluntary Corporate Social Responsibility Rating Systems to leverage increased use and as a basis for providing technical assistance. The two most commonly used systems are Global Reporting Initiative (GRI) and the Carbon Disclosure Project (CDP). Interestingly, the two initiating organizations are working to combine their systems. A survey of top California Bay Area companies done by the EcoStrategy Group took a close-up look at publically available information to determine trends, practices, transparency and how well companies were addressing the concerns of stakeholders in terms of reporting the results of their environmental practices.⁵

GOOD METRICS PROVIDE...

COMMUNITY ENGAGEMENT AND COMMUNITY STRENGTHENING

Discussing Community wellbeing indicators provides a concrete focus to engage local citizens and strengthen communities in discussions about what matters to them.

SUPPORT FOR CITY COUNCIL DECISION-MAKING

Metrics help ensure that the decisions that elected leaders make about policies and budgets are based on the best local evidence. This includes evidence on community priorities, as well as the key social, economic, environmental, cultural and governance trends.

INTEGRATED POLICY AND PLANNING

The SC 2019 metric framework is an integrated map of key community priorities. It shows how different issues fit together and how progress in one key area of concern to local communities is related to another and supports the integrated or 'triple bottom line' approach.

A FOCUS ON RESULTS

Metrics can help the city and their key partners shift the focus from inputs (for example dollars spent on recreational facilities) and outputs (e.g. new parks and sporting facilities) to outcomes and practical results (e.g., improved participation in sporting and recreational activities, health benefits).

INCREASED ACCOUNTABILITY AND TRANSPARENCY

A good system of wellbeing indicators will give city leaders the basis for better informed and more comprehensive reporting. Examples of administrative and democratic benefits include: better and more meaningful progress reports to local citizens; better policy; and good local data to attract state and federal funds.

⁴ See ClimateEarth.com for more information

⁵ <http://ecostrategygroup.com/reports/>



5.4

COMMUNICATION : OUTREACH & BRAND

It has been said that a great speech only needs to do three things: tell people what you are going to tell them; tell them; and, then tell them what you said.

Sustainable Cleveland 2019 is an opportunity to involve more people in shaping the future of the city, as well as an opportunity to redefine Cleveland's image and dispel the negative images of the past.

To succeed in reaching out to a broad audience, it will require a compelling brand identity that resonates with people's vision for a new city, and a web-based clearinghouse of information about all the activities related to the 2019 process, and a creative outreach plan that communicates with a wide range of stakeholder groups. The complete strategic plan report provides guidance on the development of each of these items.

KEY ACTION STEPS FOR COMMUNICATION:

1. ESTABLISH CLEAR AND EFFECTIVE PORTALS FOR COMMUNICATION AND RESOURCES

Create community dashboards to communicate progress

Improve a website for communication

2. DEVELOP AND LAUNCH A BOLD PR CAMPAIGN (INCLUDING A MULTICULTURAL FOCUS)

3. ALIGN & MOBILIZE CHAMPIONS AND AMBASSADORS

Design & Host Action Alignment workshops to align stakeholder groups with the SC2019 Action guide

Continue to update and compile 2019 Aligned Initiatives

Recruit and train Ambassadors

4. DEEPEN & INTEGRATE BRANDING

5. DEVELOP AND IMPLEMENT COMPREHENSIVE PLAN FOR CELEBRATING PROGRESS

COMMUNICATION : OUTREACH

PRINCIPLES OF OUTREACH AND COMMUNICATION

Maximize interactivity - opt for communication over processes and tools

Invite contribution at every possible point

Maximize diversity and inclusiveness

Use targeted multi-cultural marketing strategies

Create champions

Use play, fun and surprise

Give imprimaturas or seals to champions and endorsers

Give rewards

Schools create curricula at all levels

Create a movement

Collect stories from all levels: individual, family, organization, business, government, neighborhood, community

Keep what works, respond to change

Archive what works and what doesn't work

Notice where the energy wants to go

Be agile in supporting "hop spots"

OUTREACH STRATEGY

One often neglected element of the larger need to directly communicate a more positive image is the need to bring in as wide an audience as possible and to provide specific attachment points where everyone can play a part and see themselves in the new Cleveland "story". To do this, it's essential to craft a communication strategy on a number of levels that will resonate with a wide array of stakeholders.

While more traditional, mainstream marketing techniques are usually employed to begin framing up new brands, the outreach Cleveland will need includes new ways of directly and indirectly approaching and reaching as broad an audience as possible. Given Cleveland's diverse populations, unique neighborhoods and wide cultural fabric, the communication approach must include newer ways to reach a widely multi-cultural audience at a variety of different levels.

As part of the overall communication strategy, the direct action of being involved in person-to-person and group-to-group outreach will be critical to reach all elements of

Cleveland's diverse mix. There is nothing quite so compelling as volunteers on the ground, in the neighborhood, leading the way by example. The power of personal persuasion by example and in the simple act of doing, not just "preaching", will solidify the SC2019 goals and vision in more concrete ways than any traditional marketing campaign alone could ever accomplish.

The types of community outreach could include things like an SC2019 neighborhood "extension agent" that helps locals turn an abandoned block into an urban garden; or a volunteer who could act as a liaison to help a community to achieve better energy

efficiency; or facilitators that could hold meetings with local leaders to develop hyper-locally focused neighborhood organizations to tackle areas within the SC2019 goals.

Any number of mini-initiatives, represented by a “boots on the ground” army of volunteers, all working to a common vision, would go a long way to setting concrete examples of what SC2019 is and its direct impacts on Cleveland. Think of it as those “thousand points of light” once championed by G.H. Bush, but this time focused on Cleveland in a real and tangible way. Nothing is so powerful as a concrete example. SC2019 can use this to bring its message home.

These types of concrete outreach-by-example, coupled with more traditional marketing methods, mass media and new media techniques, spread over time and area can have a deep impact on Cleveland’s image of itself, and the image others have for the region. This image and the techniques for achieving it should be coordinated where possible with other organizations who also have in interest in how Cleveland communicates its message.

One suggestion would be to form a regional “image council” that would be made up of representatives of all the organizations who market various aspects of Cleveland. The purpose would be to coordinate efforts and devise mutually beneficial strategies for telling the larger story, while each group also hones its more direct pitches in ways that harmonize with the efforts of others. This type of strategic alignment and leveraging on the efforts of others can have a powerfully positive effect.

OUTREACH STRATEGY ACTIONS

1. DEVELOP AND LAUNCH AGGRESSIVE PR CAMPAIGN

Develop and launch an aggressive Public Relations campaign as soon as is feasibly possible. Public Relations can be conducted at a relatively low cost and the return on investment (ROI) is substantial because it allows you to reach your target audience in masses. Building in a Public Relations component for Sustainable Cleveland will immediately:

Stimulate awareness about sustainability among all residents, ethnic groups, businesses and individuals

Create an image of a movement that is active and innovative

Strengthen people’s understanding of sustainability

Create more credibility than paid advertisement alone

Promote engagement

Build community ownership

Creates the steady drum beat of attention needed to make it real

The PR campaign should include Social Network Marketing and traditional PR activities. **Social network marketing is a technique that uses pre-existing social networks to produce increases in brand awareness, by encouraging people to pass the word on. This strategy creates the potential for exponential growth in the marketing messages exposure and influence. Social network marketing for Sustainable Cleveland might include the following strategies:**

Implement the SC 2019 Communication Working Group plan to take social media to the next level. Continually update the Facebook account/profile for Sustainable Cleveland every time something happens in Greater Cleveland that promotes sustainability and economic development. Friends of Sustainable Cleveland can comment on the project’s progress.

Expand use of the SC2019 Twitter account. Twitter is the social networking and micro blogging service that enables its readers to send and read messages known as “tweets”. There are currently more than 100 million users worldwide.

Continue a SC2019 Blog. Green City Blue Lake has a blog and developed many stories. E4S will have one soon and CWRU Fowler Center has a database of stories from around the world. Ensure that stories and materials are stored for easy access

Continue the on-line newsletter sponsored by the Mayor’s office and the Stewardship Council with updates, ideas, promotions etc.

Traditional PR strategies should include:

Telling Cleveland’s story of sustainability through relevant stories that will be pitched to local, regional and national print media to change the mindset of how Clevelanders and the nation view local strides towards sustainability. An Oral History Project can be one source of personal stories. A central storage site for stories will be helpful.

Booking radio and television interviews with local, regional and national media

to discuss trends in the Cleveland area, highlight the City’s progress towards 2019 (strengthening networks, governance, leveraging assets synergies, policies, innovation, etc.), and promote the points of celebration.

Identifying promotional opportunities that promote the sustainability message (festivals, concerts, community events, etc.).

Developing web-based contests encouraging individuals, businesses and organizations to post best case practices with examples that can be incorporated into everyday life at home, work or in the community.

2. ALIGN AND MOBILIZE SC2019 CHAMPIONS AND AMBASSADORS

Develop a communication workshop for SC2019 “champions”—Train a “spearhead” group of champions including members of the current Advisory Council as well as key City Department leaders, corporate sustainability advocates, University sustainability programs and youth leaders to communicate the objectives, content and spirit of the plan, maximize understanding, acceptance, and application in their organizations.

Create an SC2019 Ambassadors Corp. Train diverse group of volunteers to make presentations to organizations and organize or volunteer for activities. Speakers’ bureaus and public involvement volunteers serve the community in a variety of ways. Speakers can be organized to address civic groups, social clubs, professional organizations, neighborhood associations, and other groups. The entity chosen to coordinate marketing for Sustainability Cleveland should have the capacity to recruit, thoroughly screen and train a corps of well-respected individuals (SC2019 Ambassadors) to support efforts related to community education, business involvement, and individual participation.

Identify youth and young adults with leadership potential and develop a “youth strategy.”

The SC2019 youth leadership activities could include the following:

Create a youth-led squad of urban garden installers

Create mascots that go into the neighborhoods to raise visibility.

Ambassadors go into neighborhoods to pitch the annual theme.

Ambassadors staff a hot line.

Hire a Volunteer Coordinator to effectively manage all of the requests and promises

3. DEVELOP CITYWIDE PROMOTION OF SC2019 “CELEBRATION POINTS”

Sustainable Cleveland has identified nine areas related to sustainability as focal points in which to measure progress:

COMMUNICATE SC2019 IN WILD AND CREATIVE WAYS
The Portland “City Repair Project T-Horse is a striking mobile van that goes to neighborhood events. SC2019 might develop their unique version.



- ENERGY EFFICIENCY
- LOCAL FOODS
- RENEWABLE RESOURCES
- WASTE
- CLEAN WATER
- TRANSPORTATION
- GREEN SPACES
- VITAL NEIGHBORHOODS
- TBA

The comprehensive communications plan should incorporate these “Points of Celebration” into every aspect of the plan by connecting them to everyday practical activities for individuals, green practices for businesses and potential business, and improvement projects for communities, including:

Organize the Sustainability Cleveland website in a way that highlights the nine points of celebration:

ENERGY EFFICIENCY

Individuals – turn off lights, unplug appliances, etc.

Business – buy recycled office supplies and reusable products, offer perks (special parking space) to employees that car pool, etc.

Communities – Organize neighborhood clean-ups, build community gardens, etc.

Annual Celebration—Utilize a marketing firm to coordinate a 1-2 week celebration that awards the high achieving “green” individuals, groups, and businesses. Each year could highlight and commemorate on of the ten points of celebration.

The two-week count down to the annual event would be a time to reinvigorate the entire community around the issue of sustainability and why it matters. During that period that period there would be more television and radio interviews, newspaper stories, representatives at festivals, etc. The Annual Celebration and awards dinner will be the finale.

KEY RECOMMENDATION : CREATING SC2019 CHAMPIONS

A great way to accelerate plan acceptance is to immediately develop a workshop for Champions that will allow them to convey the plan to their own constituencies. This workshop can be replicated for other groups of champions including new Advisory Board Members and representatives of diverse audiences not included in the first round of trainings. Initial Champions may become part of a team of ambassadors. Several Advisory Board Members included in workshop development will be able to replicate it for other audiences. This strategy would give leaders and employees in companies a way to inform their employees and supply chains as well as to recruit volunteer teams of corporate volunteers. Ultimately, by implementing train-the-SC2019 Champions, the message of SC2019 will be disseminated to many Clevelanders through existing structures including businesses, schools, neighborhood associations, churches, etc. Broadening the group of champions will spread the task and ease the burden on the existing champions and non-profit organizations.

ROLE OF PAID ADVERTISEMENT

Traditional marketing can play an important role. SC2019 should run a series of paid advertisements to promote the yearly goals, tips, and progress of SC2019. The advantage of paid advertising is that you have complete control. Unlike public relations efforts, you determine exactly where, when and how often your message will appear, how it will look, and what it will say. You can target your audience more readily and aim at very specific geographic areas and demographic markets.

Chosen marketing should have strong ties to local, state and national advertisers, and be capable of developing a media calendar that includes print, online, network and cable options that will effectively promote and further the goals of Sustainable Cleveland.

INSPIRATION FROM ATLANTA'S NATIONAL BLACK ARTS FESTIVAL

The National Black Arts Festival was founded in 1987 after the Fulton County Arts Council commissioned a study to explore the feasibility of creating a festival **dedicated to celebrating and advancing the work of artists of African descent.** The study provided compelling reasons why the Atlanta community was the right place for such a festival. With Fulton County Government as the major sponsor, joined by additional corporate and foundation sponsors, the Festival's first biannual summer festival was held in 1988.

Over the years of the festival, artists and attendees alike have come to expect the emerging and renown artists to grace the stages and exhibition spaces of the city; collectors look eagerly to the Artists' Market for their next opportunity to buy from some of the best artist in the country; film fans flock to the screenings of known and unknown work; concert halls are filled with the voices and instruments of those who are considered to be the standard bearers in jazz, gospel and everything in-between; the masters of the stage and screen have joined in over the years; and the writers who have preserved the African American voice in literature have with their

participation. People of all ages and races have gathered together to bask in the presence of: Maya Angelou, Charles Dutton, Wynton Marsalis, Amiri Baraka, Avery Brooks, Nancy Wilson, Sweet Honey in the Rock, Spike Lee, Ousmane Sembene. Peal Cleage, Kenny Leon, Carrie Mae Weems, Radcliffe Bailey, Sonia Sanchez and literally thousands of other artists from this country and beyond.

As the festival firmly established itself as one of the most important festivals in the World presenting the art and culture of the African Diaspora, it seized the opportunity to expand to year round educational and humanities programming and hosting the Festival every year. With a regular presence the festival looks forward to continuing and strengthening its important ties with its many local, national and international partners. The Festival's success has been anchored by the willing and creative collaborations of local cultural institutions. This year alone there are over 40 independently produced programs; without them side by side, the festival's energy and ability to reach so many—the young and old in every corner of the county—would be dramatically diminished.

But none of this is done without volunteer leadership. The Festival has a history of attracting volunteers from every sector from government to corporate to university professor to art collector and young entrepreneurs; all dedicated to ensuring that the festival remains financially stable and artistically relevant and connected.

WHY INVEST IN MULTICULTURAL MARKETING FOR SUSTAINABLE CLEVELAND?

Multi-cultural approaches to communicating both the SC2019 brand, as well as a “new story” for Cleveland represent an exciting new day and new way for Cleveland to reach people, on their terms, at an emotional level that begins to reverse decades of less than positive perceptions. The ability to change minds and perspectives of both Clevelanders themselves, and outsiders which we would like to attract, is critical to the Cleveland’s success in becoming a truly sustainable city. Communication is key to this strategy. Cleveland is long overdue for a new story that leads to a new self-image.

1) With a 15.3% population decrease since the 2000 census, the City of Cleveland’s population is 35.8% White (non-Hispanic White alone), 52.5% Black or African American, 9.0% Hispanic or Latino of any race and 1.5% Asian. These demographics underscore the need to engage and involve minorities in Sustainable Cleveland. Given the diverse racial/ethnic make-up of the Cleveland area, it will be crucial to engage these populations to discuss perspectives, develop collective strategies and communicate a target message that promotes change towards sustainability at all levels and across every domain.

2) In the dominant environmental movement, ethical and conceptual frameworks driving ecological initiatives are based on a well elucidated, widely shared ecological philosophy. Yet there

is much we don’t know about minority (African-American and Latino-American) perspectives on environmental sustainability and economic development. If the concept of sustainability is to be incorporated into/and well received by historically underrepresented segments of the community, including minority businesses; organizations; and individuals, then these audiences must be segmented and their perceptions analyzed. Efforts to influence participation in Sustainable Cleveland will be more effective if they are based on an understanding of the target audience’s own perceptions of the issue.

3) There is often a misconception that targeting minority populations can be achieved merely by including racially diverse images in a general market promotion. The reality is, the only way to determine whether your message resonates with a particular audience is to research by demographics and test that message with the intended groups. A key component of multicultural marketing is determining the interests, needs, and motivations of diverse target markets; these are determined through market research methods that aim to learn as much about the target audience and how it thinks, feels and behaves in relation to the issue, program or product- in this case sustainability. The methods should include quantitative research, such as knowledge attitudes and behavior surveys, which reveal

how groups of people think or do something; and qualitative research (such as focus groups and individual interviews), which provides insight into why people think or do what they do.

DEVELOPING AN EFFECTIVE MULTICULTURAL MARKETING/ COMMUNITY ENGAGEMENT PLAN

Multicultural marketing, as with other forms of marketing has the greatest impact when conducted at multiple levels simultaneously, i.e. grassroots (community engagement), business to business, and mass media. Developing an effective multicultural campaign involves research at every stage, with continuous assessment to determine whether the message is on target.

The process consists of five general stages, each of which involves several different types of activities:

- 1) Research & planning
- 2) Message and material development
- 3) Testing and refining the message
- 4) Launching and saturating the message through grassroots outreach and promotional tactics
- 5) Evaluating effectiveness of the message

This process, however, is not necessarily a clear set of linear steps, but rather a process of feedback and adjustments based on new information.



COMMUNICATION : BRAND

Brands, “branding” and brand equity have become increasingly important components of culture and the economy, now being described as “cultural accessories and personal philosophies.” The prevalence of brand in our society has changed the way people think insofar as we use brand qualities and messages to sort and organize information with our computer-brains.

A critical part of any communication strategy is Brand. Developing a consistent and recognizable look and feel to communications materials helps people readily identify the source and content of the communication. It helps them ferret out the messages they want to pay attention to away from the clutter.

DEFINING BRAND

Brand is a symbolic embodiment of all the information connected to a product, company or place, and serves to create associations and expectations around it. A **Brand Image** is the collective perception, planned or incidental, of a product, company or place and is the result of interactions with the people, environment, materials, and messages associated with the product, company or place.

A **Brand Identity** is not a logo alone, but the collective look and feel of the communications materials, as well as the key messages and tagline. This often includes a logo, fonts, color schemes, patterns, photo style, symbols and even sound, which may be developed to represent implicit values, ideas and personality.¹

Effective brands invoke positive emotions or experiences and have adequately aligned perception, reality and goals. They are authentic and yet they are aspirational and inspirational.

BRAND FRAMEWORK

The following pages outline the foundation of a Brand Framework that can serve as a guide through the

¹ Brand definitions by Studio Graphique, Inc.

design and implementation phases of this project. It provides criteria to measure progress and a touchpoint to ensure objectives aren't lost.

For the City of Cleveland, the brand identifying a Sustainable Cleveland and the messages and initiatives that surround it needs to serve many functions and meet many objectives. This is the Brand Framework that should be considered.

- At best, the SC2019 Brand should **resonate with large and diverse constituents, including government, business, non-profit, religious groups and residents**. At minimum, it should not repel or exclude any of those groups nor any ethnic/ racial groups. Not everyone needs to “get on the bus” right away, but the invitation should be open to create opportunities to meet people where they are.
- In order to resonate, there needs to be aspects to the Brand that are **authentic to the nature of Cleveland and Clevelanders****; ties to our culture and our sense of identity.
- At the same time, it needs to push our definition of Cleveland and push ourselves forward, emphasizing the Strategic Vision for a Sustainable Cleveland 2019 and carrying us through 2019 and beyond. We cannot settle.
- The Brand needs to be defined enough to associate with the goal of a Sustainable Cleveland and strong regional economy. And yet it needs to be open and flexible enough for various groups to adapt and evolve the brand to their own initiatives and projects, allowing the People to internalize and Own the concept.

**

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CLEVELANDERS IS USED AS A LOOSELY REGIONAL TERM FOR ANYONE WHO IDENTIFIES THEMSELVES AS LIVING IN, NEAR OR OTHERWISE BEING A PART OF THE GREATER CLEVELAND AREA.

.....

BRAND PALETTE



COLOR

A vivid palette of bright hues sets the stage for the Brand, symbolizing the act of imagining a brighter future, full of color and life and vitality. This palette moves away from the current overusage of soft greens and blues in the sustainability movement so as to not become dated. However, a bright green and true blue are a part of the overall color scheme. Other primary colors include regal purple, inventive magenta and enlightened gold.

These colors are complemented by a palette of neutrals. Falling in the warm gray/beige category, they speak to the overwhelming vote from survey respondents that Cleveland is best represented by the color brown, and is used as a foundation to allow the bright palette to pop.

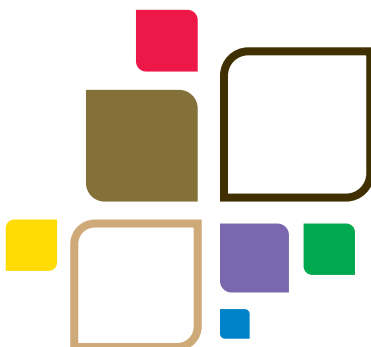
Color trend forecasts into the next year support these decisions.

Aa Bb Cc Aa Bb Cc
DIN

Aa Bb Cc *Aa Bb Cc*
Georgia

FONT

Clarity is key when the messages are broad and complex. Fonts were chosen for their high readability. Georgia, a commonly available font as it was designed for Microsoft in 1993, provides clarity on a computer monitor, even at small sizes. Din is a sans serif font created in the 1930s that has a technological appeal. Both fonts convey a good balance of traditional type forms and modern qualities and both are available as a broad font family.



BRAND ELEMENTS

The Brand Elements are the cornerstone of the Sustainable Cleveland brand. The iconic shape is symbolic of both the seeds we plant and the life that emerges from them. Working together, they can create endless combinations, depicting root systems, plantlife, ecological systems, urban plans. They can work together to describe life, growth, creativity and expressions of freedom.

The Brand Element system may take on one primary form to become the SC2019 Initiative logomark, or it may choose to work freely, allowing the power of the color and shapes to represent the brand while remaining in a state of constant evolution.



PHOTOGRAPHY

They sky's the limit with photography as images will be necessary to illustrate a variety of concepts. Some suggestions to convey the brand in a sensible way:

OUR CITY, THE PROUD AND STRONG HERO OF OUR STORY

Cleveland skyline, especially from lake

Lakefront and riverfront images

Metroparks, our countless assets and attractions



IMAGES THAT CONVEY BRAND CONCEPT

Roots, soil, earth, planet Earth

Nurturing/growing with water; care, love

Connections, values, tradition, community, family

Hard work, innovation, creativity, thrift, responsibility

New possibilities, dream, teamwork, openness



QUALITY OF LIFE PHOTOS

Depicting people of all backgrounds and ages enjoying the assets of the city

Past-present connection photos

Photos that can be interpreted as contemporary or from decades past at the same time, such as fishing, walking near water

TRADITIONAL VALUES PHOTOS

Activities demonstrating traditional values and knowledge that are sustainable in practice even today such as canning, reusing, teaching, crafting, building, inventing, maintaining, sewing, conserving

Intergenerational photos showing family relationships

Local food, farmer's markets, backyard gardens



IMAGES THAT CONVEY INNOVATION AND A POSITIVE FUTURE

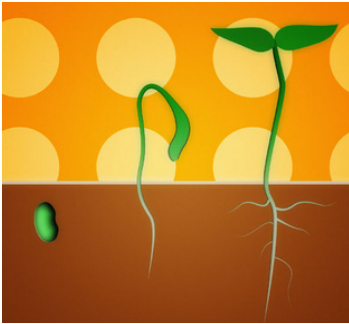
Biotechnology, the transformative educational model, healthcare, design, creativity at work

NATURE RESTORED AND RECONSIDERED

The lake and river and their tributaries, forest/woodlands, properly landscape residential yards

Green roofs, living walls, native plant life, urban gardens/community gardens





ILLUSTRATION

Illustration allows abstract or yet-unrealized concepts to come to life and tell a story. To keep consistency in Brand, limitations should be made to style and colors should follow the established color palette when possible.

- Primary style should be vector art and be largely monochromatic within each illustration.
- Illustrations focusing on nature elements can be emphasized: roots, flowers, trees, soil, streams.
- Hand drawn sketches convey a sense of creativity and imagination.
- Architectural and urban landscape renderings help people envision possibilities

ICONS

Simple, graphic icons can help to create quick associations between concepts, initiatives and events. Specifically, it is recommended that a system of icons are developed to represent the Celebration Points described in this report. These will represent the nine Celebration Themes and can be used by a great number of people to support any conceivable project.



THE BRAND SYSTEM

A PLAN TO GO FORWARD

RECOMMENDATION

It is strongly recommended that the key messages emerge from and/or are strengthened through an in-depth public engagement process. It is critical that these messages **resonate with all Clevelanders**, but especially those identified as “Catalyst Groups” or a “Catalytic Network.” Various constituent groups should be engaged including:

SC2019 core group members who have been a part of this process to date (this is to both ensure we don't drive the leaders “off the bus” and to ensure resonance with SC2019 Strategic Vision)

Government, business leaders

Small business owners, non-profit leaders

Religious groups and residents

People of all backgrounds - gender, race, ethnicity, sexual orientation, age

*It is also recommended that the logo **not** be subjected to public process. It is impossible to achieve consensus on design decisions and it will only lead to discontentment and frustration by all parties. Rather, the logo should be born out of the Brand work done to date and the discoveries learned from the key message engagement described above. It is advisable that the Brand Committee will oversee this work and have authority to decide on the final identity as well as tagline.*

The elements of Brand that are described herein are a starting point. In order to create an implementable Brand system, the following things should happen as near-term next steps.

CREATE A BRAND COMMITTEE

This group should be comprised of about 10 individuals who have various expertise in branding, marketing, multi-cultural marketing, sustainability, economic development and outreach strategy, as well as 1-2 representatives from the City of Cleveland or other funding entity.

CONSIDER MARKETING AND OUTREACH STRATEGIES

Identify the strategies needed for success; outline mechanisms/tools required to understand and implement the strategies. This will help define deliverables and aid in selecting an appropriate branding partner.

BRAND DEVELOPMENT

Engage a professional Brand Consulting Firm/Team to drive the process from public engagement for key messaging through campaign implementation.

DEVELOP A LOGO

As described on the previous page, the Brand Elements, either loosely or in

one defined configuration, may work as the logo to represent the project. If it is determined a singular mark is needed, it is recommended that the logo be modern and very simple in design and complements these flexible elements. The mark should be easy to understand at a first glance but also able to support various uses, meanings and messages that may be attached to this initiative over the next 10 years.

DETERMINE THE KEY MESSAGES

It is generally recommended that you keep to 3-5 key messages that will serve as the overarching principles that need to be communicated about this project. However, the depth and breadth of this initiative will require dozens of sub-messages that speak to various audiences and serve various purposes.

DEVELOP A TAGLINE OR SLOGAN

Many have been suggested and the right tagline may or may not be among them. Once key messages are established, it will be easier to select a tagline that flexes for the situations but also allows people to take ownership of the phrase and make it their own. The tagline should be fun and compelling enough to want to be worn on t-shirts and the bumpers of cars. *It needs to catch on.*

CREATE A GRAPHIC STANDARDS GUIDELINES

This document details the items outlined in this report, what they are, why they were created, their purposes for use and how to use them properly to maintain Brand integrity. The Graphic Standards Guidelines will need to strike a delicate balance of identifying what things should be maintained in order to protect the integrity and impact of the Brand, while still allowing “the people” to have ownership and evolve the Brand as they’d like to in order to serve their own positive purposes. This can be an online document and/or pdf.

CREATE A WEBSITE

A website should communicate the Strategic Vision and Action Plan to the regional community (and beyond). This may be an evolving tool, starting first as a place to simply post the Plan, but growing into a tool that promotes and facilitates transformation into a truly sustainable Cleveland. The website needs to have a “Tool Box,” “Best (Promising) Practices” (biz, community, policy) and “Resources” (local, national). It should be a site that anyone can add to and people could vote up or down on best practices and best resources. It is also recommended that there is an area for Brand where users could review graphic standards, download artwork and images, review messages and methodologies and learn creative ways they can adopt the SC2019 Vision and Plan into their own thinking and activities.

ESTABLISH CENTRAL PORTAL

Also consider a single-source resource Warehouse and/or Portal Website that can serve as place where anyone

can go to post their projects, activities and events as well as learn “promising practices” from others. Think GreenCityBlueLake.com taken to a more robust level of data collection/storage/retrieval/dissemination. The Cleveland Public Library has offered their assistance and could be considered as an agent or keeper of this website. It is important to note that they were extremely successful in outreach as they generated 263 leads to the online survey in just over 2 weeks with nothing more than a banner ad. They have the added benefit of being neutral and accessible to nearly all people in the region.

DEVELOP A MARKETING PLAN

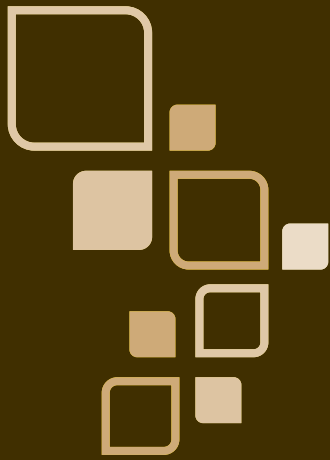
Address a diversity of audience communication access and preference. Consider multiple levels and a wide array of media to reach the most people in the most ways.

CREATE AN OUTREACH / MARKETING CAMPAIGN

Translate key messages into headline copy that grabs attention and support messaging that drives action.

FINAL WORDS

In a world inundated with marketing messages, choices and fierce competition for your attention, thoughtful implementation of the SC2019 Brand and associated components can make the difference between success and obsolescence. Brand serves as the foundation for communication, the touchstone for ensuring objectives are met and the catalyst for the intangibles, such as sense of community pride and belonging. Most importantly, a well-executed Brand strategy can inspire, incite action and drive change. And in order to BE a Sustainable Cleveland in 2019, we must communicate well.



APPENDICES

APPENDIX A: BIBLIOGRAPHY

APPENDIX B: METRICS STARTER-KIT

APPENDIX C: SUSTAINABILITY ASSETS

APPENDIX D: OUTREACH

APPENDIX E: BRANDING BACKGROUND

APPENDICES

APPENDIX A: BIBLIOGRAPHY

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APPENDIX B: METRICS STARTER KIT

SC2019 METRICS STARTER-KIT

This appendix includes formats and sample indicators for measuring: 1) the overall progress towards achieving Cleveland's Sustainable Economy; and 2) specific progress made within the Priorities, Goals, and Strategies of the Strategic Framework. It also showcases sustainability metric systems from other cities and examples of metric dashboards that can communicate progress.

TWO SETS OF METRICS:

1. Sustainable Economic Health of Cleveland (**Macro Indicators**)
2. Progress Towards Goals of the SC2019 Strategic Framework (**SC2019 Initiative Indicators**)

Both of sets of indicators can be organized in relation to the Foundations of Sustainable Economy as outlined in the SC2019 Economic Model & Strategic Framework:

- a. Personal and Social Environment
- b. Natural Environment
- c. Built Environment
- d. Business Environment

MACRO INDICATORS¹

Region-wide Sustainable Economy Macro Indicators respond to the questions: is the economy improving, are peoples lives improved, is the environment improving, is Cleveland's carbon footprint decreasing? Are Cleveland businesses reporting on their progress towards sustainability? Is Cleveland successfully communicating its progress? These Macro Indicators should balance traditional economic indicators with sustainable economy indicators.

Included in this Appendix is a suggestive set of indicators for measuring overall progress toward achieving Cleveland's Sustainable Economy. The examples outlined here are illustrative, not comprehensive. As the SC2019 Stewards determine the final set of indicators, they will be informed by the upcoming release of ICLEI's "STAR Community Index."²³ The STAR Index will have its own framework, but data sets can easily be organized to dovetail with the four SC2019 Foundation Areas.

SC2019 INITIATIVE INDICATORS

SC2019 Initiative Indicators: is Cleveland making progress towards achieving goals within each priority area of the strategic framework? What types of indicators make sense? How is progress toward each goal linked to the big picture? Is SC2019 successfully communicating progress? Below, a starter kit of indicators is suggested for each priority area and goal of the SC2019 Strategic Framework. These indicators are merely examples to begin the conversation, and they are by no means comprehensive. Establishing indicators is often a lengthy and delicate process that should not be done hastily behind closed doors.

Overall Project Success of SC2019—measures of how successful is the execution and progress of the SC2019 Initiative, for instance, number of people involved, public visibility and perception of SC2019, overall community satisfaction, and number of outreach events. For example, one key measure of overall project success is growth in the number of people involved with SC2019. While the starter kit identifies a handful of indicators of project success, additional measures can and need to be determined.

¹ The work by Cleveland economists on the "Regional Dashboard of Economic Indicators 2009: Comparative Performance of Leading, Midwest, and Northeast Ohio Metropolitan Areas" will provide useful inputs to refining the indicators measuring Cleveland's overall economic health.

² <http://www.icleiusa.org/programs/sustainability/star-community-index>

³ Andrew Watterson, the Chief of Sustainability for the City of Cleveland, is currently working with ICLEI in the process of developing the STAR Index.

Sustainable Economy Metrics		
Metric	Why Important	Target Example
Overall Economy: INDEX- SE-0	This index is a single quantitative target made up of the most critical factors needed to measure Cleveland's economic sustainability. This numeric target becomes one of 5 dashboard numbers that can be used for a quick-glance calculation of how things are progressing in a given area. This index should be determined and created by the SC2019 Stewardship Team.	TBD
Economic Health of Cleveland		
INDEX EH-0	This index is a single quantitative target made up of the most critical factors needed to measure the overall success of SC2019 efforts. This numeric target becomes one of 6 dashboard numbers that can be used for a quick-glance calculation of how things are progressing in a given area. This index should be determined and created by the SC2019 implementation structure.	TBD
Metric EH-1 Growth in Targeted Sector Jobs	Jobs are concern #1. Since there may be little control over job growth in some sectors, and other sectors may not be creating desirable or sustainable jobs, it will be important to measure growth of jobs in those sectors SC2019 has identified as desirable, sustainable and higher-wage.	1000 per year
Metric EH-2 % Rise in Regional per capita income	Growing real income per capita is a bottom-line measure of a wealth-creating, sustainable economy. The indicator is total personal income from all sources (e.g., wages, investment earnings, self-employment) adjusted for inflation and divided by the total resident population. Per capita income rises when a region generates wealth faster than its population increases.	5.00%
Metric EH-3 Real Average Wage Growth as a percent of US Avg Wage	Real Average wages are a critical indicator to measure whether people are getting ahead or falling behind. The real question however is whether or not Cleveland is performing above or below other peer groups, as the economy goes through its normal cycles.	1.00%
Metric EH-4 Unemployment Rate as a % of national unemployment rate	Unemployment remains one of Cleveland's most troubling indicators. For real economic progress, this rate needs to be more in line with national norms.	90%
Personal and Social Environment		
Metric	Why Important	Target Example
INDEX PSE-0	This index is a single quantitative target made up of the most critical factors needed to measure the overall success of SC2019 efforts. This numeric target becomes one of 6 dashboard numbers that can be used for a quick-glance calculation of how things are progressing in a given area. This index should be determined and created by the SC2019 implementation structure.	TBD
Metric PSE-1 Neighborhood Projects Successfully Launched	One feature of SC2019 is to catalyze the community and encourage self-help and community-based projects. As SC2019 engages in catalytic activities, how many actually get off the ground?	20 per year
Metric PSE-2 Community College Certificates Awarded, Particularly in the Health Field	All people, especially the disadvantaged, have access to training and jobs with advancement potential. Community colleges are publicly supported and locally oriented colleges that offer programs for transfer to a four-year college, career education programs and continuing education for cultural growth, life enrichment, and skills improvement. The opportunity for further education gives people the chance to train and retrain for well-paying jobs.	500 per year
Metric PSE-3 High School Graduation Rate	The economy of the future will depend on a well educated workforce, beginning in K-12. If Cleveland is to truly prepare for this future and turn its economy around, it must find ways to increase the end result of K-12 by increasing its graduation rate	1% increase per year
Metric PSE -4 Child Care Costs	Access to quality, affordable childcare makes it possible for parents to work and for children to prepare to learn. How successfully a region meets childcare needs has important implications for both the current and the future productivity of its workforce.	5% decrease per year

Natural Environment		
Metric	Why Important	Target Example
INDEX NE-0	This index is a single quantitative target made up of the most critical factors needed to measure the overall success of SC2019 efforts. This numeric target becomes one of 6 dashboard numbers that can be used for a quick-glance calculation of how things are progressing in a given area. This index should be determined and created by the SC2019 implementation structure.	TBD
Metric NE-1 Per Capita Energy Usage	To reduce cost of living, reduce dependence on energy, reduce carbon footprint and to reduce cash flows outside of Cleveland, it is critical to show gains in per capita energy usage.	3% decrease per year
Metric NE-2 Lake Erie and River Water Quality Affected by PCBs and Mercury	Measuring the concentrations of polychlorinated biphenyls (PCBs) and mercury in the environment and in Lake Erie and local river organisms serves as an indicator of the overall health of the Cleveland ecosystem. These contaminants exist in the water and sediment of the Lake and rivers and accumulate in the tissues of birds and fish. PCBs and mercury move through the food web from plankton to invertebrates to vertebrates (including mammals), increasing in concentration. Wildlife health and reproduction as well as human health can be affected by these contaminants..	5% decrease per year
Metric NE-3 % of Energy from Advanced Resources	For the many of the same reasons, reducing overall energy consumption is important, switching to cleaner energy sources will be equally important	5% increase per year
Metric NE-4 Waste Reduction	Reducing waste introduces efficiencies into the social and business environment that consume less space and reduce the potential for landfill contamination	3% decrease per year
Built Environment		
INDEX BE-0	This index is a single quantitative target made up of the most critical factors needed to measure the overall success of SC2019 efforts. This numeric target becomes one of 6 dashboard numbers that can be used for a quick-glance calculation of how things are progressing in a given area. This index should be determined and created by the SC2019 implementation structure.	TBD
Metric BE-1 Public and alternative transportation usage	As a means for reducing carbon, energy consumption and congestion while at the same time potentially improving health (biking and walking), opening up options for alternative transportation usage will be an important metric to track.	5% increase per year
Metric BE-2 Urban Gardening and Local Food Production	As a means of reducing local economic leakages, increasing the availability of healthy food and reclaiming under-utilized urban spaces, local food production will be an important capture point.	5% increase per year
Metric BE-3 Clean Efficient Buildings	Healthy and energy efficient buildings are critical to reduce energy, reduce carbon, increase health and reduce long term costs. The LEED certification process is a means to measure the degree to which buildings achieve these goals.	3% increase in number of LEED certified buildings per year
Metric BE-4 Adaptive Re-use	Adaptive re-use is when a building is converted from a lesser value use, into a higher-value use in a way that increase community wealth and vitality. This is an important indicator to watch because it points to increasing density, higher-value economic contribution. Mixed-use in fill and other positive features	Increase of the number of adaptive re-use projects by 5% per year
Metric BE-5 Urban Density	Urban density is a measure of how efficiently urban space is use. Density is important for closely linked community social structures, as well as in creating highly dynamic and creative economic patterns.	2% density increase per year

Business Environment		
Metric	Why Important	Target Example
INDEX BUS-0	This index is a single quantitative target made up of the most critical factors needed to measure the overall success of SC2019 efforts. This numeric target becomes one of 6 dashboard numbers that can be used for a quick-glance calculation of how things are progressing in a given area. This index should be determined and created by the SC2019 implementation structure.	TBD
Metric BUS-1 Number of Jobs Created	Creating jobs is still the number 1 critical issue in Cleveland and it will be important for SC2019 to accurately track the number of jobs that were created, grown or attracted through SC2019 efforts, as well as overall job creation in Cleveland	300 per year (SC2019) 1000 per year (Cleveland overall)
Metric BUS-3 % Wage Above Avg Wage for Jobs Created	To be successful in improving the quality of life for Clevelanders it is not enough just to create any job. Ideally the jobs created through SC2019 efforts should be clean and higher-than the prevailing average wage. This can be measured by looking at the average wages of new jobs created versus the current average wage.	10.00% above current average wage
Metric BUS-4 Number of New Above Avg Wage and Green Businesses Launched	Creating new, smaller, more innovative and more flexible businesses is at the heart of creating a new economy. While it is understood that SC2019 cannot on its own create new businesses, it can create an environment and fertilize the soil that can accelerate the pace of new business formation	100 new businesses per year

SAMPLE SC2019 INITIATIVE INDICATORS

PERSONAL & SOCIAL ENVIRONMENT	
Priority Area	Culture of Collaboration
Goal	Alignment & Cross-Pollination
<i>Indicator</i>	Frequency of cross-organizational Meetings
<i>Indicator</i>	SC2019 Goals endorsements
<i>Indicator</i>	Multi-Organizational Partnerships
Goal	Communicate Progress & Stories
<i>Indicator</i>	Web Hits and Number of Media Mentions
<i>Indicator</i>	# of Interactive Presentations and attendees
<i>Indicator</i>	# of Stories of alignment and accomplishment on website. Population segments indicate inclusivity.
Goal	Collaborative Governments
<i>Indicator</i>	Bioregional Agreements - primarily on Watershed and Trafficshed
<i>Indicator</i>	Public-Private Partnership Agreements on SC2019 Goals & Initiatives
<i>Indicator</i>	# of Neighborhood Governance Local Control Agreements
Priority Area	Culture of Learning
Goal	Agile, resilient workforce
<i>Indicators</i>	Improvements in Length of Time between Jobs, % Rise in Regional per capita income, Real Average Wage Growth as a percent of US Average Wage
<i>Indicators</i>	Improvements in HS Graduation rates, Advanced Degree Enrollments, Certificate Programs Completed, Literacy Rates
<i>Indicator</i>	Published aggregated skill demand across labor pool sectors
<i>Indicator</i>	# of community-invested job initiatives
<i>Indicator</i>	Increases in Apprenticeship Program enrollment (diversity expanded)
Goal	Sustainability learning for all
<i>Indicator</i>	# Professionals with LEED/ BPI/HERS/ Green Plumbers Certificates
<i>Indicator</i>	Elementary and High Schools Implementing Sustainability Curriculum
<i>Indicator</i>	Increased # of Sustainability Degree and Certificate Programs
<i>Indicator</i>	Tours of Sustainable Locations, Buildings
<i>Indicator</i>	Neighborhood Clean-up Campaigns
<i>Indicator</i>	# of Sustainability Apprenticeships
<i>Indicator</i>	# of purposeful and targeted learning experiences about interdependence, sustainability, and quality of life offered to neighborhood or community members and number of people attending
Goal	Entrepreneurial Thinking (Management Capacity)
<i>Indicator</i>	% of HS offering Entrepreneurship courses
<i>Indicator</i>	# of new Business Starts, with 3 year success, by demographics and regions
<i>Indicator</i>	# of students in regional Business Schools and MBAs awarded
<i>Indicator</i>	# Business Incubators: Expansion of existing and Creation of new

NATURAL ENVIRONMENT	
Priority Area	Restore and Regenerate
Goal	Value & Leverage Natural Assets
<i>Indicator</i>	% of residents have access to public green space (including parks, gardens, and schoolyards) within 300 meters of their home
<i>Indicator</i>	Growth of sustainable lakeside businesses & tourism
<i>Indicator</i>	Increased recreational use of the Lake
Goal	Healthy, Clean, and Beautiful Environment
<i>Indicators</i>	Air Quality, Drinking Water Quality, Bird Populations, Pesticide Use, Lake Erie water quality improvement measured by sediment quality, benthic communities, coastal habitat, and fish tissue contaminants, River Water Quality including PCBs and Mercury
<i>Indicators</i>	Wiki for assessing environmental health particularly related to ecosystem services
<i>Indicator</i>	Brownfield Cleanups Accomplished
<i>Indicator</i>	Neighborhood Cleanup/Beautification Projects Successfully Launched,
Goal	Urban Agriculture
<i>Indicator</i>	Acres of urban agriculture
<i>Indicator</i>	% of Fresh Food grown locally
<i>Indicator</i>	# of existing and new Community Gardens
<i>Indicator</i>	Average Distance from Fresh fruit & Vegetables
Priority Area	Radical Resource Efficiency
Goal	100% Renewable Energy
<i>Indicator</i>	# of KWh of Energy sold back to the Grid (assumes policy change)
<i>Indicator</i>	% of Energy from Renewable Resources (RPI)
<i>Indicator</i>	# Zero Energy Buildings
Goal	Systemic Energy Efficiency
<i>Indicator</i>	# Public Buildings Retrofitted
<i>Indicator</i>	# Homes tested/Retrofit and Certified as performing efficiently
<i>Indicator</i>	Utility, City and Federal incentives are integrated
Goal	Zero Waste
<i>Indicator</i>	% Landfill Diversion
<i>Indicator</i>	# businesses employing recycled materials
<i>Indicator</i>	R&D investment for advanced "cradle-to-cradle" materials

BUILT ENVIRONMENT

Priority Area	Vibrant Downtown & Neighborhoods
Goal	Vibrant Walkable Commerical Centers
<i>Indicator</i>	# of beautification projects in CBD & neighborhoods
<i>Indicator</i>	Acres of green space in CBD & neighborhoods
<i>Indicator</i>	Miles of pedestrian only streets
<i>Indicator</i>	Increased attendance and numbers of cultural festivals
Goal	Transform blighted land and buildings into assets
<i>Indicator</i>	# Blighted buildings converted to artistic purposes vs. demolished
<i>Indicator</i>	Acres of vacant land planted with low mow grass and/or used as neighborhood gardens
<i>Indicator</i>	# Abandoned Buildings deeded to local neighborhoods
Goal	Responsive Local Decision Making
<i>Indicator</i>	# City Forums available to neighborhood members and levels of participation
<i>Indicator</i>	# City decisions based on neighborhood group meeting recommendations for zoning, and cultural activity permits
<i>Indicator</i>	Available local and current asset maps
Priority Area	Smart Growth Infrastructure
Goal	Integrate natural systems
<i>Indicator</i>	# and sq.ft. of green roofs
<i>Indicator</i>	Greywater use - amount of waste captured from water and re-used
<i>Indicator</i>	Progress towards goals of 25% tree canopy for entire city and 15% for Central Business Districts
Goal	Healthy Buildings
<i>Indicator</i>	Number of Buildings Tested and Certified
<i>Indicator</i>	Increase #s of LEED, BPI, HERS Certifications Issued
<i>Indicator</i>	# websites, Public Information Offerings, Press Releases on creating good Indoor Air Quality
Goal	Sustainable Mobility
<i>Indicator</i>	Miles of bike routes and areas connected
<i>Indicator</i>	# of new bike businesses
<i>Indicator</i>	% of Public and alternative transportation usage

BUSINESS ENVIRONMENT	
Priority Area	Discover New Business Opportunities
Goal	Grow New Businesses
<i>Indicator</i>	Growth of new businesses
<i>Indicator</i>	# New Green Jobs
<i>Indicator</i>	% Wage Above Ave Wage for Job Created
<i>Indicator</i>	New Businesses Licenced and # 3-5 Year old businesses
Goal	Implement Sustainable Businesses Strategies
<i>Indicator</i>	# Top 200 companies who have published their GRI results - and summary of Results as a reporting index
<i>Indicator</i>	# Certified Green Businesses
<i>Indicator</i>	Carbon Emissions Reduction By Businesses and in Supply Chains
Goal	Strengthen Local Economy
<i>Indicator</i>	Increase in new businesses per neighborhood
<i>Indicators</i>	Amount of locally sourced calories, gallons, kilowatts, cubic feet, poundage, and units local households consume
<i>Indicator</i>	Reduced economic leakage in neighborhood or community (debt service, absentee ownership, outflow or give-away of assets)
<i>Indicator</i>	# alternative currencies in use
Priority Area	Re-Tool Incentives & Regulatory Systems
Goal	Align Taxes, Regulations, Laws, Codes
<i>Indicator</i>	Increase in policies and tax incentives rewarding local procurement
<i>Indicator</i>	Long-term incentives that encourage firms to develop and deploy new green-economy activities such as R&D capitalizing new equipment and facilities expansion
Goal	Align & Create Incentives
<i>Indicator</i>	# increase in regular media features on sustainable business
<i>Indicator</i>	# Business offering procurement preference to green local suppliers
<i>Indicator</i>	# Buy-cotts
Goal	Innovative Financing/Funding
<i>Indicator</i>	Growth of loans to green business
<i>Indicator</i>	Growth of loans to certified green buildings
<i>Indicator</i>	# Alternative financing programs including Kiva-like models
<i>Indicator</i>	# Investment Funds created to support Social Businesses (i.e., accomplishing a social purpose - but without profit)

Some additional sample metrics for communication		
Metric	Why Important	Target Example
Metric OA-1 Number of Members and Associates of SC2019	For SC2019 to be successful, it must have the support of the entire community. One way to measure support is by counting the number of people who want to identify with SC2019 and its goals by becoming associated with SC2019 in some form.	Year-2 = 1000 Year-4 = 2000 Year-6 = 5000 Year-8 = 8000 Year-10 = 10,000
Metric OA-2 Web Hits and Number of Media Mentions	The public visibility of SC2019 will be one factor that determines how effective SC2019 has been in getting its message out to a broad audience	Avg 2000 new visitors per month and Avg 50 media mentions per year
Metric OA-3 SC2019 Awareness and Results Survey Rating	Once the message is out about SC2019, its goals, its activities, and its results, how it is perceived by its constituents in having an impact is a critical factor in measuring its success	>75% rank as aware and successful
Metric OA-4 Community Satisfaction Survey Results Rating	If the end goal of SC2019 is to improve the quality of life for all, over time, then the bottom line do Clevelanders feel about their community and how satisfied are they living in Cleveland.	15% increase over initial year results indicating improved satisfaction
Metric OA-5 Number of Outreach and Growth Events	For SC2019 to be effective, it must produce or stimulate production of events that gain public attention, engage residents and provide examples of how people can participate.	12 per year

REFERENCES FOR OTHER SUSTAINABLE METRIC SYSTEMS

STAR INDICATORS AND METRICS FROM ICLEI-LOCAL GOVERNMENTS FOR SUSTAINABILITY

ICLEI STAR COMMUNITY INDEX

“The STAR Community Index is a national, consensus-based framework for gauging the sustainability and livability of U.S. communities. STAR will be launched by 2010, and is currently being developed through a partnership between ICLEI-Local Governments for Sustainability (ICLEI), the U.S. Green Building Council (USGBC), and the Center for American Progress (CAP).

Much as LEED™ transformed the building industry, STAR will transform the way local governments set priorities and implement policies and practices to improve their sustainability performance. It will become the definitive means by which

local governments measure and “certify” their achievements.”¹

“The structure, indicators, and metrics of STAR will be established by the Steering Committee and Technical Advisory Committees. Credits will cover a broad diversity of issues that jurisdictions are directly responsible for such as municipal operations and services to issues that jurisdictions have influence over such as environmental protection and quality of life.” STAR indicators and metrics may include the categories listed below²

BE SUSTAINABLE SEATTLE

“Spearheaded by Sustainable Seattle,

¹ <http://www.icleiusa.org/star>

² <http://www.icleiusa.org/programs/sustainability/star-community-index/concept-overview/indicators-and-metrics/star-indicators-and-metrics>

the B-Sustainable Information Commons is the collaborative effort of many individuals and organizations. B-Sustainable is more than a website. It is:

- A regional resource of relevant, trusted, and actionable information.
- A participatory process for identifying goals, indicators and actions based on cross-perspective community dialogues.
- A framework that supports meaningful understanding of the sustainability challenges our region faces.
- A gateway to in-depth information including the latest research reports on regional sustainability issues.
- A network for sharing information about our progress towards sustainability in the Central Puget

Sound region.

- And a forum to promote

ENVIRONMENT

Natural Systems (ecosystems and habitat, water and stormwater, air quality, waste, and resource conservation)

Planning & Design (land use, transportation and mobility, and parks, open space and recreation)

Energy & Climate (energy, emissions, renewable energy, and green building)

ECONOMY

Economic Development (clean technologies and green jobs, local commerce, tourism, and local food system)

Employment & Workforce Training (green job training, employment and workforce wages, and youth skills)

SOCIETY

Education, Arts & Community (education excellence, arts and culture, and civic engagement and vitality)

Children, Health & Safety (community health and wellness, access to health care, and public safety)

Affordability & Social Equity (affordable and workforce housing, poverty, human services and race and social equity)

ICLEI STAR INDEX categories

sustainability strategies, initiatives and actions.”³

SUSTAINABLE CALGARY

The Sustainable Calgary State of Our City project is an in-depth look at the health of Calgary’s living environment. “The quality of our life here in our city is sustainable only if the processes that support it generate long-term health and vitality for all. The goal of this collaborative project is to develop the necessary tools and processes to help our city move towards a sustainable future. More specifically, we are tracking Calgary’s long-term health and vitality by using a set of sustainability indicators such as rates of volunteerism, housing affordability, bird population surveys, adult literacy and transit usage, and more.”⁴

THE SILICON VALLEY INDEX⁵

“The Silicon Valley Index is a nationally recognized publication that has been telling the Silicon Valley story since 1995. Released by Joint Venture and the Silicon Valley Community Foundation every February, the indicators measure the strength of our economy and the health of our community—highlighting challenges and providing an analytical foundation for leadership and decision making.”⁶

THE HUMAN DEVELOPMENT INDEX⁷

“The American Human Development Project’s mission is to stimulate fact-based public debate about political attention to human development issues in the US and to empower people to hold elected officials accountable for

progress on issues we all care about: health, education and income.”

CALIFORNIA BAY AREA ECO-WELL-BEING SCORE CARD⁸

“The San Francisco Bay Index is the first comprehensive effort using scientific indicators to measure the health of the Bay. This unique “report card” lets people know how the Bay is doing, and it helps all of us to track our progress in reducing pollution, conserving water, and restoring habitat.”

GENUINE PROGRESS INDICATOR⁹

A new generation of ecological economists has been developing alternative measures of social well-being. One is the Genuine Progress Indicator, or GPI, which combines performance on 26 variables — economic, social and environmental — to give a more well-rounded view of our quality of life (see below). All of these variables are converted to dollars, so you can add them together.

THE CALVERT-HENDERSON QUALITY OF LIFE INDICATORS¹⁰

The Calvert-Henderson Quality of Life Indicators are a contribution to the worldwide effort to develop comprehensive statistics of national well-being that go beyond traditional macroeconomic indicators. A systems approach is used to illustrate the dynamic state of our social, economic and environmental quality of life. The dimensions of life examined include: education, employment, energy, environment, health, human rights, income, infrastructure, national security, public safety, re-creation and

shelter.

BEST PRACTICES WEBSITE OF GREEN CITIES CALIFORNIA (GCC)¹¹

This includes easily accessible, ground breaking environmental policies, or Best Practices, that you can immediately download and modify for your jurisdiction. Best Practices are organized under the categories of the United Nations Urban Environmental Accords.

ISO 14001¹²

An Environmental Management System (EMS) meeting the requirements of ISO 14001:2004 is a management tool enabling an organization of any size or type to: Identify and control the environmental impact of its activities, products or services; and to improve its environmental performance continually; and to implement a systematic approach to setting environmental objectives and targets, to achieving these and to demonstrating that they have been achieved.

³ <http://www.b-sustainable.org/about-the-b-sustainable-project>.

⁴ <http://www.sustainablecalgary.ca/Page-31.html>

⁵ <http://www.jointventure.org>

⁶ http://www.jointventure.org/index.php?option=com_content&view=category&layout=blog&id=13&Itemid=182

⁷ <http://www.measureofamerica.org>

⁸ <http://www.bay.org/publications/scorecards>

⁹ <http://www.gcbi.org/state-sustainability-2009/genuine-progress-indicator-northeast-ohio>.

¹⁰ <http://www.calvert-henderson.com>

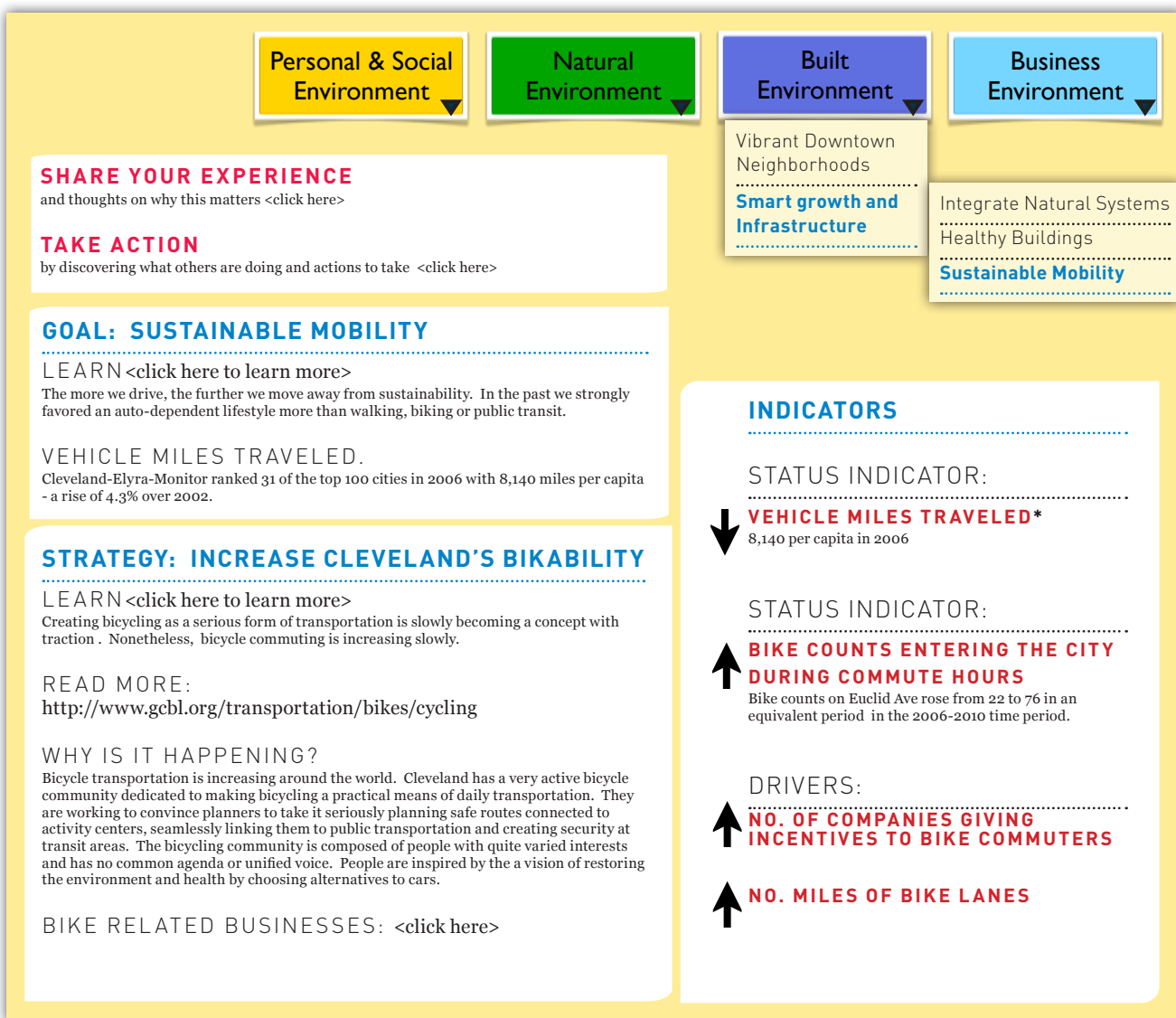
¹¹ <http://www.greencitiescalifornia.org/>

¹² http://www.iso.org/iso/iso_14000_essentials

SAMPLE DASHBOARDS FOR COMMUNICATION

SC2019 progress can be communicated using easy-to-read and interactive Dashboards. The following dashboards offer a range of alternative styles that can be developed to tell the SC2019 story.

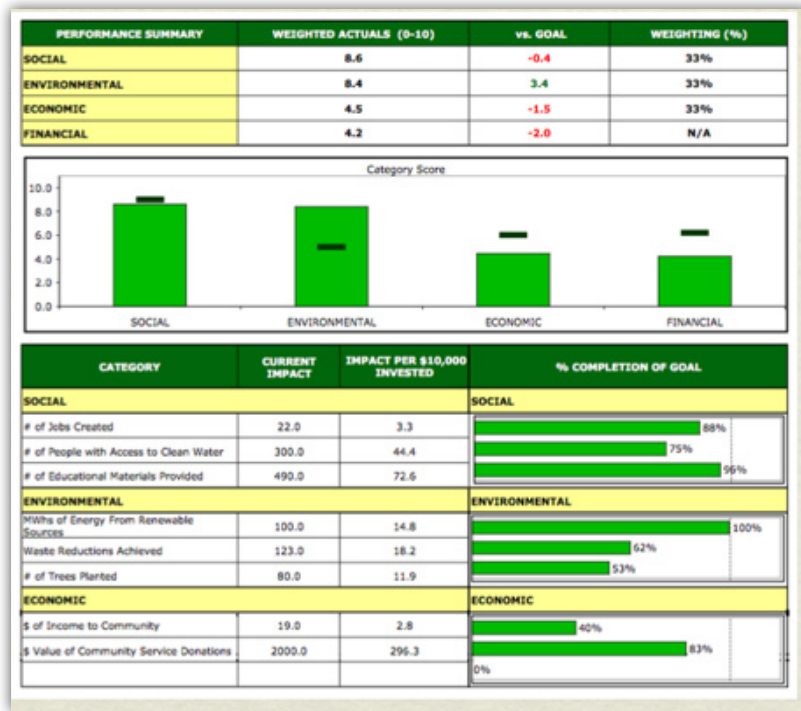
ROUGH SAMPLE DESIGN FOR SC2019 WEB-BASED DASHBOARD



This dashboard is a rough snap-shot of how indicators might be displayed on a website. It includes progress indicators (status and drivers) for a particular strategy within a SC2019 specific goal area. The Dashboard is arranged to show progress and to encourage action and education.

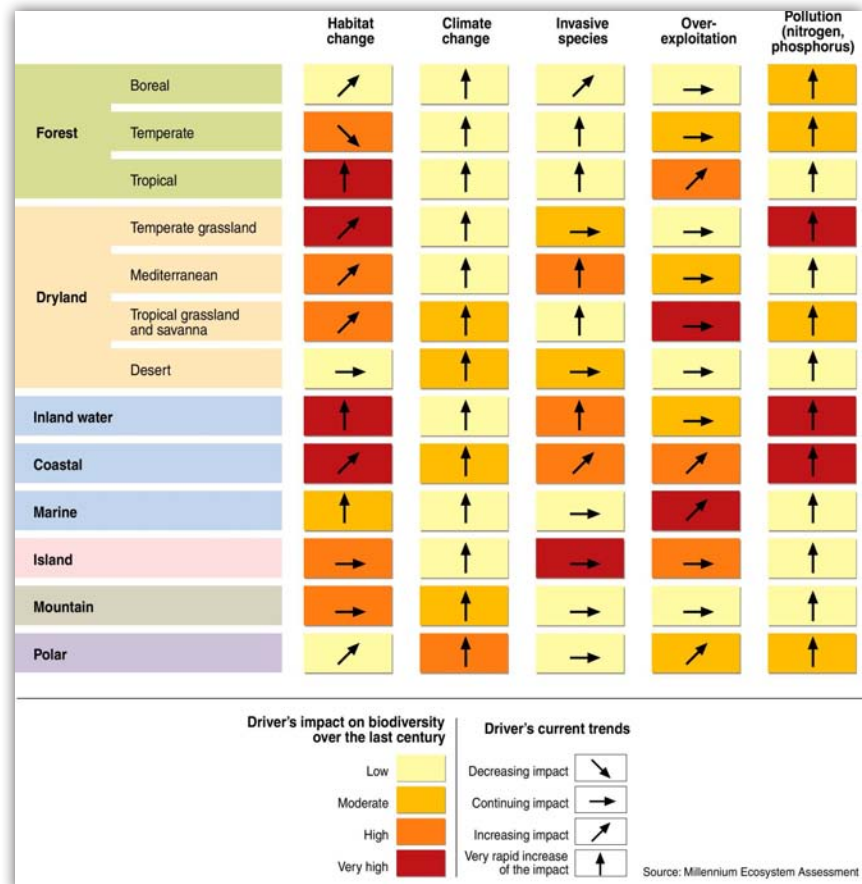
SAMPLE DASHBOARD FROM PALADIN LAW GROUP

This dashboard shows how progress towards a particular goal is tied to overall progress



NATURAL CAPITAL DASHBOARD

The dashboard example to the right is used by the Millennium Assessment to track drivers of habitat destruction. This could easily be adapted for use by SC2019



SAMPLE QUESTIONS FOR A SC2019 SURVEY

This is a sample format for a survey which can elicit status information on SC 2019.

1. We hold deep knowledge about the community: we understand people, their lives, where they live, their aspirations and concerns.

Business as Usual	Lip Service	Starting to Improve	Real Progress	We've Got It
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. We actively apply knowledge of the community in making internal decisions and working with external partners.

Business as Usual	Lip Service	Starting to Improve	Real Progress	We've Got It
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. People outside the organization would describe us as operating as part of the community rather than apart from it.

Business as Usual	Lip Service	Starting to Improve	Real Progress	We've Got It
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX C: SUSTAINABILITY ASSETS

THE NORTHEAST OHIO CHAPTER OF THE UNITED STATES GREEN BUILDING COUNCIL (USGBC)

“The Northeast Ohio Chapter of the USGBC works to transform the way our buildings and communities are designed, built and operated to improve our quality of life and protect natural resources for future generations. We strive to become the recognized leader of the sustainable building movement in the region, to assist the local government in implementing sustainable practices and LEED standards, and to provide outstanding sustainable education opportunities for the local design and construction communities.” - Located in Cleveland, Ohio

<http://www.neogreenbuilding.org/>

CLEVELAND BOTANICAL GARDEN GREEN CORPS PROGRAM

“Green Corps is a work/study program founded by Cleveland Botanical Garden in 1996. High school students earn as they learn, transforming vacant lots into flourishing urban farms. Green Corps students grow fruits, vegetables, and flowers -- as well as job skills, leadership, and a healthier, greener community for themselves and their neighbors. Ultimately, these young people learn to appreciate the earth’s capacity for abundance and, in the process, begin to realize their own abundant potential.”

http://www.cb garden.org/green_corps.html

NASA GLENN RESEARCH CENTER

The NASA Glenn Research Center, located in Cleveland, Ohio, employs more than 3,000 civil service employees and contract personnel. It is a national leader in the high-tech research fields of fluids, combustion, and reacting flow systems. The Glenn Research center has won many awards for its outstanding technology-development research, including 98 R&D 100 rewards and four NASA Software of the Year awards. (paraphrased)

<http://www.nasa.gov/centers/glenn/about/aboutgrc.html>

THE DEPARTMENT OF BIOMEDICAL ENGINEERING AT THE LERNER RESEARCH INSTITUTE AT THE CLEVELAND CLINIC

The Department of Biomedical Engineering focuses on medical research that transitions scientific discoveries to biomedical engineering solutions. This utilizes the Lerner Research Institute’s vast capacity for medical research in order to deliver real-life high-tech solutions for increasing patient health care. (paraphrased)

<http://www.lerner.ccf.org/bme/>

CASE WESTERN INSTITUTE FOR SUSTAINABILITY RESEARCH

Comprised of an interdisciplinary group of researchers, the Case Western Institute for Sustainability Research directs its research towards the areas of water-resource and urban sustainability, with water technology and urban infrastructure development specifically being two of the key focus areas.

<http://www.case.edu/sustainability/research.html>

BALDWIN-WALLACE UNIVERSITY

Baldwin-Wallace University is a Northeastern Ohio educational institution with many faculty professionals in the area of sustainability. From hosting sustainability symposiums on climate change, to installing wind turbines on its own campus, to receiving awards for its renowned Sustainability major, Baldwin-Wallace is at the forefront of making sustainability a reality in the region.

<http://www.bw.edu/academics/sustainability/symposium/>

LAKELAND COMMUNITY COLLEGE

For 2010, Lakeland Community College has launched an engineering specialization in wind turbine technology, as well as a course on solar panel installation. This is an example of an educational institution tailoring its traditional curriculum for the purpose of giving future professionals an understanding of how to incorporate sustainability into their profession of choice.

<http://www.gcbl.org/education/university-initiatives/lakeland-community-college-sustainability-initiatives>

CLEVELAND STATE UNIVERSITY

Cleveland State University, a major educational and research establishment, is well-positioned to support Cleveland in its march towards a sustainable economy. From its own energy-friendly renovations that are projected to save it \$60 over the next ten years, to its Engaged Learning initiative that engages faculty, students, and the community in the aggregation and dissemination of sustainability research, Cleveland State is an vital asset in the ongoing economic transformation.

<http://www.csuohio.edu/committees/sustainability/>

KENT STATE UNIVERSITY

Kent State University features a strong faculty in the area of sustainable urban design. It leverages this and enables the transition of academic knowledge into the real world through its Urban Design Collaborative, which is a program directly linking the expertise of the University's graduate Urban Design program to the public urban design activities of the Urban Design Center of Northeast Ohio.

<http://www.cudc.kent.edu/a-WhoWeAre/howeare.html>

BIOENTERPRISE

Partnering with the Cleveland Clinic, University Hospitals, Case Western Reserve University, Summa Health System and the BioInnovation Institute, Bio Enterprise is a Cleveland-based initiative that assists entrepreneurs in the healthcare and bioscience fields in commercializing and marketing their new service or technology.

<http://www.bioenterprise.com/>

NORTECH

By supporting cutting-edge technology projects across all industries and helping innovative ideas transition from the lab to the marketplace, Nortech is an organization that not only helps the region retain high-tech industries, but also acts a catalyst for the region's full transformation into a high-tech and sustainable economy.

<http://www.nortech.org/WhatWeDo/>

JUMPSTART

The JumpStart organization recognizes that empowering talented entrepreneurs to functionally execute their ideas by creating new companies is a key factor in placing the region at the forefront of high-tech innovation. By providing the necessary resources that enable entrepreneurs to take their ideas from the drawing board to the market, JumpStart does just this.

<http://www.jumpstartinc.org/About/>

CIVIC INNOVATION LAB

The Civic Innovation Lab supports high-tech innovation in the Northeast Ohio with its own unique approach: It not only provides crucial funding to emerging entrepreneurs, but also partners them with mentors— current business and civic leaders— who help them better leverage their ideas by providing key insight on current industry trends.

<http://www.civicinnovationlab.org/about.aspx>

CLEVELAND CLINIC

From launching a green building program that will promote a renewably-powered and green city, to a new environmental office that will support initiatives such as a comprehensive recycling program, a waste tracking tool, and the Global Health and Safety Initiative, the Cleveland Clinic continues to be a driver of forward-thinking sustainability in the Northeast Ohio region.

<http://www.gcbl.org/blog/marc-lefkowitz/cleveland-clinic-creates-environmental-office>

<http://www.gcbl.org/blog/marc-lefkowitz/cleveland-clinic-pursues-green-building>

TRI-C (CUYAHOGA COMMUNITY COLLEGE)

Offering programs in Advanced Manufacturing & Engineering and Alternative Energy/ Biosciences, Cuyahoga Community College trains inexperienced workers to take advantage of emerging opportunities and gives experienced workers a critical skills upgrade that allows them to adapt their traditional skill set to the advancing high-tech and sustainable economy in the Northeast Ohio region.

<http://www.tri-c.edu/workforce/Pages/default.aspx>

CLEVELAND PUBLIC LIBRARY (RESEARCH)

The Cleveland Public Library, having always been a leading resource for research across all disciplines, now has a special “Green Resources” research denomination. This research section offers literature with specific information on green building, green design, renewable energy, and other topics that are vital in transitioning into a sustainable economy.

<http://cpl.org/Research/PopularTopics/GreenResources.aspx>

COSE

Recognizing that the key to a growing and vital economy is the ability for small businesses to prosper, the Council of Smaller Enterprises (COSE) supports small businesses by advocating for group healthcare purchasing programs and supporting beneficial legislation. As new companies begin to take advantage of Northeast Ohio’s transformation towards sustainability, COSE will continue to play an integral role in assisting them.

<http://www.cose.org/About%20COSE.aspx>

GREATER CLEVELAND PARTNERSHIP

The Greater Cleveland Partnership (GCP) recognizes that Cleveland is a city of diversity and supports the region’s 17,000 small business while integrating the various ethnicities present in the region. In order to maintain the results of these efforts, the GCP always keeps a focused eye on sustainable development in all of its endeavors.

<http://www.gcpartnership.com/Advocacy/Public-Policy-Agenda.aspx>

E4S

Entrepreneurs for Sustainability (E4S) has a network of over 7000 entrepreneurs and holds the belief that sustainability principles are vital to new business development in the region. With this vision in hand, E4S will continue to use its vast resources to help forge Northeast Ohio’s sustainable economy.

<http://www.e4s.org/content/index.asp>

CORPORATE SUSTAINABILITY NETWORK

CSN connects, convenes, and facilitates dialogue among key business leaders of Northeast Ohio's largest corporate citizens, enabling them to learn and share sustainable best practices to create value to their companies and the community. In partnership with the Nance College of Business at Cleveland State University, CSN convenes the Corporate Round Table, a peer learning forum attracting 50-100 participants each month.

<http://www.csuohio.edu/business/sustainability/csn.html>

ENVIRONMENTAL HEALTH WATCH

Environmental Health Watch (EHW) is a leading organization in supporting a healthier environment in the Northeast Ohio region. Through direct services, training and consulting, research, and policy development and advocacy, EHW will continue to take initiatives in order to make sure that the region's economy develops in a sustainable and environmentally-friendly manner.

http://www.ehw.org/EHW/EHW_home.htm

POLICY BRIDGE

Policy Bridge recognizes that the vitality of a healthy economy not only depends on sustainable industry practices but also on the engagement of the entire workforce. By promoting public policy that provides career opportunities for the entire range of ethnicities present in the Northeast Ohio region, Policy Bridge acts to ensure that no one will be left out of the region's coming transformation.

<http://www.policy-bridge.org/about.php>

APPENDIX D: COMMUNICATION & OUTREACH

OUTLINE FOR COMMUNICATIONS AND MARKETING CAMPAIGN

ADDITIONAL ACTION STEPS

RESEARCH: CONDUCT MARKET RESEARCH

The successful development of an effective communications plan for “Sustainable Cleveland” should begin with an in-depth understanding of cross-cultural differences in social-cultural values and behaviors. The process of conducting research will not only provide a baseline for determining where the multicultural community stands on the issue of sustainability and economic development (including knowledge, behavior, and attitudes); but also provides insight into the types of messages that will that will promote action.

It is highly recommended that both quantitative and qualitative research be conducted, and therefore at least a portion should be done in the field via focus groups and interviews. We have suggested in the plan to accomplish this through an Oral History Project. Available research suggests that a majority of minority homes own computers, this and other available data suggests that gathering a large percentage of the research through online methods will allow you to reach the target markets. Every effort should be made to include low to moderate-income areas.

RESEARCH OBJECTIVES:

- 1) Determine the method by which research will be conducted
- 2) Clarify target groups and develop demographic profiles
 - a) Business (small, medium size)
 - b) Individuals
 - c) African-Americans
 - d) Hispanic-Americans
 - e) Women;
 - f) other strongly identified ethnic groups
- 3) Develop common, agreed upon language (as defined by the City)
- 4) Determine geographic areas for the projects (Cleveland, Inner/Outer-ring Suburbs, etc.)
- 5) Identify the catalytic groups within the multicultural community currently engaged in sustainability and economic development (faith-based organizations, fraternities, sororities, business leaders, etc.)
- 6) Develop and test marketing messages

DEVELOP SC2019 ORAL HISTORY PROJECT AND STUDIO SC2019

Develop a SC2019 oral history project celebrating what people love about Cleveland now and what is worth celebrating from the perspective of a sustainable future fulfilled. This project would involve having a team leader recruit and train a small group of volunteers to conduct workshops that elicit personal stories that are prompted by responding to one from a pre-designed set of questions such as one specific place or thing you love about Cleveland, what is worth celebrating now and what would be worth celebrating along the way to 2019. Much of the input would be written though video and artwork would also be elicited. If they are willing and able, local libraries would organize and house the materials.

WHY DO IT?

It would:

Serve as a contributory phase of the project as well be marketing research

Stimulate awareness about sustainability among minority groups, businesses and individuals

Create an image of a movement that is active and innovative

Strengthen people's understanding of sustainability

Create more credibility than paid advertisement alone

Promote engagement

Reach some universal core values around which to coalesce & give meaning and motivation to concerning the community intelligence and capability on behalf of future generations

Capture the wisdom of grandparents particularly immigrant populations on sustainable practices such as gardening, conserving resources and community participation.

WHERE WOULD WE DO IT?

We might title this project STUDIO 2019 and choose a variety of places to collect writing, video, audio, taping songs and performances for the web, interviews for radio and local TV shows. By holding these workshops in public places in diverse neighborhoods and taking all who come, the whole of the Cleveland population can be represented – even celebrities invited. To make the project visible and alluring STUDIO 2019 might also be a mobile Alternative Fuel, Green Designed Lab managed by University IT Department Staff or a Media Company partner. This could elicit swarms via tweets for example.

LEVERAGE HIGH PROFILE ACTIVITIES TO COMMUNICATE THE SC2019 STORY

Consider inviting the Lennon Educational Bus to be a studio for filming the SC2019 story, of course involving the Museum of Rock and Roll. The John Lennon Educational Tour Bus is a non-profit 501(c)(3) mobile audio and HD video recording and production facility. www.lennonbus.org



PROMISING PRACTICE : ORAL HISTORY OUTREACH

The “Tell Your Story Project” for the Chicago Sesquicentennial Celebration helped to make their year as participatory as possible. One organizer, a trainer and 5-10 Volunteers conducted workshops from 45 minutes to 2 hours that collected well over 400 written stories, audio and video interviews about memorable places in the city. The project was housed in the back of a storefront. In the front of the store was a round table, with signage and a TV Monitor in the window playing some of the video material. The trainers also went to multiple public locations.

SC2019 – DEVELOP COMMUNICATION PARTNERSHIPS WITH UNIVERSITIES

Meet with IT departments at academic institutions and ask for communication systems that enable community “sustainability alerts” (e.g., tweets) that can contribute to sustainability swarms. How might people swarm to lobbying, community projects such as lawns to food conversions, green demolitions, rehabs, and nature restoration art projects? They should also advise a SC2019 Metrics technical group on how to capture and track information, much of which is already done by Green City Blue Lake. They could advise on creating partnerships with other websites so that alerts are deep as well as broad. The main objective is to both engage the academic community and to elicit current technology.

ORGANIZE SC2019 INFORMATION BOOTHS AT FESTIVALS, CONCERTS, FAIRS, PARADES, AND OTHER COMMUNITY EVENTS. (AS PART OF STUDIO SC2019)

Strategy: Give information, elicit contributions, sell schwag, use give aways.

Suggestions: Offer schwag prizes for correct answers on a quiz

HOST FUND-RAISING EVENTS

Strategy: Meet and Greet the Public and raise funds.

Suggestions: Create organize bike rides or runs, walks or other events. Climate Ride is a national organization that creates charity bike rides. <http://www.climateride.org/>

DEVELOP SC2019 “GIVE AWAYS”

Strategy: Give low carbon footprint innovative marketing materials such as shopping list pads that reinforce trip chaining.

Suggestion: See the Chattanooga Lifestyle Initiative, “Household Eco Team Program,” a peer-support approach to reducing single occupancy driving.

BROADEN WEBSITE LEVERAGE

Strategy: Reach the general public and link to other relevant sites.

Suggestion: Have Links to efforts in each Goal in the SC2019 website.

HOST SC2019 COMPETITIONS

Strategy: Develop web-based contests encouraging individuals, businesses and organizations to post best case practices with examples that can be incorporated into everyday life at home, work or in the community.

Suggestion: Create “highest-compliance” contests between different neighborhoods

IDENTIFY SC2019 PROCLAMATIONS

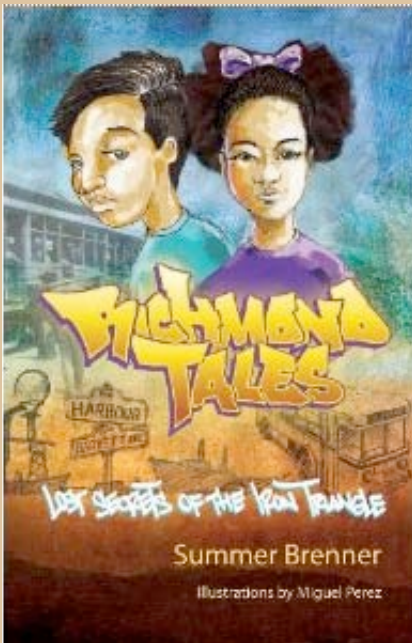
Strategy Working with the mayor’s office declare particular days or to

Suggestion: Create weeks around Celebration Points and also attach SC2019 Logo to events that forward SC 2019 such as “Bike to Work week”

PROMISING PRACTICE: INSPIRE YOUTH TO UNDERSTAND SUSTAINABILITY AND SHARE WITH THEIR FAMILIES

Richmond, CA schools engaged a local author and Richmond historian to write a novel for Middle School Students to engage students in summer reading and it became a huge hit.

“When Maisha (African American) and Mario (From Mexico) became friends, their adventures taken them on a journey to discover the Lost Secrets of the Iron Triangle. The book (and workbook) is in all Richmond schools.



IMPLEMENT STREET AND PUBLIC TRANSPORTATION SC2019 SIGNAGE

Strategy: Present brief, simple facts to the traveling public.

Suggestions: Variable message signs.

CREATE SC2019 PUBLIC SERVICE ANNOUNCEMENTS

Strategy: Prepare Public Service Announcements specific to areas

Suggestions:

Encourage local theatre companies to show them before the movie

Employ local celebrities.

Encourage PSAs on local jumbotrons

CREATE ENGAGING SC2019 SCOREBOARD DYNAMICS & LINK TO MAJOR PUBLIC EVENTS

Strategy: Create a simple to understand scoreboard (also part of the metrics plan)

Suggestion: Display the scoreboard as a PSA at every major athletic event. One “hook” could be games that coincide with Earth Day. The Yankees ran ads during seven home games and on their electronic scoreboards at Shea Stadium before the World Series.

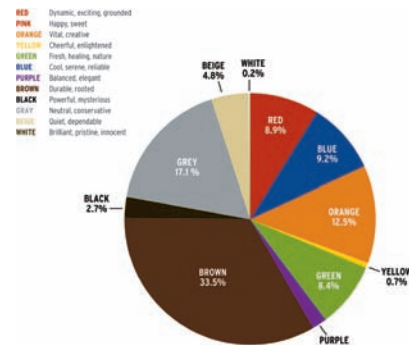
HOST WORKSHOPS FOR TEACHERS

Strategy: Provide accurate information that can be incorporated into classroom presentations and hands-on demonstrations.

Suggestions: Incorporate into the workshops an activity that encourages students to share the information with family and friends

APPENDIX E: BRAND BACKGROUND

What color is Cleveland?



If Cleveland were a pair of shoes, which kind of shoe would best represent the community?



THE INPUTS

In order to understand the view Clevelanders have of themselves today, we focused on the following documents for primary input:

RESEARCH DATA FROM THE GREATER CLEVELAND PARTNERSHIP, CONDUCTED IN 2007 AND USED TO DEVELOP THE CLEVELAND PLUS REGIONAL MARKETING CAMPAIGN.

PRIMARY RESEARCH VIA ONLINE SURVEY DESIGNED TO CAPTURE THE "VIBE" OF CLEVELANDERS.

In order to understand the opportunities and vision we have of our sustainable future, we focused on these documents for primary input:

SUSTAINABLE CLEVELAND 2019 PRE-SUMMIT BRIEFING PAPER.

SUSTAINABLE CLEVELAND 2019 SUMMARY OF INITIATIVES GENERATED BY THE 2009 SUMMIT.

PARTICIPATION AND FINDINGS FROM THE ETG SC2019 PROJECT PROCESS AS DETAILED IN THIS REPORT.

THE ONLINE SURVEY

The online survey was designed to capture the "vibe" of Clevelanders as they felt about themselves today. A few points worth noting:

- We purposely did not indicate that the survey was for SC2019 until the final page so as not to color the responses. However, a good number of respondents were linked to the survey through sustainability-focused websites such as Green City

Blue Lake, so many people were aware of the survey goals.

- The questions were abstract and encouraged respondents to think associatively.
- We used a blend of multiple choice, single textbox and comment/essay questions in order to elicit varied responses.
- The survey was decidedly unscientific as we did not attempt to capture demographic information or make concerted efforts to ensure that a broad demographic base was surveyed. Given time and participation restraints, we consider this data a "finger in the wind." However, its alignment with other research, notably the Greater Cleveland Partnership data which was both quantitative and qualitative, indicates that the findings are on target with how Clevelanders view themselves and their city.

A summary with interpretation of the survey results is in the Appendix.

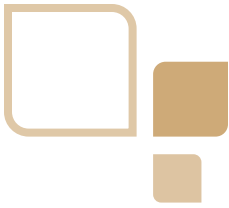
The online survey served a primary purpose to hear from Clevelanders about how they feel about our city and our future. However, its secondary purpose was to serve as an experiment for community outreach. As a part of the necessary branded marketing campaign that will come as community outreach efforts are realized, we wanted to see if online surveys, with links posted on popular local websites, would reach a broad constituency and generate interest.

THE KEY FINDINGS

There are many qualities of Clevelanders and the City of Cleveland that we should leverage to push us forward. These are the characteristics where the Brand can evoke authenticity.

(In alphabetical order)	SELF-RELIANT	As well as underscoring:
BRAVE	STRONG	OPPORTUNITY FOR ALL /
COMFORTABLE	THRIFTY	INCLUSIVENESS
COMMUNITY-CENTRIC	TOUGH	QUALITY OF LIFE
CREATIVE	VIBRANT	SENSE OF URGENCY
CULTURED		
DETERMINED	There are other qualities that we need to leave behind such as:	And finally, there are things we should be considerate of as we move forward with the development of a Brand that will WORK:
DIVERSE (NOT JUST ETHNICALLY OR RACIALLY)	BORING	• Confusing or alienating definition of the word Sustainable (traditional sense of word vs. “green”; elitist as in feeling you are inside or outside this circle); perception of “green” as a trend rather than a way of being or a revolution that is here to stay
ENTREPRENEURIAL	SELF-DEPRECIATING	• Overusage of colors green and blue today feeling trendy and dated at some time in the near future
FAMILY-CENTRIC	WEATHER-ANGRY	• Opportunity to reflect on traditional values and activities as real ways to be sustainable even if you don’t know the word
FRIENDLY		• Opportunity to leverage our work ethic and creativity to create a new economy
FUN	And there are qualities we need to convey or emphasize in the Brand in order to envision a new future:	• Communication goals to create a Brand that attracts, informs, evolves and is FUN!
GREEN	BOLD	
GRITTY	CREATIVE	
HARD-WORKING	DYNAMIC	
HUMBLE	ENVIRONMENTALLY RESPONSIBLE	
INNOVATIVE	FLEXIBLE	
LAID BACK	IMAGINATIVE	
LOYAL	INNOVATIVE	
OPEN TO POSSIBILITY	PERSISTENT	
OPTIMISTIC	VITALITY	
PATRIOTIC		
PERSEVERANT		
RESILIENT		

THAT’S A LOT TO THROW INTO THE BRAND POT.



CONCEPTS FOR THE SUSTAINABLE CLEVELAND 2019 BRAND

Using the inputs and group discussion, the branding team (comprised of branding firm Studio Graphique, ETG and members of the SC2019 team), identified three primary approaches that would be appropriate for the Brand Foundation. These concepts were then vetted back out to the team in the form of Mood Boards — a visual and keyword palette representing the essence of each concept.

These are designed to express MOOD, so the images, words and phrases may or may not appear in final Brand; the goal is to create a snapshot that evokes a feeling, to hear how individuals feel when they see it and to reflect whether that feeling suits the project objectives.



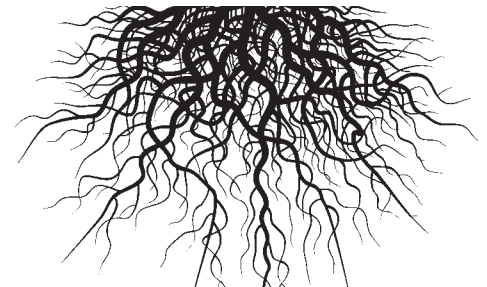
GREEN CITY, BLUE LAKE

A phrase that is familiar to Clevelanders engaged in sustainability and environmental responsibility, this concept might be considered “the path of least resistance.” It provides a visual goal of a green city on a blue lake, and provides a clear linkage to the economy. Concerns have been raised that this tells an economic story but not one about People. It is more about assets and infrastructure than it is about quality of life. To counter that, we would recommend interjecting a lot of fun brand elements and quality of life imagery to ensure the brand does not feel corporate.



MOSAIC

There are many people and groups in Cleveland working hard to create a sustainable and viable economy in our region, however in many regards they are working in silos. Mosaic indicates the opportunity to pull the puzzle pieces together and paint the picture of our future the way each of us see it individually, and together. It invites opportunity to be creative in the “space between” and to color outside the lines. This concept may also be indicative of mosaic patterns in nature.



ROOTS

Without necessarily using the word roots, this concept is meant to connect to the deeply rooted values that are already ingrained in the nature and culture of Clevelanders. Family and community are critically important to Clevelanders and, in fact, the primary reason why most people stay, come or come back from somewhere else. This concept provides opportunity for double entendre, connecting to nature and the characteristics of root systems, planting the seeds, soil as a foundation, earth as our planet. Further extensions of the concept includes the idea of networks, reaching and intertwining and of the need to nurture, water and grow leading to vitality... a vibrant, flourishing reward.



THE BRAND MESSAGE

Just as important as the visual aspects of a brand – color, imagery, texture, font – is the messaging. A number of possible taglines emerged and fall easily under the three primary concepts. A Tagline is a short phrase summarizing either what you do, who you do it for, or what you stand for. The Tagline is used in tangent with the logo, is supported by the vision, mission and guiding principles, and may be incorporated into the Key Messages. Key Messages are the primary messages you wish to communicate to your audience.² We suggest 2-4 statements that all stakeholders can process, internalize, and communicate in their own words.

The Mood Boards also contained several possible taglines. At this time, no one Tagline has emerged definitively as the right solution. More exploration and study is needed.

² Definitions by Studio Graphique, Inc.

THE BRAND GOALS

The goals of the SC2019 Brand are:

ACCESSIBLE AND UNDERSTANDABLE
TO A BROAD POPULATION

ATTRACTS AND PROMOTES FUN

IS HONEST AND AUTHENTIC WHERE
APPROPRIATE

WORKS FOR TODAY BUT MOVES US
FORWARD; ASPIRATIONAL QUALITY

IS OPEN, FLEXIBLE AND CAN EVOLVE

FORWARD-LOOKING SO THAT IT
STAYS RELEVANT (IN EVOLVED FORM)
THROUGH 2019

GREEN CITY BLUE LAKE

green city on a blue lake

creating the economic engine to

empower a green city on a blue lake

MOSAIC

Health. Wealth. Quality of life. Cleveland.

Painting the picture for the future

Color outside the lines

ROOTS

down to earth (up to us)

look back to the future

American (RE)dream

rooted for our future

back to basics

TAGLINES OF PAST AND PRESENT

Cleveland's a Plum

Believe in Cleveland

Cleveland Rocks

Cleveland +

Cleveland – You Gotta be Tough

Best Location in the Nation

Green City Blue Lake

Mistake on the Lake (negative)

Hot in Cleveland (new show on TV Land)

APPENDIX F: EXAMPLE INITIATIVE “POSTCARDS”

The following initiatives were collected from the SC2019 working groups and from other regional economic development organizations. This list is a snapshot of some sustainability related projects currently in development that are in the SC2019 “postcard” format. The list is by no means comprehensive. Additional City of Cleveland Initiatives are listed in Appendix G.

Project: Fostering Social Capital

Foundation	Personal & Social Environment
Priority Area	Culture of Collaboration
Goal	Alignment & Cross pollination
Initiative	Creating a document that captures the best practices for building social capital into our community decision-making and actions from the micro to the macro level. Best practices will be elicited by convening a group of those who are successfully building social capital in many sectors of Cleveland’s community.
Upfront Cost	< \$ 1,000
Annual Cost	None
Type	Research
Time Frame	Short Term
Effort Required	None – already underway
Champion	Fostering Social Capital Outcome Group
Partners/Collaborators	Greg Brown, Executive Director of Policy Bridge Conduit / catalyst community based organizations
Potential Funding	In-Kind / within the scope of operations
Co-Benefits	Sustainability Learning for All
Transversals	Equity

Project: NeolIntern

Foundation	Personal & Social Environment
Priority Area	Culture of Learning
Goal:	Agile, resilient workforce
Initiative	Free database on which regional employers can post internships and students can post resumes and find jobs.
Upfront Cost	Already built
Annual Cost	\$250,000
Type	Catalyst
Time Frame	Short Term
Effort Required	Maintenance activity: data base development and maintenance, employer relationships,
Champion	Fortune 500 corporations, small start ups, academia, business
Partners/Collaborators	Career Services, NorTech, MAGNET, JumpStart, OCAN, and GCP, etc...
Potential Funding	Fee generation + fundraising by host organization (NOCHE)
Co-Benefits	Strengthen local economy
Transversals	Equity

Project: The Talent Dividend

Foundation	Personal & Social Environment
Priority Area	Agile, resilient workforce
Initiative	Targeted effort to raise the region's college attainment level by 1 percentage point. Work focuses on learning from partner "Talent Dividend" Cities, focusing on improving graduation rates and encouraging young adults to return to college.
Upfront Cost	\$250,000 – already secured
Annual Cost	\$250,000
Type	Catalyst
Time Frame	Long Term
Effort Required	Significant effort is required to implement this program and achieve results.
Champion	NOCHE
Partners/Collaborators	Champions on the Steering Committee include, among others, representatives of Greater Cleveland Partnership; the greater Akron, Canton and Youngstown chambers; several colleges and universities; and P-16 councils across Northeast Ohio
Potential Funding	TBD
Co-Benefits	Alignment & Cross-Pollination
Transversals	Equity

Project: Sc2019 Theme Song

Foundation	Personal & Social Environment
Priority Area	Culture of Collaboration
Goal	Communicate Progress & Stories
Initiative	Engage the musical and video arts as a strategy for strengthening collective sustainability culture across the community.
Upfront Cost	TBD / secured as corporate in-kind contribution
Annual Cost	TBD / pending response to pro-bono advertising
Type	Education, Catalyst
Time Frame	Short term
Effort Required	This initiative requires effort that a small group of people can expend with the right skills and tools
Champion	Fostering Social Capital Outcome Group
Partners/Collaborators	Ari Lesser
Potential Funding	Revenue from product sales
Co-Benefits	Sustainability learning for all
Transversals	Equity
Business Ops	Music, video sales

Project: Collaborative Campus Neighborhood

Foundation	Personal & Social Environment
Priority Area	Culture of Learning
Initiative	Facilitate sustainability awareness, applied learning opportunities, school-to-career and policy enrichment in the Preschool, K-12 and 12-16 education sector in order to create sustainable neighborhoods.
Goal	Sustainability learning for all
Upfront Cost	TBD
Annual Cost	TBD
Type	Learning
Time Frame	Up to 5 years with milestones to be met every 12-months
Effort Required	As an idea, this initiative requires significant commitment among leaders to fully develop a business model for this idea – and then to implement the plan.
Champions	Michael Schoop, Tri-C Metro Campus and Terrell Pim, CWRU
Partners/Collaborators	Roger Saillant, Fowler Center for Sustainable Value, Peter Whitehouse CWRU, Nancy Meyer-Emerick CSU
Potential Funding	County/state/federal government and foundation grants
Co-Benefits	Vibrant Downtown & Neighborhoods; Agile Workforce
Transversal	Equity, Carbon, Health
Business Ops	Curriculum that can be resold

Project: Green Neighborhood Campus Project

Foundation	Built Environment
Priority Area	Vibrant Downtown & Neighborhoods
Initiative	Green Neighborhood Campus, The Green Neighborhood Campus project creates a concretely sustainable link between a local urban school garden, a local business, the library system, and the area's police force
Goal	Transform blighted land and buildings into assets
Upfront Cost	TBD
Annual Cost	TBD
Type	Experiment, Catalyst
Time Frame	Short Term and ongoing
Effort Required	This initiative requires buy-in from partners and designation of land for use as well as program design & management.
Champion	Leah Santusuosso
Partners/Collaborators	The City of Cleveland, Tri-C Collaborative Campus; Schools, police force garden protection,
Potential Funding	County/state/federal government and foundation grants
Co-Benefits	Sustainability learning for all, Culture of Collaboration, Restore and Regenerate
Transversals	Equity, Health, Carbon

Project: The Cleveland Commitment

Foundation	Personal & Social Environment
Priority Area	Culture of Collaboration
Initiative	"Cleveland Commitment" used to promote Sustainability 2019 via multiple site web presence and hard copy distribution channels
Goal	Align and Cross-Pollinate
Upfront Cost	<\$1,000
Annual Cost	TBD
Type	Catalyst
Time Frame	Immediate
Effort Required	This initiative requires resources to promote the commitment statement and tools & resources to capture pledges / signatures
Champion	Public Compact Work Group
Partners/Collaborators	Public Compact, G-5, Communications, 1.6 Million, Mayor's Office, Sustainability Office
Potential Funding	Pro-bono from various committees
Co-Benefits	Sustainability learning for all
Transversals	Equity

Project: Growohio: Ohio Specialty Crop Promotion Program

Foundation	Business environment
Priority Area	Discover new business opportunities
Goal	Strengthen local economy
Initiative	Growohio is a marketing campaign that promotes the farmers markets of the Cleveland Farmers' Market Guild with special outreach into neighborhoods with high rates of food assistance program usage.
Upfront Cost	<\$1,000
Annual Cost	\$65,000 (15 month program)
Type	Education
Time Frame	Short: 15 months (July 2010 – September 2011)
Effort Required	This initiative requires development of marketing materials and message channels.
Champion	Todd Alexander, Gwen Forte, Diane Morgan, Elizabeth Emery, Joe Kennedy (all Growohio) Jody Lathwell, Kevin Scheuring, Emelio DiSabato, Kelsey Fischer, Josh Klein, Jennifer Burger, Whitney Gersak (farmers' market managers of the Cleveland Farmers' Market Guild)
Partners/Collaborators	Tremont Farmers' Market, Coit Road Farmers' Market, Warszawa Farmers' Market Manager, Downtown Cleveland Farmers' Market Manager, Gordon Square Farmers' Market Manager, Kamm's Corners Farmers Market, Lakewood Farmers' Market Manager, OSU Extension, Cuyahoga County Food Policy Coalition, Community Development Corporations
Potential Funding	ODAggriculture Specialty Crop Grant [Funding is pending official approval from the USDA]
Co-Benefits	Communicate Progress & Stories, Align & Cross-Pollinate,
Transversals	Health, Carbon, Equity
Business Ops	Local agriculture growth, "community vendor tents"

Project: Sustainable Design, Materials and Manufacturing Forum

Foundation	Business Environment
Priority Area	Discover new business opportunities
Goal	Implement sustainable business strategies
Initiative	This initiative proposes a forum of CEO leaders from the Sustainable Manufacturing Network in which the CEOs share their best practices around eco-efficiency (cost savings) and or eco-effectiveness (revenue generation)
Upfront Cost	<\$1,000 (food, materials and accommodations); fees offset costs
Annual Cost	None
Type	Education, Network
Time Frame	Short Term start up / long-term sustaining
Effort Required	This initiative requires commitment from CEOs and event logistics
Champion	Sustainable Design, Materials and Manufacturing Outcome Group
Partners/Collaborators	WIRE-Net, MAGNET, E4S
Potential Funding	TBD
Co-Benefits	Communicate Progress & Stories, Align & Cross-Pollinate, Sustainability Learning for All
Transversals	Carbon

Project: Waste to Power

Foundation	Natural Environment
Priority Area	Radical Resource Efficiency
Initiative	Developing and brining online a 400MW waste-to-power system
Upfront Cost	TBD
Annual Cost	TBD
Type	Lead by example
Time Frame	Yet to be determined
Effort Required	Not yet known
Champion	Marc Divis
Partners/Collaborators	Cleveland Thermal, City of Cleveland, Cleveland State University students
Potential Funding	TBD
Co-Benefits	Discover new business opportunities
Transversals	Carbon
Business Ops	Power sales

Project: Ag-Bio Industry Cluster

Foundation	Business Environment
Priority Area	Discover new business opportunities
Goal	Strengthen local economy
Initiative	The Agricultural Bioscience Industry Cluster in NE Ohio encompassing over 100 partners is working to identify business opportunities among clusters of locally owned businesses that provide locally produced food, energy and manufactured goods.
Upfront Cost	Already grant funded
Annual Cost	Sustained through Grant
Type	Operations
Time Frame	Ongoing
Effort Required	This initiative is already underway through grant funding.
Champion	Casey Hoy, Steve Bosserman, Brian Gwin, Leah Miller, Stu Cordell, Rod Crider
Partners/Collaborators	Advance Northeast Ohio Partners
Potential Funding	Should model continue, businesses could pay "participation fee"
Co-Benefits	Grow new businesses, Urban Agriculture, Value & Leverage Natural Assets
Transversals	Carbon, Health, Equity
Business Ops	Comprehensive and diverse new market opportunities

Project: State Policies to support Innovation & Entrepreneurship

Foundation	Business Environment
Priority Area	Re-tool Incentives & Regulatory System
Initiative	Advocating for state policies and programs that encourage and support technology innovation and business start-ups
Goal	Align & create incentives
Upfront Cost	None
Annual Cost	Internally funded staff time and government relations support
Type	Policy / Legislation
Time Frame	Ongoing
Effort Required	TBD
Champion	Bio-enterprise
Partners/Collaborators	Network of technology development groups, incubators and high-tech industry associations in Ohio
Potential Funding	
Co-Benefits	Grow new businesses
Transversals	

Project: COSE Energy Efficiency Program

Foundation	Natural Environment
Priority Area	Radical Resource Efficiency
Initiative	COSE energy programs help save utility costs, reduce energy demand and increase all-around sustainability.
Upfront Cost	Marketing
Annual Cost	TBD
Type	Catalyst, Operations
Time Frame	Ongoing
Effort Required	Full-Time; outreach, agreement, service and educational support, audit, financing
Champion	Nicole Stika, Director Energy Programs and Brynn Allio, Director, Government Relation
Partners/Collaborators	FirstEnergy Corp., FirstEnergy Solutions, Integrys Energy, Institute for Sustainable Development (Green Plus), Ohio Department of Development Energy Resources Division
Potential Funding	Foundation and partners
Co-Benefits	Implement Sustainable Strategies, Align & Cross-Pollinate, Sustainability Learning for All
Transversals	Carbon
Business Ops	Opportunity to uniquely position COSE as the energy thought leader for small businesses regionally, but nationally

Project: Jumpstart Ventures

Foundation	Business Environment
Priority Area	Discover New Business Opportunities
Goal	Grow new businesses
Initiative	JumpStart Ventures; the investing arm of venture development organization JumpStart Inc., invests in and prepares with innovative, early-stage Northeast Ohio companies for exponential growth
Upfront Cost	N/A
Annual Cost	\$2.3 million focused on new companies in this industry
Type	Catalyst
Time Frame	Ongoing
Effort Required	This initiative requires consistent day-to-day support for emerging businesses.
Champion	Ray Leach, CEO of JumpStart Inc., Becca Braun, President of JumpStart Ventures
Partners/Collaborators	The State of Ohio's Third Frontier Program – which provides JumpStart up to 45% of its funding – is investing \$1.6 billion in high tech research including The Advanced Energy Program, The Fuel Cell Program, and The Research Commercialization Grant Program
Potential Funding	The State of Ohio's Ohio Third Frontier Program, among others who may fund JumpStart or JumpStart Ventures' investing activities
Co-Benefits	Entrepreneurial thinking, Innovative Funding
Transversals	
Business Ops	By investing in early-stage, innovative cleantech companies, JumpStart Ventures is providing business opportunities to area angel and venture capital investors to invest follow-on dollars in these companies, supply chains that these companies will depend on to build their product, and business partners that share a desired outcome. These companies will also be creating new, globally-competitive, sustainable, and high-paying jobs for talented citizens and students of Northeast Ohio.

PROJECT: Marketing Lake Erie Wind Farm

Foundation	Natural Environment
Priority Area	Radical Resource Efficiency
Goal	100% Renewable Energy
Initiative	This initiative focuses on publicizing the Lake Erie Wind Farm, creating an opportunity to tell the story and engage people in learning and dialogue.
Upfront Cost	
Annual Cost	
Type	Catalyst
Time Frame	Short Term and Ongoing
Effort Required	
Champion	Stefanie Spear and David Madcharo; Great Lakes Energy Development Task Force, The Cleveland Foundation, NorTech Energy Enterprise, LEEDCo
Partners/Collaborators	Cuyahoga County, NorTech, Richard Stuebi, Great Lakes Energy Task Force, LEEDCo
Potential Funding	
Co-Benefits	Communicate Progress & Stories, Alignment & Cross Pollination
Transversals	Carbon
Business Ops	Additional businesses spurred by hearing about the wind farm and wind industry

Project: Re-Imagining Cleveland 2.0

Foundation	Built Environment
Priority Area	Vibrant Downtown & Neighborhoods
Initiative	Re-Imagining Cleveland 2.0 analyzes the information available on vacant land in Cleveland and recommends best use of parcels, collectively or individually.
Goal	Transform blighted land and buildings into assets
Upfront Cost	Foundation grants have funded Re-Imagining 2.0. Vacant Land Group activities are volunteer driven.
Annual Cost	NA
Type	Catalyst
Time Frame	Immediate
Effort Required	This initiative is in motion and self-sustaining
Champion	Greenspace Group and Vacant Land; team will work with CUDC, NPI, ParkWorks, Cleveland Foundation
Partners/Collaborators	NPI and ParkWorks provide project management for Re-Imagining 2.0
Potential Funding	
Co-Benefits	Healthy, clean and beautiful environment, Alignment & Cross-Pollination, Urban Agriculture, Integrated Natural Systems, Value & Leverage Natural Assets
Transversals	Equity, Carbon, Health
Business Ops	Market gardens, Land availability for commercial development, Advanced Energy development

Project: Advanced Energy Cluster Development

Foundation	Business Environment
Priority Area	Discover new business opportunities
Goal	Grow new businesses
Initiative	This initiative focuses on connecting and convening public, private and academic partners, monitoring state and federal funding opportunities, building relationships to attract later stage capital, hosting educational events, communicating progress and performance of the advanced energy cluster, and leading collaborative projects.
Upfront Cost	
Annual Cost	(\$600,000) funds secured
Type	Research
Time Frame	Short term with long term value
Effort Required	This initiative requires significant effort among the several partners to study, monitor, learn and promote.
Champion	Economic Development Administration; Nortech
Partners/Collaborators	Small, Medium and Large Companies Involved in High-Potential Sectors; Research and Educational Institutions; Other Organizations Involved in these Sectors
Potential Funding	
Co-Benefits	100% Renewable Energy, Alignment & Cross-Pollination, Communicating Progress & Stories
Transversals	Carbon
Business Ops	NorTech Energy Enterprise, an initiative of NorTech, is focused on stimulating growth in Northeast Ohio's advanced energy industry

Project: Solar Rail

Foundation	Built Environment
Priority Area	Smart Growth Infrastructure
Goal	Sustainable mobility
Initiative	This initiative calls for the development of solar along the RTA transit route
Upfront Cost	TBD
Annual Cost	TDB
Type	Operations, Catalyst
Time Frame	TBD
Effort Required	TBD
Champion	Cynthia Trotta
Partners/Collaborators	Regional agencies, additional to be determined
Potential Funding	TBD
Co-Benefits	100% Renewable Energy
Transversals	Carbon
Business Ops	Potential businesses formed to serve the solar rail line

Project: Marketing the Cleveland Solar Improvement District

Foundation	Natural Environment
Priority Area	Radical Resource Efficiency
Goal	Optimize Renewable Energy
Initiative	This initiative focuses on marketing the formation of the Cleveland Solar Improvement District so that property owners can understand how to use this new financing tool to install solar on their properties.
Upfront Cost	TBD
Annual Cost	TBD
Type	Aggregate Demand, Education
Time Frame	Short term / ongoing
Effort Required	This initiative requires the development of a marketing plan and outreach strategy.
Champion	Linda Sekura
Partners/Collaborators	City of Cleveland, Green building group, local renewable power companies, local businesses
Potential Funding	TBD
Co-Benefits	Communicate Progress & Stories, Innovative Funding
Transversals	Carbon
Business Ops	Green Supply Chain development

APPENDIX G: SUSTAINABILITY INITIATIVES

CITY OF CLEVELAND, 2006-2010

LOCAL & SUSTAINABLE ECONOMY

SUSTAINABLE CLEVELAND 2019

Hosted summit in 2009 for nearly 700 attendees and facilitated an ensuing year of initiatives from 20 SC2019 working groups. Expanding the SC2019 network of stakeholders and will host a second summit September 2010. The office has identified 40% new participants in order to expand the SC2019 network. The Mayor has commissioned and completed a sustainability and economic strategic plan. Over 200 professional volunteers remain active on 15 working groups from this summit. The SC2019 blog is now available at www.Cleveland2019.org.

LOCAL PRODUCER, LOCAL FOOD PRODUCER, AND LOCAL SUSTAINABLE BUSINESSES

On March 31, 2010, Cleveland City Council passed Ordinance No. 1660-A-09 which made Cleveland a national leader in promoting self-help for its regional economy by providing incentives—bid discounts on competitively bid contracts and evaluation credits on professional service contracts—to local companies that compete for City work. Additionally, Cleveland became one of the first cities in the nation to provide these same incentives—bid discounts and evaluation credits—to

companies that buy at least 20% of their contract amounts from regional food growers. The Green Plus Program is the approved certification program for business who wish to be certified sustainable by the City.

LOCAL FOOD

CHICKEN AND BEES ORDINANCE

On February 2, 2009, Cleveland City Council passed a livestock ordinance that allowed (or made legal) the estimated hundreds of current land uses involving chickens, turkeys, geese, ducks, and tending of bees in aviaries and coops in the city.

GARDENING FOR GREENBACKS:

(See Economic Development Department)

RENEWABLE ENERGY & ENERGY EFFICIENCY

ADVANCED ENERGY PORTFOLIO STANDARD

In June, 2008 the City of Cleveland adopted a citywide Advanced Energy Portfolio Standard (AEPS) to ensure that 15% of Cleveland Public Power's energy comes from advanced or renewable sources by 2015, 20% by 2020, and 25% by 2025. The City also actively lobbied for the statewide AEPS which was passed in 2008.

WIND TURBINES IN LAKE ERIE

In May 2010, Ohio Governor Ted Strickland travelled to Houston, Texas to announce a Memorandum of Understanding on Strategic Cooperation between Lake Erie Energy Development Corporation and General Electric Company. The MOU launches an effort to establish the City of Cleveland and Cuyahoga County as a national leader in offshore wind power and wind power manufacturing.

ENERGY DATA MANAGEMENT SOFTWARE

On July 21, 2010, the Board of Control authorized, pursuant to authority of Ordinance No. 456-10 passed by Cleveland City Council on May 10, 2010, a \$130,000 contract with EnergyCAP, Inc. that will lead to the measurement of and management of Citywide energy use.

LED LIGHTING

The City of Cleveland is seeking to procure LED streetlights, LED traffic lights, and LED florescent and incandescent replacement lights from one supplier that will spark the investment of manufacturing, research & development and customer service resulting in the creation of more than 350 jobs in the City of Cleveland. Replacing the 67,000 streetlights with LEDs will save the City of Cleveland millions of dollars in operating revenue and remove more than 25,000 tons of carbon annually.

ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)

American Recovery and Reinvestment Act (ARRA) - The Energy Efficiency and Conservation Block Grant (EECBG) was officially awarded by the U.S. Department of Energy (DOE) to the City of Cleveland on December 4th 2009, for an amount of \$4,544,400.00. The EECBG grant is helping to fund several sustainability projects both at the city's operations and the community level, such as energy efficient building retrofits, energy data management system, implementing a program for residential retrofits, downtown recycling, climate action and the strategic sustainability plans.

ADVANCE ENERGY SPECIAL IMPROVEMENT DISTRICT (SID)

In July 2010 the City of Cleveland and the First Suburbs Consortium were award \$100,000 to pursue the creation of an Advance Energy SID. This will enable the City of Cleveland and First suburbs to assess property for improvements related to

GREATER CLEVELAND ENERGY ALLIANCE

The City of Cleveland in Partnership with ShoreBank Enterprise received \$150,000 to develop an energy Efficiency retrofit program for commercial and residential customers throughout greater Cleveland. We higher Clean Energy Solutions out of Cambridge MA to develop this program and anticipate having a model for development in the next two to three months.

BUILDINGS

Energy Star Requirement for tax abated homes in Cleveland— Pursuant to Ordinance No. 856-07, passed May 21, 2007, as of January 1, 2010, all tax-exempt homes in Cleveland must demonstrate that new construction or remodeling meets Energy Star standards Energy Star Certification, LEED Certification or Enterprise Green Community Standards in order to receive tax abatement.

LEED-ND

Cleveland is a leader in the nation with three neighborhoods striving to meet the LEED-ND (Leadership in Energy and Environmental Design for Neighborhood Developments) standards.

COLLINWOOD RECREATION CENTER

In May 2010, The City of Cleveland broke ground on the New Collinwood Recreation Center. The facility was designed by City Architecture and is being constructed by Panzica Construction. It is being built to LEED Gold Certification standards and will feature green elements such as solar thermal and PV systems, stormwater management practices and other sustainable building features. This project is being built to high green building standards without going over budget.

DOWNTOWN BIKE STATION

The City of Cleveland has approved a contract to the RW Clark Company to build the Downtown Bike Station at the Gateway Complex. This station will feature 50 bicycle storage facilities, showers and related facilities for bicycle commuters.

WASTE

COMMERCIAL RECYCLING PROGRAM

In 2006 the City of Cleveland's Division of waste started a free Commercial Recycling Program for commercial businesses, restaurants and other organizations throughout the City of Cleveland. Early customers included the Cleveland Clinic, Tower City Center, The Harp Restaurant and the Great Lakes Brewing Company. This program enabled the City to locate additional recycling drop off locations throughout the City.

CURBSIDE RECYCLING PILOT PROJECT

In 2007 the City of Cleveland Launch a Curbside Recycling Pilot and Automated trash collection system to 15,000 households throughout the City of Cleveland. This project has resulted in increased recycling rates within the pilot areas which helps the City of Cleveland Save money by reducing the costs of collection and disposal.

MUNICIPAL SOLID WASTE TO ENERGY (MSWE)

In his March 4, 2010 State of the City Address, Mayor Jackson expanded on his plan to create a \$200 million municipal waste-to-energy facility at the City's Ridge Road Transfer Station that would produce power that would be sold by Cleveland Public Power. The City has contracted with Princeton Environmental Group of New Jersey to design a municipal solid waste-to-energy facility using a gasification process created by Kinsei Sangyo Co., of Japan.

CLEVELAND GREEN VENUES PARTNERSHIP

In collaboration with the US EPA, Ohio EPA and the Cuyahoga County Solid Waste District, the Office of Sustainability is engaging Cleveland's major venues in a commitment to sustainable operations. The venues involved in creating the agreement are Cleveland State University, Tri-C, Cleveland Metroparks Zoo, The Cleveland Clinic, Cleveland Medical Mart (MMPI), Quicken Loans Arena, Progressive Field, Cleveland Browns Stadium, Cleveland Orchestra/Severance Hall and the Cleveland Museum of Natural History. The venues also participate in quarterly best management practice sessions. Past topics include waste reduction and recycling and stormwater management and water conservation. Future topics include energy efficiency, green building and metrics.

WEST SIDE MARKET COMPOSTING PILOT

Composting at the West Side Market commenced on June 25, 2010. The purpose of the 6 month pilot is to gather data on the amount of compostable material produced at the market, the savings to the City through landfill diversion and the demonstration of a best practice to the community. In the month of July, 15 tons of compostable materials were diverted from the landfill and composted. The pilot is grant funded with the intent of demonstrating cost savings and including an ongoing compost program in the 2011 budget.

DECONSTRUCTION PILOT PROJECTS

In 2008 and 2009 the City of Cleveland partnered with Neighborhood Progress Inc and the Cleveland Foundation to

deconstruction a total of 10 homes to reduce the amount of waste that went to the land fill. As a result of these pilot projects deconstruction costs have been reduced from over \$35,000 for the first home to less than \$15,000 for the final project. The materials go to organizations like A Piece of Cleveland (APOC) that are used in future and other materials.

DOWNTOWN SIDEWALK RECYCLING

The City of Cleveland is constructing and installing 75 downtown sidewalk recycling receptacles as part of its initiative to

GREENSPACE & VACANT LAND

RE-IMAGINING CLEVELAND

In December, 2008, Neighborhood Progress, Inc. released the results of a one year planning process involving 30 groups which focused on strategies for reuse of vacant land. The City Planning Commission adopted the Re-imagining a most sustainable Cleveland plan as a template for reutilizing our vacant and underutilized properties.

TRANSPORTATION

ANTI-IDLING

The City of Cleveland First adopted an anti idling policy in 2006 and an anti idling ordinance in 2009

COMPLETE STREETS

The City of Cleveland and the Ohio Department of Transportation have been working together to produce a complete street and Green infrastructure policy

HYBRID AND ALTERNATIVE FUELED VEHICLES

The City of Cleveland has purchased over 80 hybrid vehicles and has over 250 alternative fueled vehicles in its fleet. The City's purchasing policy is targeting Hybrids and Alternative Fuel vehicle replacements that maximize our return on investment.

WATER

STORM WATER MANAGEMENT AND EDUCATION

In partnership with NEORSD, Youth Opportunities Unlimited and the Mayor's Summer Youth Employment Program, 1,000 rain barrels have been distributed for free to Cleveland residents. Both the residents and YOU youth employees are educated about the Lake Erie Watershed, stormwater capture and other aspects of water sustainability. Rain gardens have been established in several locations to capture stormwater and to educate residents, businesses and other organizations.

PERMEABLE PAVEMENT SYSTEMS

The Division of Parks has installed three permeable pavement and paver parking lots throughout the City throughout 2009 and 2010. These Parking lots significantly reduce the amount of stormwater that flows into our storm and sanitary sewer systems which will result in reducing the amount of water that must be treated at the regional sewer district and reduce the strain on our sewer infrastructure.

PARTNERSHIPS

U.S. MAYORS CLIMATE PROTECTION AGREEMENT

In 2006, Mayor Frank G. Jackson signed the U.S. Mayor's Climate Protection Agreement. This signature acknowledges that the City of Cleveland takes climate change seriously and will make efforts to reduce the City's overall carbon footprint.

LOCAL GOVERNMENTS FOR SUSTAINABILITY

In 2007, the City of Cleveland joined ICLEI – Local Governments for Sustainability in order to determine its carbon footprint and to establish effective ways of reducing it. The phrase “carbon footprint” refers to the impact that human activity has on the planet in regards to the amount of carbon dioxide which is produced.

UNITED NATIONS GLOBAL COMPACT

In 2008, Mayor Jackson signed the UN Global Compact, making Cleveland the second US city to do so. Three of the compacts principles concern the environment. By becoming part of this strategic policy initiative, the City encourages the development and diffusion of environmentally-friendly technologies.

GREAT LAKES ADVANCED ENERGY TASK FORCE

The Office of Sustainability is one of the City of Cleveland's representatives on the Great Lakes Advanced Energy Task Force. The focus of this task force is to explore the options available and to advance renewable energy for the region.

URBAN SUSTAINABILITY DIRECTOR'S NETWORK

The City of Cleveland is one of the founding partners of the Urban Sustainability Director's Network which is a learning network for City Sustainability Directors. Currently the network has 70 full members and 15 associate members for Cities throughout the United States and Canada.

U.S. GREEN BUILDING COUNCIL

The City of Cleveland has been a member of the U.S. Green Building Council since 2006.

STAR COMMUNITY INDEX

The City of Cleveland is helping to establish the Star Community Index which will be a sustainability rating system for communities and will help with the measurement and verification of sustainable communities.

