

The Climate Prosperity Handbook

Getting Started Guide: Climate Prosperity Strategies in Your Community



INTERNATIONAL
ECONOMIC DEVELOPMENT
COUNCIL

The Climate Prosperity Handbook

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Climate Prosperity Strategies In Your Community

VI. Getting Started Guide

This document is presented in Chapters VI. and VII. of the Climate Prosperity Handbook. It is presented here as a stand alone supplement for the convenience of our readers.

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GETTING STARTED GUIDE

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1.0 Strategies for Prosperity: the path to sustainability

Sustainability is not something that is achieved, but rather is a pathway – constantly in flux and in need of reassessment.

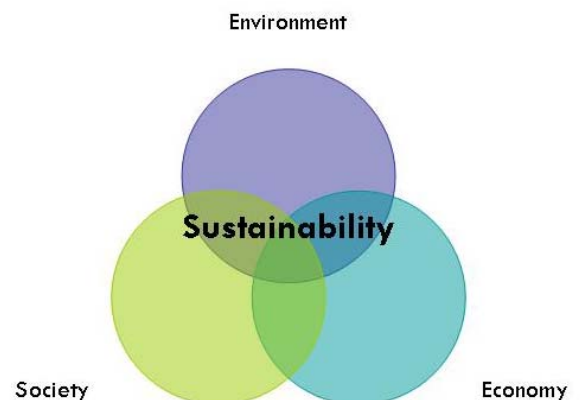
Climate prosperity strategies provide cities and regions the opportunity to increase local economic growth, employment creation and development initiatives within the context of sustainable development. Cities such as Chicago and San Jose have sustainability strategies on the books, and several cities, both large and small have already forged ahead with climate action strategies. Eight pilot projects are currently taking place across the country under the umbrella of the Climate Prosperity Project and will serve as vital laboratories for better understanding how to best go about doing climate action strategies on the city, regional and state levels. Silicon Valley’s strategy, “Climate Prosperity: A Greenprint for Silicon Valley,” is an excellent resource for other communities to draw on.

A successful climate prosperity strategy will encompass the three-legged stool of sustainability – economy, environment, and society. Engaging in climate prosperity strategies can: catalyze smarter and more sustainable economic development; energize communities and residents to engage in a more sustainable collective path; and help to protect and conserve critical environmental resources and stem the threats from climate change.

[Are economic developers integrating sustainability into their activities?]

During the spring of 2009, IEDC conducted a sustainability survey of its membership to identify broad trends and challenges facing the economic development community in the transition towards sustainability. Representatives from over 140 communities from throughout the United States and Canada responded to the survey.

The survey results show that sustainability initiatives are indeed beginning to become integrated as elements of the economic developer’s toolbox. Survey respondents were asked what economic development sustainability initiatives their communities already have in place (or are in the process of implementing). Out of 19 broad initiative options, the most common responses were those that are already fairly standard to the economic development field, including: green infrastructure (e.g., bicycle lanes, wildlife corridors, greenways); encourage/incentivize mixed-use development; promote infill/adaptive reuse; promote redevelopment of brownfields; and promote increased public transit service. Notably, many newer initiatives, such as municipal energy efficiency efforts (e.g., traffic signals, sewage pumps, fleet upgrades); encouraging/ incentivizing transit-oriented development, clean tech attraction, and green construction requirements (e.g., LEED standards) were spreading. Thirty to 40 percent of respondents noted that their communities were involved in at least one of



these sustainability initiatives. The least common initiatives were the newest and emerging areas of sustainability planning, such as smart grids and metering; business retention and expansion around green supply chains; clean tech attraction; and green affordable housing.

Many respondents remarked that there are deep and significant challenges standing in the way. Chief among these were access to funding, lack of political support, lack of a champion, and limited organizational capacity. These findings drive home the critical need for education in this area. Further, many respondents noted that they need tools and direction in how to engage in sustainability and climate prosperity strategies. This guidebook is intended to serve that purpose.

[Who and What is this Guide For?]

This getting started guide is intended to provide economic development professionals, community leaders, planners, organizers and advocates with strategies that communities can use to start engaging in climate prosperity and greenhouse gas reduction strategies. Understandably, communities and community leaders reading this document will be at different stages of the process, depending on the political, economic and social climate of the community. As such, different steps already may have been accomplished. However, all of the steps in the document are considered to be best practices and lessons that communities can plug into at various stages of planning and strategizing. While this is *one* framework for guiding a city/region through the climate action strategic process, each community's strategy will be unique—tailored to meet the specific economic, environmental, political, technological and social assets and aspirations of each place.

As an additional resource, the compendium of cases that follows this document provides a range of independent strategies that could serve as components of a wider strategy.

2.0 Build the Foundation

"To be thrown upon one's own resources, is to be cast into the very lap of fortune; for our faculties then undergo a development and display an energy of which they were previously unsusceptible"

Benjamin Franklin

Before a climate prosperity plan can be developed and translated into actionable goals and policies, a foundation of institutional, organizational and community capacity must be built first. The order of the following steps is dependent on a community's present position in the process of creating a climate prosperity strategy.

Steps to building the foundation:

- **Identify a Champion**
- **Identify the Lead Organization**
- **Assess Your Community**
- **Mind Shift to Sustainability Planning**
- **Build on What You Have**
- **Establish Lead Organization as Climate Prosperity Hub for Community**
- **Identify Diverse and Dynamic Stakeholders**
- **Educate Stakeholders and Leaders**
- **Dedicate Staff to the Process**
- **Build a Dedicated and Focused Task Force**
- **Seek Diverse Financing Streams for the Process and Plan**
- **Develop a Strong and Unifying Vision**

[Identify a Champion]

Successful strategies require a network of dynamic leaders, stakeholders, and resources. Therefore, identifying a champion who can lead the climate prosperity strategic process is critical. The champion can act as the catalyst for galvanizing wide-ranging support for the project, as well as aligning the resources needed to get the project off the ground. This person is often a political leader such as a mayor, county commissioner, or governor. In the absence of a true champion, the lead organization can take on many of the roles in terms of galvanizing support and creating momentum for the strategy. In San Jose, CA, Mayor Chuck Reed spearheaded the process. However, businesses executives, university presidents or other community leaders can also assume this role.

[Identify the Lead Organization]

Developing a climate prosperity strategy requires a dedicated and in-depth process – one that demands a committed organization with the capacity to lead all stakeholders through the development of the strategy. The following questions can help identify the lead organization:

- Does the organization have the knowledge base to address the integration of economic, social, and environmental challenges?
- Does the organization have the capacity to lead a multi-stakeholder climate prosperity planning process?
- Does the organization have the political capital to be a neutral convener?

The lead organization can be public, private or community-based. In Metropolitan St Louis, the St. Louis Regional Chamber & Growth Association has assumed the lead role. In some cases, it may be necessary to create a public-private partnership to steward and oversee the process.

[Assess Your Community Through a Green Lens]

In order to create a strategic roadmap for a prosperous future that will benefit the economy, the environment, and people alike, it is critical to first assess the current conditions of the community and what resources it holds both broadly and through a green lens. This includes looking at economic, environmental, and social conditions – as well as how these systems interact.

Table 3: Tools/Measures for Identifying and Analyzing Local Resources and Assets

Economic Conditions

SWOT (strengths, weaknesses, opportunities, threats)

Labor force (location quotient, shift share, skill sets and their applicability to greener industries, green jobs analysis*)

Economic base analysis

Cluster analysis, including subsets of green industries and energy-intensive industries**

Green supply chain analysis

Environmental Conditions

Quantity and quality inventory of current and projected local natural capital assets (e.g., parks, water bodies, forests, etc)

Greenhouse gas inventory (e.g., public buildings, transit fleet, local traffic patterns, etc.)

Evaluate local renewable energy resources

Current status and outlook of local environmental health

How green the building stock is (commercial, residential, industrial)

Social/ Institutional Conditions

Local policy framework (e.g., building codes, state incentives and regulations, state Renewable Portfolio Standards)

Demographics (age, degree attainment, income, etc.)

Voter participation

Community involvement

Local institutions (e.g., educational, workforce, financial etc.) and cultural/social organizations (e.g., foundations, arts, faith-based, etc.) asset inventory***

Individual skills asset inventory

Transit use and access

** The Minnesota Green Jobs Task Force conducted a market analysis to identify business opportunities and needs created by key environmental policies previously adopted in Minnesota. The document provides a useful framework in assessing current and potential job growth in identified green sectors. www.mngreenjobs.com*

*** For a mapping of existing companies poised to grow from investments in climate solutions – and emerging clusters, see lesscarbonmorejobs.org*

****For an excellent guide to asset mapping, see the Council on Competitiveness' Asset Mapping Roadmap: A Guide to Assessing Regional Development Resources. www.compete.org*

All of the data collection needs listed in Table 3 are fairly standard to economic development strategic planning, with the exception of the greenhouse gas inventory. The analyses of these data sets remain fundamentally the same as in traditional economic development strategic planning, but they also must be assessed through a greener lens. For example, it is important to identify energy-intensive firms and sectors as well as those that can plug into emerging greener supply chains to understand a community's assets within a changing economic framework. Moreover, economic developers and communities need a shift in mindset about potential interactions, synergies, and challenges occurring among the social, economic, and environmental conditions.

[Mind Shift from Strategic Planning to Sustainability Strategies]

To shift the mindset of the strategic planning process to one that incorporates the complex interactions that sustainability strategies demand, communities must begin with a mind mapping exercise to “green” standard analyses in order to mine them for sustainability opportunities.

“Greening” of the SWOT Analysis

For an example, the SWOT analysis approach is outlined below. The goal of a SWOT analysis remains the same – to map local strengths and weaknesses (internal), opportunities and threats (external). However, the mind occurs in asking questions that focus on the intersections of economic, environmental and social forces.

Strengths: the community can promote or build-up

Weaknesses: the community acknowledges or fixes

Opportunities: the community can prepare for

Threats: the community mitigates, if possible

Strengths (Internal, Positive):

- What key local assets could be tapped and developed to support local sustainability initiatives?
- What sustainability programs and policies are already in place that can serve as a base to build upon?
- What businesses and labor are already functioning in green or environmentally related industries?
- What organizational assets are already in place that could support sustainability initiatives?
- What research and green training opportunities are available in local colleges and universities?

Weaknesses (Internal, Negative):

- What's holding the community/city/region back from moving forward on a comprehensive sustainability approach to development (e.g., building codes, regulatory environment, lack of leadership)?
- What social, economic and environmental assets in the community are lacking or in need of development?
- What firms, sectors and workers have already been challenged by recent energy market volatility?

Opportunities (External, Positive):

- What regional, state, and national environmental and economic trends could the community tap into and capitalize on?
- What demographic and workforce assets can be utilized to strengthen the local economy's green job base?
- What economic sectors are transforming that local clusters may potentially tap into?
- What new resources (funding, R&D) can be tapped into?

Threats (External, Negative):

- Are there environmental trends that are expected to negatively affect the community (e.g., air pollution, water quality and water availability)?
- What global economic trends (e.g., recession, globalization) could reshape the local economic structure?
- What firms and sectors may be challenged by a rapidly changing energy market and changing regulatory structures that will require greenhouse gas reduction and greater energy efficiency standards?
- How might changing consumer spending patterns and increasing demands for greener, more energy-efficient products impact local businesses?

Sample SWOT Analysis

The following (Table 4) provides an example of a SWOT analysis conducted by a community that is making the shift to sustainability planning. Threaded throughout the analysis is a special focus on different aspects of sustainability stemming from various types of stakeholders.

Table 4: Climate Prosperity-focused SWOT Analysis Example

<p>Strengths</p> <p>Educated, diverse and young population</p> <p>Links to institutions doing green R&D</p> <p>Public/private partnerships & new approaches in use</p> <p>Utilities engaging people and companies in going green</p> <p>Some existing firms in renewable and energy efficiency</p> <p>Existing small business mentoring and training</p>	<p>Weaknesses</p> <p>Downsizing of manufacturing base</p> <p>Lack of linkages: between training agencies and employers, matching supply and demand</p> <p>Growing gap between “Haves and Have Nots”</p> <p>Aging infrastructure</p> <p>Suburban growth: into rural/ agricultural/ environmentally important lands</p> <p>Lack of common vision/goals for sustainable development</p> <p>Older, energy inefficient building stock</p>
<p>Opportunities</p> <p>Young, educated population could spur entrepreneurial growth in green jobs</p> <p>Increased partnership activity: refocus/expand role of existing educational facilities, build stronger links with business community</p> <p>Chamber an advocate of clean economic sectors: technology-based, health, tourism</p> <p>Manufacturing skills base lends itself to clean tech sectors</p> <p>Neighborhoods w/ strong physical (grid system) and social connections</p>	<p>Threats</p> <p>Global economic downturn</p> <p>Competitions for new employers - industries/businesses, with other communities</p> <p>“Status Quo Thinking” from the state level on sustainability</p> <p>Water resources threatened from pollution and overextended from growth</p> <p>Rising costs of energy – effects on local firms and residents</p> <p>Aging manufacturing workforce</p>

[Build Upon What You Have]

Equally importantly, communities need to take inventory of current programs, policies and initiatives already in place that they can build off, such as local housing associations with voluntary green building frameworks, utility companies with energy efficiency programs, community colleges with green construction training modules, and state incentives to promote alternative energy.

Many communities, having never approached economic development from a sustainability perspective before, may be tempted to enter the process believing that the wheel will have to be reinvented. However, many communities are rich with assets that often lie under the radar of local leaders. As such, conducting an assets inventory is a critical step in the pathway to sustainability. This includes plans, programs, current industries and people – all of which need to be mined for relevant elements that can be plugged into the roadmap for creating a climate prosperity strategy. This is not to say that new paths should not be pursued; rather, existing paths should not be ignored if they hold promise. Communities should pose the following questions when assessing existing assets:

- What are the existing economic development and environmental goals and visions?
- Which programs are already in existence (e.g., green development standards, technical assistance to entrepreneurs in green sectors, green fleet transition plan)?
- Which of these programs have been successful? Why or why not?
- Which programs are potentially scalable and/or adaptable to targeted goals?
- Which programs present low barriers and high cost-effectiveness?
- What other plans and strategies have already been developed that need to be considered?
- What state and federal-level incentives are in place to spur growth in sustainability-based economic development?
- Where are there potential allies and partnerships to be formed?
- How many firms with environmentally linked activities already operate in the community?
- How many firms that are poised to grow in the low carbon economy already operate in the community?
- How many of their suppliers are located in the community?
- What local colleges and universities have relevant training and R&D activities?
- What portion of the labor force is engaged in environmentally linked sectors and what skill sets do they have?
- What are the opportunities for matching local technological and industrial strengths with specific environmental initiatives? What types of public-sector assistance will support job growth in these areas?¹

[Establish Lead Organization as Climate Prosperity Hub for Community]

Part of driving momentum for the climate prosperity strategy process is to establish the reputation of one organization as the go-to place for all activities related to climate prosperity. This positioning should begin before the planning process and extend beyond the strategy's completion. A variety of initiatives can be taken to establish the lead organization as a "sustainability hub," such as hosting seminars to educate stakeholders on different aspects of sustainability. For example, the St. Louis Regional Chamber and Growth Association (the lead organization for the Climate Prosperity initiative in metropolitan St. Louis) will be holding a seminar on energy audits for business savings. As another example, Sacramento, CA, developed a clean-tech "green pages" to both document and support its growing clean tech sector. Organizations can also connect with the business community and the public through information-sharing on sustainability via newsletters, blogs, and websites. The lead organization will need to ask itself: What is the organization already doing well that can translate into strengthening its sustainability capacity?

Further, the lead organization should have deep knowledge of different sustainability initiatives and resources throughout the community so that it can serve as an intermediary and link between people and institutions. Having a single sustainability hub for the community provides clarity to businesses about where and how decisions are being made, and helps them understand how they might be impacted. Further, it can attract stakeholders to come together over divisive issues and forge networks and dynamic partnerships that are critical to the success of the future strategy.

[Identify Diverse and Dynamic Stakeholders Who Bring Key Resources to the Table]

For a successful climate action strategy, communities will need to involve a wide variety of stakeholders, many of whom may not have worked together previously, such as business representatives and environmentalists. Engaging with and educating these stakeholders to identify critical common interests, such as building opportunities and combating climate change, creates common ground that is essential for a successful climate action strategy. Engaging diverse stakeholders also:

- Fosters stronger and more diverse outcomes (more actors involved)
- Fosters social, institutional, and economic stability by giving people an investment in local outcomes
- Fosters more ardent involvement in sustainable development and, by extension, people's own social, economic, and political futures
- Provides information on the strengths, weaknesses and economic opportunities of the local economy
- Generates interest and support for economic activities
- Brings increased resources to implement the strategy
- Legitimizes the strategy
- Builds capacity, skills and knowledge

To assemble this group, assess the different stakeholders by weighing varied interests against a set of criteria. The criteria should determine what interests are relevant and why, as well as gauge the relative importance of stakeholders' interests, objectives, and conflicts. Stakeholder interests should be assessed in terms of:

- The intersection of the stakeholders' interests and that of the strategy as a whole
- The quantity and types of resources they can mobilize
- The issues that the stakeholder could impact or resolve²

Keep in mind that a climate prosperity strategy requires engaging stakeholders who are not typical participants in economic development strategic planning processes. Stakeholders who can be key in helping to accomplish specific goals should be sought and included.

Equally, it is important to invest sufficient time with leadership and stakeholders at the beginning stages to gain their input and buy-in to the process. This may appear to slow down the process in the beginning, but the time is a worthwhile investment that will have the benefit of stronger outcomes in the long run. Their early participation generates a more dynamic response to local needs by increasing vertical and horizontal coordination of policies and programs and encouraging policy innovation. Further, getting stakeholders' in-depth participation is key to building economic priorities that are based on specific endogenous resources. Those who are engaged early on also can help spread the word about the strategy, acting as champions for it among their community contacts and networks.

[**Educate Stakeholders and Leaders**]

Many of the communities that have been successful in developing sustainability and/or climate action strategies have had very strong and engaged leadership. In these cities, the leadership understands what the vision is and what it takes to get there. These leaders understand how climate action policy and economic development align and see value in making it a priority. Because these leaders are educated on the subject, they make an effort to establish the networks and the frameworks necessary for the community to avidly pursue a meaningful strategy. However, some communities are more dispersed and cannot rely on one or even a few central leaders, and as such a network of key leaders from throughout the region will need to be engaged. Many leaders are familiar with the climate action movement, but will need to learn how it can be linked to economic development to create concrete benefits to the community.

Community education is also critical in order to get the buy-in of residents. Simple things, such as newsletters, blogs and workshops can deepen sustainability awareness within a community. For example, the Town of Taber, in Alberta, Canada, hosts a one-day "ecofair" for the community. The family-oriented event teaches about sustainable practices and technology, including displays on energy - efficient housing, water conservation, micro-generation and more. A highlight of the 2009 fair was the University of Calgary Solar-Powered Car.

In considering what kind of education is needed, some questions to ask include:

- Is the current political environment favorable to embracing a sustainability agenda?
- Is there a pervasive anti-environmental culture in the community?
- Are politicians leading the charge, or do they need to be educated on the benefits of taking climate action?

- How will climate actions impact area businesses? What are the costs and benefits?

[Dedicate Staff to the Process]

The lead organization ideally should have dedicated staff to the process – depending on the size of the community, this might be more than one person, or a combination of staff that are full- and part-time on the project. If there is more than one staff person dedicated to the project, one of those people should be identified as the lead.

The City of Normal, IL, has developed “Green Teams” that consist of a broad cross-section of town employees representing different departments and areas of expertise. The 2008-2009 Green Team goals are broken down into five broad categories, each containing numerous objectives. For example, under the energy efficiency goal, one of the five objectives is to establish baseline energy information by constructing a database to centralize historical energy consumption at all public facilities. Each objective has an identified team leader and supporting staff tasked with carrying out the objective. Another strategy that can help with staffing continuity is to partner with another organization. The City of Chicago did this when developing the Chicago Climate Action Plan. By collaborating with Global Philanthropy Partnership (GPP), the city gained strategic and technical expertise, along with access to business and professional partners.³

[Build a Dedicated and Focused Task Force]

The task force should be composed of a relatively small group of diverse stakeholders from different sectors of the community, including civic, private and non-profit leaders. The task force members should be those that are committed to the mission as well as the time the process will take. The purpose of this group is to examine issues and make recommendations to the lead organization. This group can also focus on interpreting trends and addressing unmet needs of the community. Activities that may be appropriate for this group include:

- Reviewing research and results that come out of the community assessment phase
- Participating in the scenario planning process to identify plausible futures (see p. 63)
- Reviewing draft reports
- Endorsing goals and strategies
- Reviewing and evaluating projects and programs
- Identifying planning resources

It is imperative to empower the task force and other related working groups with information as a follow-up to convening events such as workshops and meetings. When facilitating the visioning process for the City of Newark, N.J., the Apollo Alliance set up a web page that summarized meeting notes, complete with any graphic illustrations that were made, speaker contact information, and research that was specific to Newark.⁴

[Seek Diverse Financing Streams for the Process and Strategy]

Funding can be one of the primary challenges to engaging in a climate prosperity strategy on the community level. Communities that have had success in financing strategies and planning processes have engaged with a variety of funding sources, as municipal budgets are often too limited to accommodate the depth and scale that this type of planning and implementation requires. Part and parcel of successfully developing diverse funding streams is to engage in a collaborative process that can organically and continually present more resources to the strategy. Almost all communities that have engaged in a climate action strategy have reached out to local, regional and/or national foundations. These organizations, especially local ones, have critical links to the civic and business communities which are invaluable to the success of any climate action strategy. They can help to enhance business partnerships and strategies that strengthen long-term economic development. Further, involving such organizations fosters social, institutional, and economic stability by giving the community an investment in local outcomes.

[Develop a Strong Unifying Vision]

The following three options represent approaches to strategic visioning that can be used singularly or in combination with each other. Option 3, scenario planning, should be thought of as an additional tool that can support any type of visioning process, whether top-down (driven by leadership) or bottom-up (driven by public input from local stakeholders).

Option 1: A Leadership Driven Vision

As mayors, county commissioners, and governors become more educated in sustainability, they often take the lead role in developing far-reaching sustainability visions and goals for their communities. Broad goals are then delegated to community leaders for implementation and marketed to the community. Examples of cities that have mayoral-driven sustainability strategies and plans are Chicago, New York City, Salt Lake City, San Jose, and Seattle.

Option 2: A Traditional Strategic Planning Approach

A traditional strategic planning approach that involves stakeholders and input from the community can be used to complement a leadership-driven vision, or can be utilized in communities that are lacking strong leadership on sustainability and climate-related policy issues. The process can involve a bottom-up participatory process or a process with select stakeholders, such as the process laid out in this guidebook. Participants engage in guided dialogues to identify the core strengths, weaknesses, opportunities and threats of the community. Based on this dialogue, the group can work together to identify the core goals of the community. Goals are then elaborated upon to include achievable objectives.

Tip: Nominal group exercises provide a structured problem solving or idea generating process in which individuals are brought together in a non threatening environment to express and discuss their ideas. The process can help to clarify, prioritize, reach consensus, and make decisions on proposed actions.

One example of this process is from Newark, N.J., where the Apollo Alliance helped to facilitate a year-long planning process, Newark's Green Future Summit, to move from the vision of a green economy to the reality of a green economic strategy.⁵ Newark's Green Future Summit helped refine goals and strategies and created critical personal connections

among city, community, business, citizen, and labor leaders.⁶ In addition, an artist was brought into the process to describe the proceedings in colorful displays of pictures, symbols and language. These dynamic illustrations helped to capture the findings of the summit at different points throughout the year (see Diagram 10).

Diagram 10: What Does Green Economic Development Mean for Newark, NJ?



Source: Apollo Alliance. *Imagining Newark's Green Future*. January 2009.
 Graphic Facilitation: Brandy Agerbeck, Loosetooth.com

Option 3: Scenario Planning

While most economic development professionals are fluent in the art of strategic planning, scenario planning represents an offshoot that can help leaders think through highly complex and dynamic situations. In strategic planning, a community looks at its current situation and compares it to what it would like to be in a certain amount of time.⁷ Scenario planning takes this one step further by offering a dynamic systems approach to identifying multiple futures based on internal and external, known and unknown social, technological, environmental, economic, and political forces. **Please see the following section for a detailed summary of scenario planning as a powerful climate prosperity planning tool.**

3.0 Scenario Planning: a visioning tool for climate prosperity planning

"Scenarios are stories about the future. They are not attempts to predict the future; rather, they aim to sketch the boundaries of the plausible."
World Economic Forum

Scenario thinking began as a military tool, but gained wider recognition as a business tool utilized by large corporations in reaction to a world with growing uncertainty. Scenario planning represents a critical approach for a climate prosperity strategy because it provides for truly dynamic plans and strategies that are living documents, always adaptable to changing forces. As with strategic planning, scenario planning involves a realistic appraisal of available resources, constraints, and opportunities; the development of achievable goals; and the formulation of action plans to reach those goals. However, the roadmap for getting there allows for expanded thinking by challenging assumptions and established patterns that might prevent a city or region from embracing changes that are necessary to growth. Scenario planning is ideal for addressing complex issues and challenges with multiple forces: internal and external, horizontal and vertical, and foreseen and unforeseen.

Diagram 11: A Systems Approach



The outcomes of the scenario planning process can be used to help practitioners and stakeholders draw out a common vision. Scenario planning can be utilized in different forms, along different timescales, with different types of participant groups. It can be a very involved and lengthy process, inclusive of public participation and broad stakeholder input. Alternately, it could be a one- to two-day workshop, specifically for leadership and key stakeholders.

The process itself emphasizes group learning, an excellent mechanism for educating stakeholders and a critical step to building a climate prosperity strategy. Further, the process aids in breaking down institutional silos that often separate key stakeholders by providing a common nomenclature for discussing possible futures. Because climate prosperity strategies represent a new approach that requires new ideas and realms of possibility, scenario planning lends itself to helping communities think through the complexities of interacting forces. The dynamism of the scenario planning process is that it doesn't end when everyone is in agreement, but rather carries through as a living tool to help communities transition through time.⁸

In order to be successful, scenario planning requires:

- A dedication to the completion of the process
- Openness to exploring new ways of doing things
- Enough time to dedicate to the integrity of the process (urgency should not threaten the process)
- An understanding that scenario planning is dynamic, always open to questioning assumptions and reframing questions based on trial and error

What scenario planning is *not*:

- Predictions of the future or even a most likely future
- A static direction on which a community should set its gaze

Understanding Scenario Planning

Q. What Kind of Timeframe Should the Scenarios Explore?

A. While short-term goals will be critical to the success of a climate action plan, generally timeframes that are greater than 10 years are most suitable for slow-changing and wide-ranging issues, such as environmental and social issues

Q. Who Should Be Involved in the Scenario Planning Exercise?

A. The scenario planning exercise can be a completely public process or can be kept to select stakeholders (e.g. the task force – see chapter 2.0)

Q. Why Is Scenario Planning Important to Climate Prosperity Planning?

A. The scenario planning exercise educates community stakeholders on the climate prosperity strategy by engaging them to imagine how assumptions and uncertainties interact to create different futures. Further, it primes stakeholders to start thinking in terms of interactive systems, rather than traditional transactions-based economic development.

Steps to Scenario Planning

Scenario planning is a multi-step, dynamic process. The first step involves orienting the stakeholders to the issues and challenges at hand. The stakeholders should work together to collectively identify the challenges facing the community and to define what the core questions should be.

Once the context has been identified in step 1, step 2 takes stakeholders through an exercise to leave the confinement of day-to-day “survival thinking” to engage in a dialogue about the future. In this step, stakeholders identify the external forces that are currently impacting the community or that may impact the community in the future in predictable and unpredictable ways.

Step 3 leads stakeholders to evaluate the internal dynamics of the community by identifying what local assets are most vulnerable to external forces, and how internal forces and external forces may interact with local circumstances.

The last step combines all of the recognized forces from steps 2 and 3 to identify emerging themes that could create a scenario framework of plausible futures. Plausible futures can then be written as storylines about the community which begin in the present and describe different ways the community could evolve through a series of planned and unplanned events. The storylines aren't met to be predictions, but rather tools to spark the community's self-awareness by thinking through what could happen and what actions the community can take to influence present and future forces. Diagram 12 illustrates the basic steps involved in engaging in a scenario planning process.

Diagram 12: Steps to Scenario Planning

Step 1: Define the Context

- Where is the community on the path to sustainability?
- What is the principal concern?

Step 2: Identify the External Forces

- What external forces (social, political, environmental, economic, and technological) are assumed to take place?
- What are the primary external uncertainties?

Step 3: Evaluate Internal Dynamics

- How might local assets interact with external forces?
- What local assets are most sensitive to internal and external forces?

Step 4: Identify Spectrum of Plausible Futures

- Where do external forces and internal dynamics meet?
- What storylines outline the array of possible futures?

Step 1: Define the Context

This step calls on stakeholders to come to a consensus on a definition of sustainability and how the community will adapt to an increasingly sustainability-driven world. A SWOT exercise is a useful tool for identifying the strengths, weaknesses, opportunities and threats that will help the stakeholders frame how sustainability is playing out in their community (see Table 4).

→ Where is the community on the path to sustainability?

- What sustainability-oriented goals, visions, programs and policies are already in place (e.g., LEED certification, recycling programs, etc)?
- What is the political environment surrounding the issue of sustainability within the community, region, state, nation?
- What are the most important issues related to attaining long-term sustainability for your community?
- Where does the business community stand on these issues?
- What do you believe is pre-determined for the next X number of years?
- If you looked back from 25 years in the future, what would the community's failure or success be?
- To what degree do stakeholders understand the changing energy economy?
- How is the community understanding and adapting to current sustainability trends and challenges (e.g., energy consumption patterns)?

→ What is the principal concern?

- What will the state of the community be in 20 years? Is the community headed down a road to sustainability?
- What steps can the community take to protect and develop its assets?
- Has the community started to embrace sustainability practices?
- Have businesses started to embrace sustainability practices?

Step 2: Identify the External Forces

Step 2 is designed to identify and explore the external forces that can shape future outcomes of the community. This is where the five driving forces of scenario planning (Diagram 11) begin to come into play. Community leaders and stakeholders should identify what the potential political, economic, social, technological, and environmental factors are that could affect their community. The forces can be categorized into *assumptions* (forces that are expected) and *uncertainties* (forces that are less certain and more volatile).

- What external forces (social, political, environmental, economic, and technological) are assumed to take place?
 - What sustainability-oriented national and regional policy initiatives are likely to take place (e.g., the carbon cap-and-trade policy proposed by the Obama administration)?
 - What financial incentives will the state provide to spur growth in green products?
 - Where is the private sector directing investment?
 - What demographic trends are anticipated?
 - What workforce trends are anticipated?
 - What environmental trends are anticipated (e.g., pollution levels to increase with population growth)?
 - How will technology play a role in monitoring sustainability measures?

- What are the primary external uncertainties?
 - Will local expectations regarding sustainability improve as education on the subject matter improves?
 - When will the global credit crunch taper off?
 - When and where will natural disasters occur due to climate change?
 - How will climate change affect regional and state water quality and supply?
 - As other countries develop, what will be the global demand for green products?
 - As other countries develop, how will their policies influence global natural resource and agricultural supplies?
 - How prepared are our businesses, workers and economic sectors?

Step 3: Evaluate Internal Dynamics

Step 3 is the final step before scenarios can start to be developed. It gives stakeholders an opportunity to identify what local assets are most vulnerable to internal and external forces and how those assets and forces may interact.

- How might local assets interact with external forces?
 - What strengths of the local employment base are congruent or incongruent with the skill demands coming from shifts in technology related to green jobs?
 - How might local land use patterns shift to meet the demands of an increasingly carbon-conscious world?
 - What local entrepreneurs and economic sectors will be able to take advantage of opportunities emerging in changing markets?

- What local assets are most sensitive to internal and external forces?
 - Will current water supplies be able to serve an increasing population?
 - Will investments in public transit transform land use patterns?
 - How will climate patterns change potentially impact local social and economic structures?
 - How will the community's relationship with the region affect its ecosystems and natural resources?
 - How will the community take advantage of any local or regional demographic shifts?
 - How will the community's history in particular industrial sectors transform into future opportunities within green supply chains?
 - How will local businesses adapt to changing demands for greener products and processes from individual and business customers?

Step 4: Identify Spectrum of Plausible Futures

This step combines all previous steps to start brainstorming a scenario framework of plausible futures. Stakeholders should identify what themes are beginning to emerge from steps 2 and 3 and where external forces and internal dynamics are likely to intersect. A useful starting point is to identify the most pressing uncertainties from step 2. From there, stakeholders can identify where and how those uncertainties might interact with local dynamics. For example, a coastal community may identify their most pressing uncertainty as sea level change. The uncertainty of sea level change can then be used to ask which aspects of the community would be most vulnerable to small, medium and large changes in sea level. If the tourism industry is identified as vulnerable, the community may want to explore measures to protect the industry, or expand its economic base in other industries.

Stakeholders should use this exercise to brainstorm storylines about the community that begin in the present and carry through to a future point through various internal and external events. The stakeholders can then begin to envision what the community would be like under the various scenarios, and ask how different actions could lead to desirable or undesirable possible futures. The answers to these questions will be the primary elements to creating community-wide goals and priorities. It is important to note that this is not where the scenario planning process ends. Rather, it is essential to embrace a trial-and-error process in which stakeholders feel free to continually retool the process to capture the most desirable and appropriate picture of the community. It should be noted that this is not a strictly linear process, and it is expected that leaders and stakeholders participating in the process will be keen to work through the process repeatedly to flush out the best visions for their respective community.

→ What storylines outline the array of possible futures?

- Where do internal and external social, economic, environmental, political, and technological trends consistently align to tell a story?
- What storylines represent aggressive political leadership?
- Which storylines require little support by the government?
- Which storylines require broad-based community support versus little community input?
- Which storylines are based on cataclysmic events?
- Which storylines require local institutions to implement wide-ranging reforms?
- What storylines require businesses to implement wide-ranging reforms?

→ Where do external forces and internal dynamics meet?

- Is the local manufacturing base poised to meet the demands of an anticipated national policy push for energy efficiency?
- How would an unforeseen disaster affect the most critical assets of the community?

4.0 Translate Visions into Strategies

*“No action, no change. Limited action, limited change.
Lots of action, change occurs.”*

Catherine Pulsifer

[Define Goals and Objectives]

Once a visioning process has taken place, specific goals, objectives and strategies can be defined and drafted that describe what kind of community you hope to develop.

- Goals provide points of reference for making decisions and developing the strategies, subsequent projects, and programs to achieve them.
- Goals should provide direction and guide the development of relevant strategies and economic development projects and programs.
- Goals also serve to educate and inspire participants in the implementation process.
- Goals communicate the intent of the climate prosperity strategy effort.⁹

San Jose’s Green Vision provides an excellent example of what climate prosperity goals can look like. The goals of the vision are intended to cut the carbon footprint of the city by more than fifty percent. They include:

- 1) Create 25,000 clean tech jobs as the world center of clean tech innovation.
- 2) Reduce per capita energy use by 50 percent.
- 3) Receive 100 percent of electrical power from clean renewable sources.
- 4) Build or retrofit 50 million square feet of green buildings.
- 5) Divert 100 percent of the waste from the city’s landfills and convert waste to energy.
- 6) Recycle or beneficially reuse 100 percent of the city’s wastewater (100 million gallons per day).
- 7) Adopt a General Plan with measurable standards for sustainable development.
- 8) Ensure that 100 percent of public fleet vehicles run on alternative fuels.
- 9) Plant 100,000 new trees and replace 100 percent of the city’s street lights with smart, zero emission lighting.
- 10) Create 100 miles of interconnected trails.¹⁰

Objectives represent the specific tools by which a goal will be reached. For example, Silicon Valley’s Climate Prosperity Greenprint defines a goal of building a clean tech and green industry base. Their objectives include:

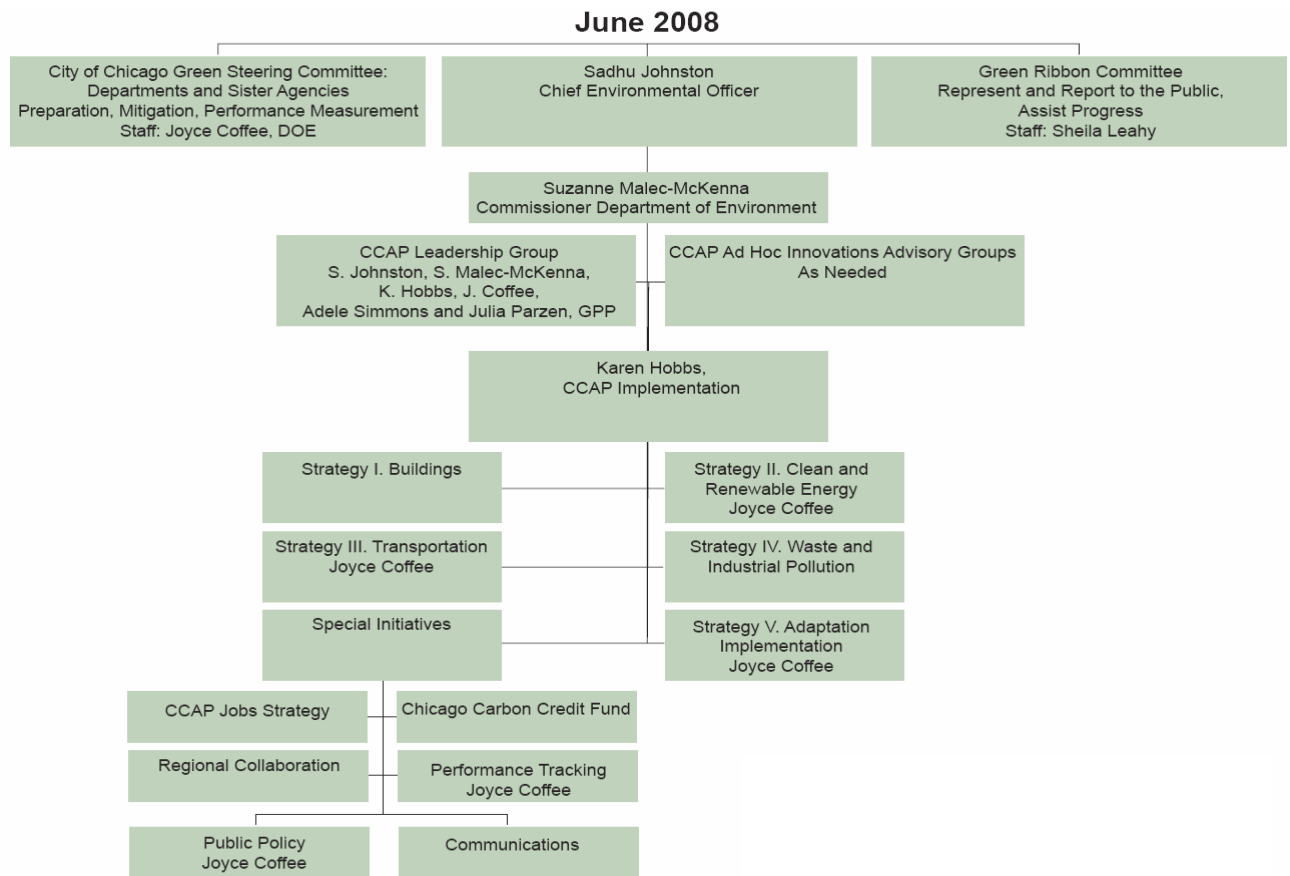
- Provide access to financing to enable businesses to expand and purchase greener products.
- Ensure that workforce training programs are aligned with the needs of these industries, as well as utilities and public agencies.
- Promote a regulatory climate that encourages innovation as well as green practices.
- Market the Valley’s products in this area and attract the appropriate workforce.

[Develop an Action Plan]

Action plans define the steps to implement the chosen goals and objectives. They describe the components of the proposed projects and how those projects support the strategy, objectives, and goals of the overall climate prosperity plan. Action plans lay out:

- The tasks involved and their sequence.
- Realistic timetables for the completion of different activities.
- The expected impacts or results of the action.
- Who or what organization is responsible for each task.
- Funding requirements, including identification of sources.
- The monitoring process and benchmarks.¹¹

Diagram 13: Chicago Climate Action Initiative Organizational Chart



Source: Parzen, Julia and The City of Chicago. *Lessons Learned: Creating the Chicago Climate Action Plan*. 2009

Climate prosperity strategies should play close attention to cross-departmental and cross-institutional relationships. In order for the strategy to be successful, it will require breaking down the usual boundaries and silos. Depending on the community's size and the organizational structures of the public and private sectors, a clear set of responsibilities for each of the goals should be tasked to specific teams. More dynamic goals demand the formation of teams that cross multiple boundaries.

For example, to complete an ambitious green jobs goal, a cross-departmental team should include staff from economic development, workforce, and environment services at a minimum. Lead actors or agencies who are responsible for the completion of the team's ultimate goal should be identified and assigned from the beginning. Further, the team members should report progress back to their respective departments on a regular basis. Each team should also have access to leaders who are high up within the community government and can advocate on behalf of the team for policy changes and resources. Diagram 13 outlines the organizational chart for the City of Chicago's Climate Action Initiative, which shows that the implementation piece is broken down by broad goals and that leaders had been identified for most of the goals.

As with many planning and strategic processes, skepticism may pervade. Creating sustainability strategies is a new venture to most communities, and it will undoubtedly be met by skepticism. Stakeholders may not fully understand how ambitious goals will create momentum for the larger strategy. Engaging in small, actionable items early in the process allows for barriers and key lessons to be identified for moving forward.

[Measure and Track Success]

Measuring sustainability is vastly complex. Because the environment, the economy, and society are all constantly changing, it is impossible to garner a truly accurate view of sustainability on a regional level. However, certain measurements can be adapted to attempt to understand it.

When choosing indicators, it is important that they are:

- Replicable for consistency
- Sensitive to the situation being observed
- Reliable (objective or verifiable)
- Relevant to the project objectives
- Cost-effective, i.e., worth the time and money spent collecting them
- Timely¹²

They also should include economic and environmental goals, especially greenhouse gas reduction and ways to measure emerging green companies and sectors. As Newark, NJ went through its year-long process to imagine a green future, the project's task force identified green benchmarks against which they would check all goals and strategies. They include:

- Create safe, healthy, high-quality jobs that provide pathways out of poverty and opportunities for career advancement.
- Make use of Newark's existing assets, strengths, and opportunities.
- Produce a healthier and more livable Newark.

- Engage the community, especially youth and business, around a collective vision for the future.
- Reduce greenhouse gas emissions that contribute to global warming.
- Emphasize recycling, waste reduction, and reuse.¹³

Measurements can be categorized by the three paradigms of sustainability: economy, environment, and society.

General economic measurements can include:

- Cost of services and infrastructure (e.g., recreation, schools, water and sewer laterals, public facilities, roads, utilities, and operational costs)
- (Green) jobs per person
- (Green) jobs per dwelling unit
- Income per person and quality of jobs
- Employers per acre
- College attainment levels
- Patents, including those related to clean tech or green industries
- Venture capital
- Self-employment
- Clean tech or green start-ups
- Small businesses/women- and minority-owned businesses

General environmental measurements can include:

- Per capita greenhouse gas emissions
- Community's overall greenhouse gas emissions
- Per capita vehicle miles traveled
- Net wetland loss
- Per capita water use
- Per capita storm water runoff
- Per capita acreage of impervious surfaces
- Connectivity of open space and natural lands

General social measurements can include:

- Park space inventory and proximity to residents
- Bicycle and pedestrian networks
- Travel times to other communities and employment centers
- Transit service coverage and density
- Bus service to employment centers
- Number of feet to vital retail amenities such as grocery stores, pharmacies, and postal offices
- Voter participation rates
- Community service involvement
- Economic integration
- Internet accessibility

Evaluation does not end with identifying results. Leaders must use the information to adjust projects or strategies, hold implementing organizations accountable for results, and advance overall goals.¹⁴

[Build Momentum through Marketing the Message]

Successful climate prosperity strategies require that all sectors of the community understand the strategy and can play a role in supporting it. As such, the overall vision and message of the strategy needs to be marketed to different segments of the community. Lead organizations should focus on branding an effective message that tells a story. The size and culture of the community will affect this message. For example, if the community is a place where “everybody knows your name,” then word-of-mouth might be better than local media.

The overall message should communicate:

- 1) Credible data – how is the city currently doing economically, environmentally, and socially?
- 2) How will the strategy provide long-term value and benefit to regional stakeholders?
- 3) What’s special about the strategy that will make the community a standout in sustainability?

For larger communities, it can be beneficial to assemble a communications task force or committee. The City of Chicago had a communications committee which assisted with messaging the Climate Action Plan as well as outreach planning. The committee helped the city focus messaging on quality of life benefits and cost savings of action. It crafted various programs to spur the business community and the public at large to take action. It also reached out to dozens of community organizations to enlist them as outreach partners.¹⁵ For smaller communities, communication strategies should be integrated into the larger strategy and assigned a responsible party.

5.0 Moving Forward

“Make no little plans. They have no magic to stir men's blood and probably will not themselves be realized.”

Daniel Burnham

While understanding and attempting to implement sustainability is quite difficult, numerous communities are doing it successfully, which is clear evidence of the evolution of this movement. The compendium at the end of this report provides examples of communities large and small that have started down this road. Further, the completion of bold, large-scale plans and strategies such as those in Chicago, New York City San Jose, and Greensburg, KA, just to name a few, are paving the pathway for other communities across the country to develop their own unique and innovative solutions. Clearly, a holistic approach is necessary to complement the complexities of our regions and communities. Assessing communities based on their economic, environmental, and social aspects provides for the most comprehensive lens of analysis.

For local economic development practitioners, the national focus on energy and climate change will become one of the most significant public policy trends for the next decades. The interest in global warming has grown exponentially over the past decade, supported by the emerged scientific consensus, stimulated by foreign examples and led by state and local governments. Hundreds of corporations and communities have adopted climate protection policies, strategies and plans.

The economic development implications of this movement have only recently become apparent to the economic development community. The true cost of energy, i.e., the environmental and economic consequences of green house gas emissions, regulated at the national level, will now be a major cost of production, altering the competitive position of industrial sectors and regions. The new federal investments in energy conservation and efficiency will provide opportunities for communities to position themselves in this new energy economy.

Because of the ubiquitous nature of energy usage, participation in the new energy economy will be open to a broader range of communities. Unlike the biotech sector, in which only a few regions were favored by sustained federal R&D funding, concentrations of venture capital firms, or the legacy locations of pharmaceutical companies, all communities can benefit from Green Savings, and large numbers from Green Opportunities (e.g., weatherization companies) and Green Talent (e.g., the greening of existing manufacturing jobs).

Utilizing climate protection strategies to drive economic development, and focusing economic development programs on sustainability, will require economic development practitioners to become knowledgeable about the new science of climate change, and to more aggressively engage with the federal agencies and Congress.

[Links to Related Plans and Strategies]

Catalyzing Economic Growth & Environmental Quality in the City of Toronto

http://www.toronto.ca/business_publications/pdf/green_economic_development_22may2007.pdf

City of Chicago Climate Action Plan

<http://www.chicagoclimateaction.org/>

City of Vancouver, CA – Greenest City Quick Start Recommendations

<http://vancouver.ca/greenestcity/PDF/greenestcity-quickstart.pdf>

Climate Prosperity: A Greenprint for Silicon Valley

<http://www.jointventure.org/programs-initiatives/climateprosperity/Greenprint%20for%20Silicon%20Valley%202%204%2009%20embargoed%20to%202%2020%2009.pdf>

Greensburg, KS Sustainable Comprehensive Plan

<http://www.greensburgks.org/recovery-planning/Greensburg%20Comprehensive%20Master%20Plan%2001-16-08%20DRAFT.pdf>

Greenworks Philadelphia

<http://www.phila.gov/green/greenworks/PDFs/GreenworksPlan002.pdf>

Imagining Newark's Green Future: A Year Building the Green Economy

<http://apolloalliance.org/downloads/newarksgreenfuture.pdf>

Portland Development Commission Sustainability Plan, 2008- 2009

http://www.pdc.us/pubs/inv_detail.asp?id=755&ty=57

VII. COMPENDIUM OF GREEN STRATEGIES

This section represents a snapshot of current and diverse climate action strategies taking place across the public and private sectors, in different sized communities across North America. Its purpose is to provide a menu of examples that communities can use to design their own approaches to sustainability. It is not meant to be exhaustive. The compendium is broken down into the following broad categories, with each category providing multiple examples of how these strategies are being implemented.

1. **Business**
 - a. *Green Business Models*
 - b. *Making Business Greener*
2. **Energy Efficiency**
3. **Green Buildings**
4. **Green Jobs**
5. **Recycling**
6. **Renewable Energy**
7. **Research & Development**
8. **Smart Growth**
9. **Strategic Approaches**
10. **Water Conservation**

1.) Business

a. *Green Business Models*

Dunkin Donuts – LEED Store

A Dunkin Donuts franchise in St. Petersburg recently opened its doors with a LEED-certified building. Along with standard green building features, such as energy-efficient lighting and plumbing fixtures, the store also composts all food waste on site. Additionally, the store has implemented a new process for making donuts involving energy-efficient convection ovens. Dunkin Donuts plans to use the store as a prototype for future LEED-certified stores.

Ford Motor Company - River Rouge Plant

The Ford River Rouge Plant (the Rouge), located in Dearborn, MI, is one of the largest eco-industrial projects undertaken by an individual firm in the United States. Ford Motor Company took a variety of environmentally sensitive approaches to building the facility. It created the world's largest "green" roof for an industrial facility using plants to filter soil contaminants (phyto-remediation); used renewable energy sources; and planted trees and other vegetation to create natural habitats for wildlife and green space for humans. As a result, the plant has earned the Gold certification by the U.S. Green Building Council for the Rouge Visitor Center and a Silver award for other facilities at the plant. In addition, the company has received numerous awards and recognition for its innovative approach to redeveloping the property in Dearborn.

Ford Motor Company - Fumes to Fuels

Since 2000, Ford has successfully lowered its global energy use by 27 percent and lowered carbon dioxide emissions by 31 percent - a total amount of energy that could power approximately 220,000 homes in the United States. This has been achieved by using wind power for one plant and also through light conservation, but most of the reductions have come

through their fumes-to-fuel program. Piloted at its plant in Dearborn, the program provides energy by using fumes from its vehicle paint shop to fuel an internal combustion engine and transfers that power to the plant's electrical grid. While providing clean energy, the system also reduces CO2 emissions. Ford recently installed this program in a plant in Oakville, Ontario, Canada. Within a year, Ford plans to install a larger system in the plant that will both enhance the system and reduce CO2 emissions by 88 percent.¹⁶

McDonald's – Sustainable Fisheries Program

McDonald's is working throughout its global locations to reform the sourcing of its fishery stocks. The reform guidelines were developed in conjunction with Conservation International and key fish suppliers, and are currently implemented collaboratively with the Sustainable Fisheries Partnership. Currently, a majority of McDonald's fishery sources are from Marine Stewardship Council-certified facilities.

SolarTech Consortium

The SolarTech Consortium is a photovoltaic industry consortium whose purpose is to accelerate and grow the industry by unifying Silicon Valley solar companies. The consortium has recognized several impediments to the widespread adoption of solar technology, most notably high equipment costs and an overly long cycle from installation to interconnection. Believing that lower costs will act as a catalyst for market growth, the SolarTech Consortium seeks to improve the solar industry in a number of areas.

The central focus of improvement is establishing universal standards for the installation and certification of solar technology. A lack of information about solar equipment exists among both consumers and installers, and the SolarTech consortium seeks to educate on the topic by preparing a "Solar Manual" handbook for consumers and "Best Practices" handbook for installers. Additionally, the consortium has plans to work with manufacturers to standardize ratings of solar panel performance, and to assist economic development organizations by instituting a solar curriculum for training workers. Finally, the SolarTech Consortium has developed an innovative financing plan which will reduce the upfront cost of solar equipment, a central barrier impeding consumers from embracing the technology. For more information, go to <http://solartech.org/>.



Waste Management's Single-Stream Recycling

Single-stream recycling enables users to place all recyclable materials in one single bin, rather than pre-sorting them. Waste Management now has 30 facilities throughout North America designed to accommodate single-stream recycling. Technologies within the facilities allow the sorting to occur fairly quickly and easily. The innovative implementation of single-stream recycling has made recycling more convenient for consumers and thus has resulted in an

increase in recycled materials of up to 30 percent in participating communities. Further, the returns for Waste Management are equal to those for standard recycling practices.¹⁷

b. Making Business Greener

Environmental Defense Fund's (EDF) Corporate Partnerships

EDF works with Fortune 500 companies on partnerships that deliver environmental results, benefit businesses and change industries. The partnerships are strategically designed to simultaneously provide business benefits, produce environmental results and pave the way for transformational industry change. EDF does not accept no payments from their corporate partners. To learn more, go to: <http://www.edf.org/page.cfm?tagID=56>

New York City – Environmental Economic Development Assistance Unit

The Environmental Economic Development Assistance Unit (EEDA) seeks to foster the joint goals of economic development and environmental protection by offering compliance and technical assistance to New York City industrial and commercial establishments and promoting environmentally sound business practices. In addition to compliance assistance, it assists in green business development, helps find sources of funding for businesses, advises on the issue of regulatory reform, and maintains a pollution prevention program.

Sacramento, CA - Green Capital Alliance

The Green Capital Alliance, a consortium of organizations in the Sacramento area, aims to make the clean technology sector a defining feature of America's economy and to establish the Sacramento region as a leader in sustainability. To do so, the Alliance performs R&D and workforce development; offers marketing services for green business and provides entrepreneur and startup support; evaluates regional sustainability; and advocates for favorable public policies. The organization has been highly active in branding Sacramento as a hotspot for clean energy through participation in conferences and media tours, and has hosted multiple regional events to reinforce this paradigm. A complete list of the Green Capital Alliance's activities can be found at http://www.greencapitalalliance.org/docs/2007GCAAccomplishments_Final.pdf.

Salt Lake City, UT – Environmentally & Economically Sustainable Business Program

The program, run by the city, provides technical assistance to local businesses to help them become both more environmentally and economically sustainable. The program also provides periodic networking meetings, where local owners can share ideas and innovations in greening their businesses.

World Wildlife Fund's (WWF) Transformational Partnerships

WWF works with leading companies to make deep operational changes. With this type of partnership a company will make an aspirational, measurable commitment to transform their impact on the environment in deep partnership with WWF. For more information, go to: <http://www.worldwildlife.org/what/partners/corporate/index.html>

2.) Energy Efficiency

Cambridge Energy Alliance

The Cambridge Energy Alliance (CEA) is a non-profit based in Cambridge, MA, whose mission is to reduce energy and water use in the city. CEA offers privately financed energy audits covering building energy efficiency and renewable energy upgrades to all who are interested. CEA has also formed alliances with both private and investment banks that are able to offer inexpensive financing for upgrading projects, such as loans which will match or exceed estimated energy savings.

For more information, go to: <http://www.cambridgeenergyalliance.org/>

Duluth, Minnesota – Revolving Loan Fund

Duluth, Minnesota, maintains a revolving fund to finance local energy-efficiency improvements. Fifty percent of savings from each project is available for future energy-efficiency improvements. The mechanism supports continuous efficiency improvements without having to compete for funding in the annual budget-setting process. Initially funded from the remains of a home energy loan program co-sponsored by the City of Duluth and Minnesota Power, both the revolving fund and Minnesota Power each receive a 50 percent share of cost savings from energy efficiency. For more information, go to: www.duluthmn.gov

Energy Trust of Oregon

Energy Trust of Oregon, Inc., began operation in March 2002, charged by the Oregon Public Utility Commission (OPUC) with investing in cost-effective energy conservation, helping to pay the above-market costs of renewable energy resources, and encouraging energy market transformation in Oregon. Energy Trust funds come from a 1999 energy restructuring law, which required Oregon's two largest investor-owned utilities to collect a three percent "public purposes charge" from their customers. The law also dedicated a separate portion of the public-purpose funding to energy conservation efforts in low-income housing energy assistance and K-12 schools.

For more information, go to: <http://www.energytrust.org/>

Environmental Protection Agency (EPA) Smart WaveSM

SmartWaySM is an innovative brand that represents environmentally cleaner, more fuel efficient transportation options. In its simplest form, the SmartWay brand identifies products and services that reduce transportation-related emissions. However, the impact of the brand is much greater as the SmartWay brand signifies a partnership among government, business and consumers to protect our environment, reduce fuel consumption, and improve our air quality for future generations. For more information, go to: <http://www.epa.gov/smartway/>

Louisville, KY – Public-Private Sector Partnership for Energy Efficiency

To enlist the community in Louisville Metro Government's efforts to promote energy efficiency, Mayor Jerry Abramson reached out to Louisville's commercial real estate (CRE) sector. The CRE community, realizing the potential benefits, responded enthusiastically. Building on their interest, the Mayor launched the Louisville Public-Private Sector Partnership for Energy Efficiency early in 2008 as a key tool to help reduce greenhouse gas emissions. Significant accomplishments of the partnership to date include formation of the non-profit Louisville Energy Alliance (LEA) and the Louisville Kilowatt Crackdown.

LEA quickly developed the Louisville Kilowatt Crackdown as a mechanism to involve the CRE sector in energy efficiency. The Crackdown was designed to introduce building owners and operators to resources and tools available through ENERGY STAR and to the potential benefits of energy efficiency. Participant benefits include increased energy efficiency; reduced or controlled operating costs; reduced greenhouse gas emissions; demonstrated commitment to sustainability; and community recognition through promotion of participants by Metro Government and the LEA. The major community benefit is a reduction in greenhouse gas emissions generated by commercial buildings, which represent a significant portion of Louisville's emissions. Some 244 buildings from all sectors of the community are participating in the 2009 inaugural Louisville Kilowatt Crackdown. Participants benchmarked their buildings' 2008 energy use in ENERGY STAR's Portfolio Manager online software tool, and are continuing to enter/monitor their monthly usage while making improvements during 2009.

Oregon - Business Energy Tax Credit (BETC)

The BETC provides tax credits to transportation, industrial, commercial and residential projects that are energy-efficient and use non-polluting, renewable energy sources. These tax credits are taken against state income taxes and other taxes. In 2007, the law was extended to 2016 and increased the number of credits available. There is currently a \$10 million credit cap (50 percent of the eligible costs up to \$20 million) allocated for five years at 10 percent. The credits are aimed at direct costs concerning business energy-efficiency projects such as equipment, engineering and design fees, materials, supplies, installation and other costs.

For more information, go to: <http://www.oregon.gov/ENERGY/CONS/BUS/BETC.shtml>

Pennsylvania – Small Business Energy Efficiency Grant Program

The Small Business Energy Efficiency Grant Program is operated by the State of Pennsylvania's Department of Environmental Protection and offers small businesses (those with 100 or fewer employees) reimbursements for the adoption of energy-efficient equipment or processes. Twenty-five percent of the cost, up to a maximum of \$25,000, can be reimbursed.

Nearly any type of energy-saving practice is eligible, and the state offers the examples of efficient HVAC systems, lighting, commercial refrigeration, process improvements, windows, and insulation. However, the project must save the business at least \$1,000 in energy costs annually and result in either a 20 percent annual energy cost savings or a 20 percent reduction in energy consumption.

For more information, go to:

<http://www.depweb.state.pa.us/energ independent/cwp/view.asp?a=3&q=543714>

Redlands, California – Performance Contracting

The City of Redlands used "performance contracting" to upgrade the HVAC, lighting systems, sensors, and irrigation devices of 12 buildings and parks, which allowed the city to save a substantial amount of money on these retrofits. The performance contracting model minimizes financial risk by using the energy savings caused by capital improvements to pay for the cost. The contracts are often structured as a lease, but the lease payments cannot exceed the financial savings from the project. The benefits from this sort of project can be substantial, as Redlands has halved its energy usage in a two-year period – all at no upfront cost to the city.

Santa Monica, CA – Reduced-Emission Fuels for Public Fleet

Since 2001, 75 percent of Santa Monica's public works vehicle fleet has been running on reduced-emission fuels. Also, 43 percent of the city's bus service, the Big Blue Bus transit fleet, runs on Liquefied Natural Gas (LNG), a cleaner-burning fuel than diesel.

3.) Green Buildings

Austin, TX - Austin Energy Green Building

Austin is the home of "Austin Energy Green Building," the nation's oldest "green construction" certification program. Started in 1991 as a set of basic guidelines, the program has evolved into an organization which thoroughly vets construction proposals and provides comprehensive education to the community regarding green construction practices.

The program offers separate certifications for residential, commercial, and multi-family construction projects. It offers assistance to homeowners and construction professionals at all stages of the building process, helping them to develop realistic plans and goals, reviewing proposed specifications, and helping locate financial incentives.

One of the greatest triumphs of this program was the construction of the City of Austin Emergency Medical Services building. With the help of the Austin Energy Green Building program, this facility was the first in Texas to earn a LEED Gold rating, and employs environmentally sustainable features such as a rainwater collection cistern, passive cooling instead of air conditioning, and generous shaded porches in order to reduce heat gain during Austin's long warm season. For more information, go to:

<http://www.austinenergy.com/energy%20efficiency/programs/Green%20Building/index.htm>

Burns Harbor, IN – First Community to Receive National Green Standard

Burns Harbor recently became the first community in the U.S. to receive certification under the National Green Standard by the National Association of Homebuilders. Offering an alternative to the more business-oriented LEED certification, the National Green Standard defines green building for single and multifamily homes, residential remodeling projects and site development projects, while still allowing for the flexibility required for regionally appropriate best green practices.

The planned 60-acre neighborhood will include a combination of 265 single-family, semi-detached and multifamily homes, and is designed to reduce urban sprawl. With a focus on physical design that would spur a tight-knit urban community, the community includes such social and environmentally sustainable features as higher density development, multiple access points, pedestrian-oriented streets, lower parking ratios and proximity to mass transit options. Additionally, construction efforts have been designed to protect environmentally sensitive areas, preserve existing vegetation and use low-impact development storm water management techniques.

Sixty homes have been completed thus far that feature elements such as recycled building materials, high-efficiency HVAC systems, energy-efficient appliances and water-saving measures.

Arlington County, VA - Green Building Incentives for the Private Sector

Arlington County has a green building incentive program that rewards developers for constructing LEED-certified buildings by giving them permission for increased density on new developments. The program was updated and expanded in 2003 to include many different types of developments and a full range of LEED certifications. The program helps produce green buildings while also promoting higher density and attracting increased business. For more information, visit the county website: <http://www.arlingtonva.us/>.

Chicago, IL - Green Roofs

Chicago is a U.S. leader in promoting the construction of green roofs. Green roofs can lower building temperatures and allow more efficient heating and ventilation use. For businesses such as health food stores, green roofs can also be a source of income by allowing these businesses to grow produce on their roof and sell it in their stores. The City of Chicago currently has a green roof grant program to promote more of these projects. Currently, green roofs in Chicago constitute 2.5 million square feet, including an impressive green roof at Millennium Park which attracts many tourists and has spurred development in the surrounding area.

National Governors Association and Wal-Mart - Greening State Capitols

The National Governors Association and Wal-Mart Stores Inc., partnered to create a program to assess selected state capitol buildings between 2008 and 2009 for energy efficiency needs and offer recommendations for upgrades. Twenty state capitols have been chosen and experts from Wal-Mart will audit lighting, heating, ventilation, air conditioning equipment, refrigeration, and building structures, including insulation and windows. Experts will then recommend ways to save energy that will provide a return on investment within five years. The North Dakota state capitol worked with this program and found that \$150,000 annually could be saved through energy efficiency measures.

Urban Redevelopment Authority of Pittsburgh - Green Design Incentives

The Pittsburgh Urban Redevelopment Authority (URA) offers reduced interest rates on Urban Development Fund, Technology Zone/ Enterprise Zone, and Pittsburgh Business Growth Fund loans for projects that achieve certification under the United States Green Building Council's (USGBC) LEED program. The interest rate reduction increases with the level of certification achieved and varies from 2.5 percent below the Enterprise Zone rate for Platinum-certified projects to a 1 percent reduction for Silver certification.

For more information, go to: www.ura.org.

4.) Green Jobs

Michigan – No Worker Left Behind & Green Energy Corps

In response to Michigan's unemployment rate escalating to 11.6 percent (the highest in the nation), the state Department of Energy, Labor & Economic Growth created the "No Worker Left Behind" program, which is designed to retrain unemployed workers. The program offers up to two years' tuition at any Michigan community college, university or other approved training program for workers who pursue training in emerging industries, such as "green-collar" industries. No Worker Left Behind has successfully retrained over 60,000 workers thus far.

Tied into this program is Michigan's Green Energy Corps, which will create a significant number of green-collar jobs. Announced in early 2009, the program intends to employ at least 10,000 workers to weatherize public buildings, install renewable energy technology, and develop renewable fuels.

Louisiana Bio-diesel

Louisiana recently decided to foster the development of biofuels by enacting legislation (HB 1270) that establishes linkages throughout Louisiana at all levels of biofuel production. Louisiana is making the production of feed stock, the development of refinery technology, and the purchase of end-user items such as hybrid vehicles more affordable. Through this process, Louisiana hopes to create jobs in these industries in many different sectors, from agriculture to scientific research. Louisiana is enacting this legislation by authorizing research and offering demonstration grants.

Oakland, CA: Green Jobs, Green Tech, Green Cluster

Oakland, CA, has worked with the State of California to fund and promote a movement toward green industry in Oakland. Working with local universities, economic development organizations and emerging green companies in the region, Oakland hopes to further the use and development of emerging clean/green technology. Oakland has developed the Green Academy Workforce which trains low-income residents to clean and renovate their own neighborhoods. Also, by receiving a \$250,000 grant from the federal government, Oakland has created the Oakland Green Jobs Corps, which provides training and guidance for prepare young adults to eventually enter into green collar jobs. For more information, go to: www.oaklandnet.com.

Chicago, IL - Greencorps Chicago

Greencorps Chicago is a community landscaping and job training program whose mission is to improve the quality of life throughout Chicago by providing horticultural instruction, materials and employment. The program is administered by the Chicago Department of Environment in conjunction with WRD Environmental (an ecological consulting firm).

Greencorps Chicago offers two categories of services to the community, community greening and job training. The community greening aspect includes free distribution of plant and vegetable seeds, basic landscaping and community garden assistance, and the awarding of various accolades to local residents and organizations for outstanding contributions to the environment.

The initiative also offers a paid, nine-month job training program for approximately 50 people a year, which focuses on landscaping and horticulture, environmental health and safety, electronics recycling, and weatherization. This program has been especially effective in involving those who have recently left the penal system and are seeking reintegration into society.

Greencorps Chicago is funded by an annual grant of \$2.5 million from the city of Chicago and it also receives financial support and advanced training from the environmental services firm OAI. For more information, go to the City of Chicago Department of Environment: www.cityofchicago.org/environment/.

5.) Recycling

Dallas, TX - Green and Efficient Purchasing

The city of Dallas requires the city itself and its consultants and contractors to purchase and use recycled materials and other environmentally preferred products whenever feasible.¹⁸

Utah - Recycling Market Development Zones

Brought online in 1996, the program seeks to implement recycling as an economic development tool. Counties within the state may apply for status as recycling zones by offering incentives to recycling companies such as financing, expedited permitting, infrastructure assistance, competitive utility rates, zoning assistance, etc. Eligible recycling businesses that locate in a zone can qualify for a 5 percent state tax credit on machinery and equipment; 20 percent state tax credit (up to \$2,000) on eligible operating expenses; and technical assistance from state recycling-economic development professionals, in addition to the aforementioned local incentives. According to the Governor's Office of Economic Development, the rate of return on this program is 2.7 percent with an estimated cumulative payroll of \$39.2 million since 1997. For more information, go to: http://incometax.utah.gov/credits_recyclingmarket.php

6.) Renewable Energy

Albuquerque, NM – City Renewable Energy Initiative

In 2005, the mayor of Albuquerque signed a resolution containing policies to implement the City Renewable Energy Initiative. The program provides tax incentives and credits of up to \$1 million for solar energy manufacturers or solar research and development. Funds for incentives and credits come from Albuquerque's CIP Decade Plan and Energy Conservation grants. This program helps increase the city's competitiveness by attracting and retaining jobs in solar energy. For more information, go to: <http://www.cabq.gov>

Ann Arbor, MI – Solar American City

Ann Arbor, MI, a designated Solar American City, received a \$200,000 grant from the Department of Energy to help it develop a solar program. While in the process of developing a comprehensive solar program, the city promotes solar energy and energy efficiency through a revolving energy fund of \$100,000 to help local facilities invest in energy efficiency. The city hopes to educate the public on solar energy and energy efficiency and to increase the business for energy manufacturers and contractors. For more information, go to: <http://www.a2gov.org>.

California - Green Wave Initiative

This program, initiated by the California Treasurer in 2004, uses a portion of the state's two largest pension funds to invest in the environmental technology sector. The program looks to invest \$1.5 billion into clean tech and environmentally responsible companies. This investment could help create over 10,000 jobs in green technology and over 100,000 jobs through the multiplier effect. This is a good example of where the state provides major capital investment in emerging green industries.

Columbia, MO – Innovative Approaches to Utilities

In 2004, Columbia passed a vote to enact a renewable energy standard for the city. The "Renewable Energy Standard" measure was approved to require that the city's utility obtain two percent of its power from renewable energy sources, such as wind and solar power, by 2007; the percent ramps up to 15 percent by 2022.¹⁹

Jackson County Development Council, North Carolina – Green Industrial Park

The Jackson County Development Council (JCDC) created a green industrial park that houses the world's largest wood energy pellet production facility. This facility has created 51 jobs in the plant, 8 jobs at the warehouse, and 300 one-year construction jobs. It has also helped sustain 150 jobs at timber companies that supply the raw materials.

Jacksonville, Florida – JEA (Electric, Water, Sewer)

JEA, Florida's 2nd largest community-owned utility, generates green energy by burning methane gas from one of the city's sewage treatment plants and from several local landfills. The methane gas, generated by the bacteria that decomposes waste, generates enough energy to power 4,500 homes a day (over 15 megawatts). JEA has plans to use biomass to produce renewable energy as well, and seeks to generate 7.5 percent of its power from renewable resources by 2015.

State of Florida – Energy Diversity Package

The 2008-09 budget for the state of Florida has allocated nearly \$79 million for energy-related projects to increase research and development and stimulate commercialization of alternative and renewable energy sources throughout the state. The financial package will support R&D at five Florida universities in innovative technology and strategy; a solar field at Florida Gulf Coast University; matching grants for demonstration, commercialization and R&D relating to bio energy; and a renewable energy and energy-efficient technologies grant for R&D and technology demonstration.

State of Michigan – Centers of Energy Excellence Program (2008)

In 2008, the governor of Michigan signed the Centers of Energy Excellence Program into legislation to bring companies, academic institutions, and the state together to create jobs in alternative and advanced energy. The program will be administered through the Michigan Economic Development Corporation, now the Michigan Department of Energy, Labor and Economic Growth, and will search for advanced energy companies in the state to match with universities, national labs and training centers to accelerate next-generation research, workforce development and commercialization. The Michigan Strategic Fund (MSF) has been authorized to allocate \$45 million to establish and operate the program, and grants will be made to for-profit companies working with innovative energy technology.

7.) Research & Development

University of Tennessee Research Foundation and Dupont Danisco – Cellulosic Ethanol Pilot Facility

The University of Tennessee Research Foundation (UT) partnered with Dupont Danisco Cellulosic Ethanol LLC to construct a pilot-scale biorefinery and research and development facility for cellulosic ethanol in Vonore, TN. The partnership works well, as UT has expertise in cellulosic feedstock production and co-product research. The university also works with Tennessee farmers to help develop a cellulosic energy crop supply chain for biorefineries that utilizes switch grass.

In 2007, the governor set aside \$40.7 million for the construction of the pilot biorefinery, which will raise the profile of the Tennessee Biofuels Initiative and help Tennessee become a leader in cellulosic ethanol.

The University of Iowa Biomass Fuel Project

The University of Iowa Power Plant, working with the Quaker Oats Company, has created a new energy source which has saved the university hundreds of thousands of dollars in fuel costs. Quaker Oats worked with the university to use unprocessed oat hulls in the power plant's circulating fluidized bed boiler. This in turn has become a long-term, viable source of energy for the University of Iowa.

8.) Smart Growth

Salt Lake City, UT - Envision Utah

A good example of thinking about how to evolve an existing region into a sustainable region is through the “Envision Utah” effort. Envision Utah was initiated by *The Coalition For Utah’s Future*, a local civic group. Their process emulates that of scenario planning, a way to think about the future of a place through envisioning different possible scenarios of growth. The process provided a series of public workshops to encourage consensus building and community visioning for a new regional plan for the Salt Lake region. For more information, go to: www.envisionutah.org

Hillsborough County Economic Development Department, Tourism Division – Ecotourism

Hillsborough County in Florida has produced an ecotourism guide entitled *The South Shore: What a Difference a Bay Makes!*. This guide is meant to both promote local businesses but also educate the public on the area’s ecological wonders, county and state parks, and other natural highlights. Though an alliance with the South Shore Alliance, the Hillsborough County Economic Development Department Tourism Development Program and Tampa Bay & Co., they have produced the first tourism guide focused on ecotourism in the county. A survey in 2007 reported that 10 percent of the South Shore’s visitors were interested in outdoor activities. For more information, go to: www.hillsboroughcounty.org

Lancaster, CA – Fees and Charges for Infrastructure Development

Lancaster, CA has instituted development impact fees for infrastructure based on the distance of new developments from the identified central part of the city.²⁰

New Jersey- Sustainable Communities’ Implementation Grant Program

The Municipal Land Use Center at the College of New Jersey operates the Sustainable Communities’ Implementation Grant Program, which offers a \$15,000 matching grant program to NJ municipalities which demonstrate a commitment to creating sustainable community programs. Programs which involve Brownfield projects, wastewater conservation, sustainability education, municipal greening, sustainable agriculture, or simply any general community sustainability plan are eligible for the grant. A mandatory match of \$7,500 is required by the applicants, and there is \$75,000 in total funding to be distributed.

New York – Brownfield Cleanup Program (BCP)

In 2003, New York State followed the lead of many other states in initiating a Brownfield Cleanup Program (BCP). This program looks to enhance the private-sector cleanups of Brownfields and reduce the amount of open space being developed. The projects are overseen by the New York State Department of Environmental Conservation and when a site has been cleaned, the applicant receives a Certificate of Completion which gives them liability protections and allows them to apply for tax credits to offset costs for cleanup. Since 2003, 169 sites have been approved under this program

Portland, OR – Green Streets Program

Portland has implemented a Green Streets Program which makes onsite storm water control a permanent parts of Portland’s cityscape while also possibly helping accelerate the local

economy. This program advocates a policy which requires curb extensions, bioswales and storm water planter systems to all be a part of city-funded infrastructure projects that lie in the public right-of-way. These elements are required by the city's storm water management manual. Projects that do not fall under these elements will pay 1 percent of their construction costs to go into a "percent for green" fund. The city has currently identified 500 opportunities for the green street program and two city efforts have won awards from the American Society of Landscape Architects for their green streets projects. For more information, go to: www.portlandonline.com

Silver Spring, MD – Transit-Oriented Development

Silver Spring, a historic inner-suburb of Washington, DC has used transit-oriented development to bring new life to its once-ailing downtown. In conjunction with a partnership between Montgomery County and a developer, numerous local and state incentives were used to drive the revitalization. As a result, Silver Spring has become a magnet for economic activity, linking new businesses and jobs with a growing residential market. Residents have walking access to a cluster of shops, offices, parks, and the train station, which connects Silver Spring to Washington, DC and other regional destinations.²¹

TIF Financing – Wood River Illinois

Wood River, IL limits the use of tax-increment financing (TIF) for greenfield developments. If a developer wants tax increment financing for their development and the land is vacant, they must produce a development that strictly conforms to the City's strategic plan and demonstrate how it will be the catalyst for better quality development and redevelopment in the city. The current TIF policy ensures and helps development in Wood River meets the communities goal for orderly, paced development. For more information, go to: www.woodriver.org

Efficient Growth for Growing Suburbs (EGGS) in Southeastern Pennsylvania

Recognizing the challenges that the growing suburbs of the region face, the Efficient Growth for Growing Suburbs Program (EGGS Program) provides grants to these suburbs to improve growth management and community design and to optimize the efficiency of their existing and planned transportation network, through better linking land use and transportation planning.

Funding for EGGS is provided by Penn DOT and administered by Delaware Valley Regional Planning Commission (DVRPC). The EGGS Program is only available for eligible communities in Bucks, Chester, Delaware and Montgomery counties. Two categories of municipalities were eligible to apply:

1. Municipalities identified as "growing Suburbs" on the 2030 Planning Areas map of the DVRPC long-range plan Destination 2030 (84 communities).
2. Municipalities identified as "Rural Areas" on the 2030 Planning Areas map that have at least 100 acres of "Future Growth Area" designated on the 2030 Land Use Plan map (28 communities).

For multi-municipal applications, municipalities contiguous to the municipalities meeting the criteria above are eligible as partners. Multi-municipal applications were encouraged. For more information, go to: <http://www.dvrpc.org/planning/community/EGGS.htm>

9.) Strategic Approaches

Berkeley, CA- Berkeley FIRST & Solar Smart Energy

Berkeley FIRST is a solar financing program which is designed to reduce the prohibitively high upfront cost of adopting renewable energy technology. It allows property owners to borrow money from the City's Sustainable Energy Financing District to install solar PV panels (up to a cost of \$37,500), and to repay the cost over 20 years through an additional annual property tax.

The program is currently in the pilot stage, with 50 volunteers in the process of installing solar panels on their residences. Two installations have already been completed- a 5.6 kW installation, which will produce 66 percent of the household electrical load with an anticipated 84 percent utility bill reduction, and a 2 kW installation, which will generate about 50 percent of the electrical load.

The Berkeley FIRST program works in conjunction with the DOE Solar America Cities sponsored "Berkeley Solar Smart Energy" initiative. The Solar Cities America program grants cities up to \$200,000 as well as technical assistance from DoE laboratories and energy policy experts in order to accomplish the goals of the project. The Solar Smart Energy program is designed to improve home energy efficiency by creating "turn key" installation kits of solar powered water and air heating systems. The normal process of equipping a building for solar power is complex, and has several distinct steps, each of which requires a great amount of expertise. These kits greatly simplify the process by combining all components required for a solar installation into single, comprehensive package.

For more information, go to: <http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=26580>

Chicago, IL - Bike 2015 Plan

The city of Chicago has developed a set of proposed programs and policies with the goal of making bicycling a central method of transportation for its citizens by 2015. The plan seeks to increase bicycle usage, so that 5 percent of all trips less than five miles are by bicycle, and reduce bicycle injuries by 50 percent from current levels. To accomplish these goals, the plan calls for the construction of a bikeway network with bicycle friendly streets that connect all neighborhoods of the city, as well as convenient connections between biking and public transit. Additionally, there is a great emphasis on education to promote bike safety, as well as comprehensive crash analysis of bicycle accidents. For more information, go to: <http://www.bike2015plan.org/>

Greensburg, Kansas

After Greensburg, Kansas suffered nearly complete destruction at the hands of an F5 Tornado on May 4th, 2007, its citizens decided to rebuild Greensburg as the "greenest town" in America. A twelve week planning process involving the community and environmental experts resulted in a comprehensive plan for the reconstruction of the city, which would focus on environmental sustainability. Amongst many supporting actors involved, was the DoE's National Renewable Energy Laboratory (NREL), which provided technical assistance as well as training sessions.

Per the comprehensive plan, all city-owned buildings will be built to LEED Platinum standards, economic and regulatory incentives will be used to attract sustainable businesses, and an eco-

tourism industry will be developed as a source of revenue. While the town is still in the earliest stages of construction, it has already developed a Light Emitting Diode (LED) street lighting system, a retail store with advanced energy saving features, and several LEED Platinum buildings are nearing completion.

Equally important as the technological achievements in the reconstruction of this city is the culture which surrounds this project. A nonprofit organization known as Greensburg Greentown has launched with the mission to provide the education and resources necessary for Greensburg residents to rebuild the city using environmentally sustainable methods. Additionally, there has been widespread citizen collaboration through the blog “Chain of Eco-Homes”, which is a “show and tell” of sustainable homes built by citizens.

The informational website of Greensburg Greentown can be found at <http://www.greensburggreentown.org/>.

Knoxville, TN – Solar America City

Knoxville has proposed an extensive plan in order to develop and emphasize solar energy in the city. Selected as one of the DOE Solar America Cities, Knoxville plans to install two highly visible solar arrays in the city, integrate solar energy into affordable housing, and conduct extensive training on the subject in order to grant the public a thorough understanding of the merits and technical aspects of solar technology.

While the program is still in its fledgling stages (it was only selected as a Solar America City in March of 2008), it has been lauded for its early accomplishments. The public outreach program thus far has been extensive, with several well attended workshops on the basics of solar technology, a partnership with a local college in order to develop a “green curriculum”, and training sessions on thermal technologies for local building and code officials.

The program is funded by the DOE Solar Cities America program (\$200,000 plus technical assistance), as well as by the Tennessee Valley Authority, which has pledged \$50,000 per year.

Massachusetts Renewable Energy – Economic Development Council of Western MA

In Massachusetts, the number of jobs produced in Green Energy is expected to reach a growth rate of 20 percent per year and will eventually replace textiles as the state’s tenth largest industry. In 2007, the state enacted the Green Communities Act of 2007. This multifaceted act encourages energy and building facilities, renewable energy, green communities, and also uses facets of the Regional Greenhouse Gas Initiative (RGGI). The act also contains market incentives and funds available to many different types of energy generation. There is also a “Fast track” permitting program for companies looking for new sites in the state.

Michigan Department of Energy, Labor and Economic Growth (DELEG)

In December of 2008, Michigan modified the name of its Department of Labor and Economic Growth to include ‘Energy’ as a means of streamlining state government and aligning all renewable energy and energy efficiency programs together. The new department will facilitate collaboration on energy initiatives between employees from the Departments of Agriculture, Environmental Quality, the Energy Office and the Public Service Commission. The DELEG is also tasked with the Green Jobs Workforce initiative, through which it will invest \$6 million into bolstering Michigan’s green economy.

Southwest Florida - Climate Prosperity Strategy

Using federal funds, the Southwest Florida Planning Council has developed a Comprehensive Economic Development Strategy (CEDS) which outlines a climate prosperity strategy for the region. Southwest Florida has been gaining unemployment due to declines in dominant regional industries. This strategic plan for climate prosperity assists Southwest Florida gain green industries that both create new jobs while improving the overall environmental quality of life. The strategy also hopes to educate residents about the importance of green industries and their economic benefits.

State of Pennsylvania – Alternative Energy Investment Act (2008):

Pennsylvania currently has created a \$650 million energy package in tax incentives, loans, and ad grants to spur the development and use of clean energy technologies within the state. It is intended to save families and small businesses money on their energy bills by supporting investments in energy conservation and efficiency. The package also includes the ability for the state to make strategic investments to help spur billions of dollars in new, private economic development projects from alternative energy companies and early stage business that will create thousands of jobs in a rapidly growing industry. The governor believes that the bill will help the state leverage as much as \$3.5 billion in private investment and create at least 13,000 new, good-paying jobs.

10.) Water Conservation

Alamogordo, NM – Innovative Water Conservation Measures

The City of Alamogordo, NM has instituted innovative approaches to conserving its water source. They do this through an extensive reclaimed water irrigation system that uses all city greenspaces, parks, ballfields, the zoo, the golf course, and the cemetery. The city has also implemented water saving measures for the Department of Public Safety / Fire Services Division by building a pump test facility and installing an in-ground tank to re-circulate fire truck testing water. The Department hired a consultant to conduct a computer analysis to view the hydrant flow capabilities in the city, which in the end, provided an accurate gallons-per-minute measurement of each hydrant's capability that has saved the city thousands of gallons per year.

For more information, go to: <http://ci.alamogordo.nm.us/Home.htm>.

Scottsdale, AZ – Innovative Water Conservation Measures

The City of Scottsdale, AZ has put much investment into conserving their water sources. In 1987, Scottsdale was the first city in the region to implement a water resources acquisition fee which helps fund the purchase of surface water supplies and every new development since 1987 has paid this fee. This fee has helped Scottsdale double their water supplies. The city also has a goal to replace any groundwater they have pumped with groundwater recharge. In 1999, Scottsdale built a state of the art water campus that treats wastewater specifically for irrigation purposes. Since in the winter, places such as golf courses need less irrigation, the plant is used to supply clean drinking water which is then recharged back into the ground to replenish the groundwater supply. In 2007, the water campus successfully charged 1,155,106 gallons of reclaimed water and CAP water back into the ground. To also promote water

conservation, the city offers a rebate program for citizens that install water efficient plumbing. For more information, go to: <http://www.scottsdaleaz.gov/Topics/Recycling.asp>.

The Everglades – Sugar and Grass

To help restore the Florida Everglades back to their original state, the governor of Florida has proposed a plan to buy 180,000 acres from U.S Sugar Corp at a cost of \$1.34 billion to help restore and cleanse the water flow from Lake Okeechobee to the Everglades. Extreme growth in the region and increased agricultural usages have polluted and destroyed sections of the Everglades. This plan will result in U.S. sugar transferring their land with a right to lease much of it back for seven years. U.S sugar will keep their current mill, rail network and citrus processing plant and will have the right to lease the land back for \$50 an acre as annual fee. U.S Sugar could also use the sugar it grows for ethanol production. The governor also has endorsed a proposal for an Illinois-based company called Coskata to create a joint venture with U.S Sugar to build an ethanol plant by combining farm waste with municipal rubbish.²²

San Antonio Water System - Welcome H₂OME

The San Antonio Water System is an organization governed by the City of San Antonio, TX which serves as a means of implementing great breadth of incentive based programs in order to encourage water conservation. The “Welcome H₂OME” initiative, focused on residential water conservation, offers financial rebates for “hot water on demand” systems, landscaping which will conserve water, and energy efficient washing machines, as well as entirely free, water efficient toilets. Additionally, free home audits of water usage are offered in order identify areas of potential savings. Rebates for commercial projects are substantial and offered as well – up to one half of the installed cost of water efficient systems can be subsidized by the program.

The program has been immensely successful. High efficiency toilets have been placed in every school in the San Antonio area, as well as in 60,000 apartments, 1,200 restaurants, and 3 hotels. This portion of the program alone has saved 175 billion gallons of water -the equivalent of \$500 million. Additionally, the combination of these various incentives in addition to regulatory measures regarding water usage has reduced San Antonio’s use of water by 25 percent since 1980.

For more information, please go to: <http://www.saws.org/>

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