

Current Structures, Strategies and Examples for Green Economic Development

July 2009

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and the Minneapolis Saint Paul Mayors'
Green Manufacturing Initiative



BLUEGREEN
A L L I A N C E

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Introduction

Minneapolis Saint Paul is at the leading edge in thinking about how to best stimulate the green economy beyond green building and renewable energy installation incentives. The green economy is emerging. Each week new announcements and new programs emerge. This study represents some of the best practices and innovations in economic development, some in the green sector and some traditionally focused, or geared in general toward high technology/high innovation sectors.

This study is by no means comprehensive. What this report offers is a sampling of a variety of methods, programs, strategies and structures that states, cities and the private sector are using that might inform how Minneapolis Saint Paul can best stimulate the growth of the green sector.

Is Green Economic Development Different than Sustainability Initiatives?

Many cities have comprehensive sustainability plans, and have developed programs and resources to encourage sustainability. Some have offices of sustainability or the environment; other cities offer sustainability information and programs through their planning department. The focus on sustainability is important, and cities, states and business are doing a wide variety of things to stay at the forefront of this wave. Sustainability policies, programs and incentives are primarily aimed at greening the city through greenhouse gas reduction (carbon emissions reduction), energy efficiency and renewable energy, or at meeting large-scale climate change goals. Greening the city leads to a high quality of life, and can contribute to short-term job growth in energy efficiency and renewable energy services (short-term installation jobs). Sustainability strategies are good development practices, but on their own do not necessarily lead to job gains.

The vast majority of sustainability programs are green building mandates and incentives. Mandates tend to be directed toward municipal contracts and publicly financed building projects, though San Francisco has adopted aggressive green building guidelines for all new construction.¹ Incentives are generally aimed at private commercial and residential construction, often in the form of expedited permitting processes for green construction, small grants and low-interest loans. While these policies and programs do have a secondary effect on the economy, particularly grant and loan programs that might incentivize construction, the goal is primarily environmental, not economic.

Many of the green jobs are not new, but convert jobs from the traditional sector to the green sector. Green building and green cleaning are examples of this. Additionally, for those green jobs that are new, such as energy efficiency retrofitting and renewable energy installation, many of these have a short-term growth impact; they may not lead to long-term employment growth. Green building, while meeting environmental goals, does not necessarily create new jobs. Rather, it converts jobs from the traditional building sector to the green sector. Energy efficiency retrofitting and renewable energy installations tend to create new jobs, particularly green-collar jobs. But jobs aimed at retrofitting and renewable energy installation, while critical to meet environmental goals, and to stimulate jobs for low-income workers, have a short-term focus. *Unless these programs are tied to local manufacturing, they will have a limited impact on the long-term development of the region.*

Green economic development is not the same as a sustainability strategy.

¹ Mayor Gavin Newsom speaking at the Long Now Foundation's Seminars about long-term thinking.

What is Green Economic Development?

Ultimately, green economic development is based on the same principles as traditional economic development, retention, creation/expansion and attraction. However, the green economy is unique in two ways. The green market is emerging and green/clean technologies are being developed at a very fast rate. The green economy is driven by consumer awareness and requires a greater degree of marketing and communication than other sectors. Green business choices can be quite complex, beyond straightforward business cost/benefit analysis. Businesses, financiers and policy makers need help in understanding the short and long term technical, environmental and social consequences of production in order to make the best choices for their triple bottom line. Business assistance is needed to expand knowledge of products, processes and policies so that choices can be made that support the green economy and sustainable production.

Economic Development is shifting in response to new ideas about how innovation, competition and relationships are critical to long-term regional success. Strategies are more participatory, collaboration based and flexible. Simple, nimble solutions are at the forefront. "Traditional" economic development has largely been focused on giving large financial incentives to "attract" new companies to the area. Tom Osdoba, former director of Portland's Office of Sustainability, says the old way of thinking about economic development — giving companies money to relocate — is bankrupt. Companies don't want large relocation incentives and cities can no longer afford them.²

What Are the Structures for Green Economic Development?³

The structures for green economic development are the same as traditional development and exist on a spectrum from public to private, with a wide array of creative, unique partnerships and collaborations in between. In economic development, retention, creation/expansion and attraction are the three components of a comprehensive strategy. These different structures more or less effectively address each of these components, with public policies tending to be more effective at retention, and private activity tending to better drive business attraction.

Public Agencies

At this early stage in the green economy, public agencies tend to focus on sustainability initiatives and environmental programs in general, instead of green economic development in particular. Chicago and New York have well-developed and clearly articulated sustainability plans, and cities like San Francisco and Santa Monica feature accessible and informative offices of sustainability and/or the environment. With the new Federal funding available for green-collar workforce development, new policies and programs are now being created in the public sector in this critical area.

PlaNYC 2030: <http://www.nyc.gov/html/planyc2030/html/home/home.shtml>

Chicago Climate Action Plan: <http://www.chicagoclimateaction.org/>

San Francisco: <http://www.sfenvironment.com/>

Santa Monica: <http://www.smgov.net/Departments/OSE/>

² "Beyond Growth: Sustainability and Economic Development" accessed online at: <http://www.metromodemedia.com/features/SustainEcDev0040.aspx>

³ There is very little existing research on what is the most effective structure for economic development, and by what measures success can be determined.

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Example: Portland

The City of Portland is on the forefront of redefining the relationship between sustainability and economic development. Last year the city merged the bureau of planning and the office of sustainable development, creating one unified office, the Bureau of Planning and Sustainability. This move sends a clear message that sustainability goals are integral within all aspects of development. Through the planning department, the city is creating opportunities for green businesses to network and exchange ideas. This comes in the form of a number of initiatives aimed at their star industry cluster, the building trades industry. City-initiated programs include the PDX Lounge (in partnership with the Portland Development Commission), the Oregon Sustainable Wood Products Forum and the new Portland Sustainability Institute⁴.

Many of these initiatives are relatively low cost and provide high value for area businesses. The city of Portland supported the creation of the new Portland Sustainability Institute — at the request of businesses participating in the PDX Lounge — by providing startup funds in the form of one year of salary for the institute's first director. The PDX Lounge is a partnership between the city and the Portland Development Commission. There is one paid coordinator working part time sourcing sponsors and participants and managing the event details; the participating companies provide most of the funding for the Lounge.

In addition to these programs, the city offers technical and financial assistance for businesses to go green through a physical and virtual one-stop shop called the BEST business center (Businesses for an Environmentally Sustainable Tomorrow).

Portland BPS: <http://www.portlandonline.com/bps/>

PDX Lounge: <http://www.pdxlounge.com/>

POSI: <http://www.pdxinstitute.org/>

Example: Oregon Innovation Council (Oregon INC)

Created by Oregon's Governor and State Legislature in 2005, Oregon InC is a cross-sector leadership team designed to drive the state's innovation strategy. The council and technical advisors are a mix of elected and appointed public officials, business leaders and educators.

The council has identified the state's top “innovation-driven growth opportunities to maximize the state's competitive advantages and establish Oregon's niche in the global economy.” Initiatives garnered state funding of \$28.2 million in 2007 for investments in both established and emerging industries. The legislature is currently considering a \$20.5 million package to continue the seven original programs and an additional program to strengthen the state's forestry industry.

The Innovation Council's initiatives include investment in established industries (manufacturing, food processing, seafood and forestry), research centers (Oregon Nanoscience and Microtechnologies Institute (ONAMI), Oregon Built Environment and Sustainable Technologies Center (BEST) and Oregon Translational Research and Drug Development Institute (OTRADI)) and emerging industries (wave energy).

Oregon, InC: <http://www.oregoninc.org/>

⁴ Neild, Pam, City of Portland Bureau of Planning and Sustainability. April 13, 2009. Personal communication.

Quasi-Public and Public-Private Ventures

The vast majority of green economic development activity is at the crossroads of public and private ventures. This includes quasi-public development commissions and other public-private ventures. Some industry experts believe that a public structure is not nimble enough to respond to business needs, whereas a private organization does not have the policy and political resources to create long-term structural change. To create competitive advantage and long-term success within the new parameters of the green economy, effective public-private structures are needed. According to Tom Osdoba:

"...individually the public and private sector can't pull off these kinds of initiatives on their own and so they have to create new economic models. Because local governments have lower costs of capital, they can create scale along with the institutional frameworks that allow for different revenue models. They can spur the kind of development that a solely private or solely public initiative couldn't deliver fast enough or deep enough."⁵

Green economic development is a foundation of the new economy — the "second curve" of industrial development⁶. It requires new kinds of leadership, new strategies based on collaboration and information exchange and new partnerships between public and private organizations.

Economic development does not obey political boundaries. Effective approaches to development must happen at a regional level. San Francisco's Mayor Gavin Newsom — a leader in sustainable development — advocates for change in funding mechanisms that can move development to a more regional approach⁷ and Tom Osdoba calls for a regional strategy based on cooperation and collaboration instead of competition among cities in a region⁸.

In a regional economy, quasi-public agencies can provide an overarching approach, working to create regional sustainability and coordinate multiple agencies. On the other end, they can provide micro approaches to target specific communities and special needs. Many green economic development strategies are driven by quasi-public and private agencies.

There are many great examples of public-private partnerships for redevelopment and urban revitalization, and these partnerships can be built on and modeled for green economic development. Presented here are just a few of the many great examples of collaborative, partnership-based structures for economic development.

Chattanooga's reinvention in the 1990s was due in part to the strong leadership of the RiverCity Company, a private not-for-profit development corporation comprised of representatives from the city and county government together with community leaders. Driven by the community's vision developed in one of the largest public participation processes at the time, RiverCity successfully transformed downtown Chattanooga from one of the dirtiest cities in America to a leader in sustainability amongst mid-sized industrial cities.

⁵ Meyers, Jeff. "Beyond Growth: Sustainability and Economic Development" for Metromode, 10/11/2007. Accessed online at: <http://www.metromodemedia.com/features/SustainEcDev0040.aspx>

⁶ Morrison, Ed. iOpen White Paper - New Models of Economic Development

⁷ Long Now Foundation, Seminars on Long Term Thinking, April 8, 2009, accessed online at <http://longnow.org/projects/seminars/>

⁸ Tom Osdoba, "Beyond Growth" *ibid.*

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New partnerships around green economic development include the Oakland Partnership Green Industry Cluster, an initiative of the Oakland Metropolitan Chamber of Commerce and the Mayor's office. With the motto, "Together we can do great things," the Oakland Partnership is an industry cluster developing strategic initiatives to capture emerging green and clean technology industries in the area.

On a statewide level, the Missouri Partnership, created in 2007, is an economic development organization that brings together other organizations at the state, regional and local level. Supported by both private and public funds, the Missouri Partnership works beyond partisan politics and as an independent organization, the partnership has continuity beyond political change, a factor that is critical to fostering growth of emerging industries. The partnership is actively promoting both the traditional and renewable energy industry, with a heavy emphasis on wind energy. They are hosting a series of wind energy supply chain workshops. In addition to their activities within the state, they have three global offices for business attraction and export relations.

RiverCity Company: <http://www.rivercitycompany.com/>

Oakland Partnership Green Industry Cluster:

<http://www.oaklandpartnership.com/action/green.asp>

Missouri Partnership: <http://www.missouripartnership.com>

Example: Prosperity Partnership (Seattle/Central Puget Sound Region)

Formed in November 2004 by the Puget Sound Regional Council, the Prosperity Partnership is a coalition of over 300 government, business, labor and community organizations. Created to develop and take action on an economic strategy for the four-county region, regional economic strategy drives the Partnership's actions for the Central Puget Sound Region. By collaborating to act regionally, the Partnership can compete globally with other metropolitan regions. The economic strategy is designed to build and maintain the high quality of life, talent and resources that will retain and attract businesses that provide good jobs and good wages. The fundamental principles include creating a business environment where competitive and successful enterprises create good jobs and good incomes, creating a high quality of life and acting together as a regional entity.

The Partnership follows a two-pronged strategy, "Cluster Initiatives" and "Foundation Initiatives."

Early on, cluster working groups were formed for each of five identified priority clusters out of a total of fourteen primary regional clusters. Foundation Initiatives address concerns common to all clusters such as quality of life, social capital, physical infrastructure, the business climate and access to capital and technology. Cluster Initiatives include Aerospace, Clean Technology, Information Technology, Life Sciences and Logistics and International Trade. In 2008, Military and Tourism/Visitors cluster working groups were added.

Working groups have successfully raised funds, helped to create industry organizations and influenced policies relevant to their cluster-specific projects. For example, the Washington Clean Tech Alliance, one of the first state-wide clean tech industry associations, was created out of the Prosperity Partnership's Clean Tech Working Group.

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While not specifically directed at the green economy, this structure could be used to create, promote and implement green development programs and policies.

Prosperity Partnership: <http://www.prosperitypartnership.org/>

Example: Denver

Denver provides a good example of a well developed and successful public-private partnership focused on sustainable economic development practice. Metro Denver Economic Development Corporation (Metro Denver EDC) is an affiliate of the Denver Metro Chamber of Commerce and “the nation’s first and only truly regional economic development entity in which many area economic development groups have joined together to represent, and further, the interest of an entire region.”⁹ Partners include: 70 cities, counties and economic development organizations within the seven-county Denver MSA and two-county Northern Colorado region.

The overarching goal of the Metro Denver EDC is to create a competitive environment that naturally attracts companies and jobs with primary funding coming from private-sector investors, as well as participating cities and counties. Strategic initiatives are developed among partners, with final decision-making authority by an investor board of directors.

The City and County of Denver, together with the Metro Denver EDC seek to advance high performance building and energy efficiency in the private sector. Additionally, they are supporting the revitalization of 35 acres of formerly polluted lands in Denver (Brownfield redevelopment) to support urban development and environmental equity. By creating 1,000 new training and job opportunities for metro Denver residents by 2011, the Metro Denver EDC is positioning Denver as a regional center for balanced and renewable energy and green industries.¹⁰

Launched in 2004, the BreakThrough! Denver campaign, one of Metro Denver EDC’s successful initiatives, raised \$13.3 million to restore the region’s economic vitality following the economic downturn resulting from the 9/11 attacks. The sum was comprised of cash and in-kind donations from private business investors and the Chamber of Commerce; funds were devoted to a five-year plan to aid in Denver’s economic recovery.¹¹ The overarching goal of this initiative was to create 100,000 new jobs by 2008 — realized ahead of schedule with over 101,000 jobs by 2007.

Metro Denver: <http://www.metrodenver.org/>

Example: Heartland Partnership Family of Companies (Peoria Illinois/central Illinois).

The Heartland Partnership is an independent organization comprised of six economic, community and business development organizations. Each piece of the overall strategy has a well-defined structure and organizational responsibility, with the partnership providing strategic leadership and coordination of resources (see Appendix A). The partnership is the main funder of the Peoria NEXT business incubator. Through their

⁹ <http://www.metrodenver.org/about-metro-denver-edc/>

¹⁰ http://www.greenprintdenver.org/docs/greenprint_brochure.pdf

¹¹ <http://www.metrodenver.org/news-center/metro-denver-news/exceed-fundraising.html>

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business and community connections, the Heartland Partnership has raised and invested \$400,000 to create an industrial center from a 1.2 million square foot foundry¹².

"We serve as a catalyst for regional visioning and strategic thinking, and provide a forum for identifying regional issues and recommendations to be considered for action by the Economic Development Council for Central Illinois, the Peoria Area Chamber of Commerce, our other subsidiaries, and other appropriate non-affiliated entities."

Subsidiary organizations:

- PACC - Peoria Area Chamber of Commerce
- BRS - Business Resource Services of Central Illinois
- EDC - Economic Development Council for Central Illinois
- HCDC - Heartland Community Development Corporation
- IRDC - Illinois Riverfront Development Corporation
- The Heartland Commerce & Economic Development Foundation

Heartland Partnership: <http://www.heartlandpartnership.org/index.html>

Example: East Bay Green Corridor Partnership

The East Bay Green Corridor Partnership is a collaborative partnership between cities in the East Bay (founding cities included Berkeley, Oakland, Richmond and Emeryville, and El Cerrito, Alameda, Albany and San Leandro joined recently), educational institutions (UC Berkeley and the community colleges of Peralta and Contra Costa), the Lawrence Berkeley National Laboratory (LBNL) and will be hosted by the East Bay Economic Development Alliance. Initiated by UC Berkeley Chancellor Robert Birgeneau, the goal of the partnership is to attract, retain and grow green businesses with a focus on businesses created by the entrepreneurial scientists of UC Berkeley and LBNL.¹³

The partnership is in its early stages, they just had their second annual meeting in May, and recently added new cities and educational partners, but it has already had a number of successes. The partnership members garnered \$75 million in Recovery Act funds, which will help with development throughout the corridor, and through the efforts of the Partnership, BP picked the East Bay as a partner in its 10-year alternative energy research plan.¹⁴ Through this partnership, the East Bay will get \$350 million over 10 years (the project includes \$500 million in total funding, with the remainder going to the University of Illinois Urbana-Champaign for crop research). The funds will go toward creation of a biofuels lab at Berkeley — the Joint Biofuels Energy Institute (JBEI) — that will train 170 researchers (undergrad through post-doc) in biofuels development.¹⁵

¹² Parzen, Julia. Integrating Green Chemistry and Safer Materials into Regional Economics and Workforce Development Strategies. Health and Environmental Funders Network. August 2007.

¹³ http://berkeley.edu/news/media/releases/2007/12/04_green.shtml

¹⁴ "The Joint BioEnergy Institute (JBEI) is a San Francisco Bay Area scientific partnership led by Lawrence Berkeley National Laboratory (Berkeley Lab), and including the Sandia National Laboratories (Sandia), the University of California (UC) campuses of Berkeley and Davis, the Carnegie Institution for Science and the Lawrence Livermore National Laboratory (LLNL). JBEI's primary scientific mission is to advance the development of the next generation of biofuels — liquid fuels derived from the solar energy stored in plant biomass. JBEI is one of three new U.S. Department of Energy (DOE) Bioenergy Research Centers (BRCs); Available online: <http://www.jbei.org/>.

¹⁵ <http://www.berkeleydailyplanet.com/issue/2009-07-02/article/33244?headline=East-Bay-Green-Corridor-Meeting-Long-on-Talk-Short-on-Details>

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The first staff, an Executive Director, comes on board this fall. The members who each contribute \$10,000 per year for staff and marketing will pay new Executive Director Carla Din's salary. Once staffed, the organization's offices will be hosted by the East Bay Economic Development Alliance, an alliance of public and private organizations in Alameda and Contra Costa counties established to grow and develop the East Bay as a world-recognized location for business.

"[Sharing the expenses among partnership members] allows us to keep green jobs local, and cooperate with each other, instead of compete." - Tom Bates, Mayor of Berkeley¹⁶

"The Green Corridor Partnership represents the best of regional thinking and cooperation. Increasingly, Bay Area governments are stronger working together than separately. The Green Corridor Partnership is a model of how competing entities and reach across local boundaries to form a forward-thinking, cohesive partnership from which we will all emerge the winners."¹⁷

East Bay Development Alliance: <http://www.edab.org/>

Private For-Profit and Non-Profit Organizations

There are a variety of private organizations committed to growing vibrant economies including Chambers of Commerce, trade associations and economic development companies. Private organizations have advantages that public and quasi-public organizations do not share. They speak the language of business, giving them an advantage in business attraction and development; they are about the bottom line, wealth creation and business success. They can sign non-disclosure agreements (NDAs), can hold private meetings and can better control what information makes it into the public domain, a key asset for doing business in this emerging realm where information is a competitive advantage. Private development organizations can be more nimble and responsive than public sector organizations, and can also be more stable and persistent, staying below the political radar, beyond budget cycles and policy trends. They can partner with whatever organizations make sense for the project success, across public and private realms. As Rob West, Executive Director of APEX, says, "without good partnerships [...] we would not be successful."¹⁸

Example: Area Partnership for Economic Expansion (APEX), Duluth, MN

APEX is a private, non-profit business and economic development organization committed to expanding innovative, progressive and competitive entrepreneurial business in the Northeastern Minnesota / Northwestern Wisconsin economic region. APEX members come from more than 50 companies and their strategic partners bring business experience and resources to their clients.

APEX emerged out of a 2001 region-wide economic summit that identified industry sectors with high growth potential for the region, including clean energy, forest products, aerospace and precision machining and manufacturing. Members of the business community formed APEX in 2003 to increase private-sector leadership within the region's growing economy.

¹⁶ <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/06/26/BUEH18EP14.DTL>

¹⁷ <http://eastbay.bizjournals.com/eastbay/stories/2008/03/10/editorial2.html>

¹⁸ West, Rob, Area Partnership for Economic Expansion (APEX), May 11, 2009. Personal email communication.

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Over the past five years, APEX has attracted, expanded or maintained 1,760 jobs in the region, with another 2,500 current potential jobs in expansion. To date, every dollar invested has returned \$10.02 in wages. Following sound economic development principles, their business strategy has three components:

1. *Attract businesses that are strategically aligned with what we do well in our region.*
2. *Expand existing business with high growth potential by providing resources.*
3. *Make sure that key businesses stay in the region but ensuring that they have access to the resources needed to be successful or maintain their competitive edge.*¹⁹

APEX: <http://www.apexgetsbusiness.com/>

Example: Green Chambers of Commerce

There are a growing number of green-focused chambers of commerce across the U.S., including a national Green Chamber of Commerce, a statewide effort in Arizona and a regional chamber based out of Atlanta.

The Green Chamber of the South²⁰ is a non-profit business-oriented organization founded in 2008 to support the growth and success of sustainability, innovation and clean technology in businesses throughout metro Atlanta. The Green Chamber of the South's vision is to create a hub for green commerce in the Southwest. Their members are businesses and organizations that recognize the rapid growth of green opportunities in the Southeast and are, "engaged in diverse industries including energy, education, manufacturing, government, trade, communications and marketing." The Green Chamber of the South responds to challenges facing today's businesses, including environmental issues such as water scarcity, transportation and rising energy costs. "A growing number of businesses require partners and vendors to engage in the sustainability process and develop their own green initiatives."

The Arizona Green Chamber of Commerce, the first statewide green chamber of commerce, now has a growing chapter in Arizona, and is calling for membership and chapters in other regions. The Arizona Green Chamber sees itself as a resource and champion for businesses in sustainability industries.

Arizona Green Chamber proposed activities and objectives include:

- *Provide a central, non-biased community of environmental-minded individuals and businesses*
- *Promote and provide a local resource of sustainable businesses for the public*
- *Offer business-to-business networking events and mixers*
- *Educate businesses, organizations and individuals on sustainability*
- *Collaborate with other complementary organizations in our community to advance sustainability*

¹⁹ West, Rob, Area Partnership for Economic Expansion (APEX), May 11, 2009. Personal email communication.

²⁰ <http://www.greencs.org/aboutus>

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- *Reach out to area businesses to encourage green, sustainable business models*
- *Increase the influence of green businesses in the community*
- *Provide an independent voice in advancing local environmental public policy*

As with traditional Chambers of Commerce, these green-focused organizations facilitate connections between member companies, and between business, government, advocacy organizations and the broader community.

Green Chamber of Commerce (National): <http://greenchamberofcommerce.net/>
Green Chamber of the South (Atlanta/Southeast US): <http://www.greencs.org/>
Arizona Green Chamber (Phoenix): <http://www.arizonagreenchamber.org/Phoenix/>

Example: Environmental Business Association of New York State

The Environmental Business Association is an example of a statewide trade association focused on green industry growth. The Association serves and promotes industry activity within the realms of climate change, green communities, energy and sustainable landscapes (what they have termed "WALCE" - Water, Agriculture, Land Use, Conservation, Environmental).

EBA/NYS seeks to be the voice of the environmental business community in New York State. Their objectives are to serve members and grow environmental business in the state by:

- creating networking and educational seminars to increase awareness of the industry and stimulate business development and growth opportunities;
- acting as an information clearing house;
- coordinating partnerships with government, researchers, the business community and member businesses;
- voicing industry needs and opportunities to government and business leaders; and,
- developing policies to meet environmental protection and economic development goals.

EBA/NYS: <http://www.eba-nys.org/>

Task Forces and Councils

These can be a part of public, public-private and even private ventures. They can be one way to bring a wide variety of stakeholders together in a formal structure without the organizational overhead of an organization. A good mix of participants includes representatives from government (elected, appointed and staff representation), business leaders across the spectrum (from multi-national to small business), researchers, educators, advocates and the general public. A well-designed task force has a specific mission, sets goals and activities to be met in a specified time and has resources and influence to affect policy and development at an appropriate scale.

In the realm of green jobs task forces, Minnesota is a leader through the creation of the statewide Green Jobs Task Force and the Minneapolis Saint Paul Mayors' Green Manufacturing Initiative.

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Chicagoland Green Collar Jobs Initiative

The Chicagoland Green Collar Jobs Initiative is working to promote and develop a green-collar workforce system that supports the region's growing green economy. Founded in 2007, the Initiative is a collaboration of stakeholders across a broad spectrum, including labor, community, business, education, government and advocacy organizations. The Initiative organized a Green Collar Jobs Summit, hosted by Wilbur Wright College, attended by 150 people with diverse backgrounds. Last year (2008), the Initiative conducted research and outreach to potential employers, workforce development and training programs to better understand the potential and training needs for green-collar jobs. The Initiative recently released a draft of their proposed Chicagoland Standardized Weatherization Training Curriculum, requesting public feedback and comment before piloting the program this fall. The Initiative currently includes 51 partner organizations and 13 steering committee members.

Chicagoland Green Collar Jobs Initiative: <http://www.greencollarchicago.org/>

Programs and Initiatives for Green Economic Development:

Economic and workforce development expert Karen Chapple suggests a framework for development of green production-based industries in her recent report, "Defining the Green Economy: A Primer on Green Economic Development." This framework separates development of production-based green industries into two broad categories: expansion and capacity building. Expansion activities include increasing the market for green products, particularly the local market, and expanding the global market and trade for the region. Expansion within the business community comes through technical assistance to help businesses go green, business incubation and expansion through research and development, and increasing knowledge within the industry. Capacity building includes strengthening industry clusters, increasing competitive advantage through increased innovative capacity, city greening and quality of life improvements. In this report on green economic development, Chapple also includes a way to think about green strategies in terms of economic goals and timelines: growth versus development and long-term strategies versus short-term. I have included her graphic depiction of these sometimes competing interests as Appendix B.

Expansion

Increase market for products

One of the best ways to stimulate growth of green business is to create a viable local market for green products. Cities, states, businesses and organizations are doing this in a number of ways: through Environmentally Preferable Purchasing programs — particularly those with a local buying component; through forums, seminars and marketing to increase consumer and business knowledge about green products and sustainability; through eat local and buy local programs; and through rebate and incentive programs for green building, energy efficiency and renewable energy installation. The key in increasing the market is to increase visibility and knowledge of green products, services and programs. Marketing, branding and message creation are forefront; information must not only be clear and easily accessible, but also inspire people to think and do differently.

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One of the key mechanisms for the growth of sustainability is dialog. Any company, program or organization engaging in conversation (even one-directional) leads the way in creating a sustainable and green economy. This is not the time for a quiet, humble approach. Marketing and branding are key; a well-developed message, and savvy design, create buzz and help people and businesses connect with the energy of the city.

There are many great examples of ways cities, organizations and companies are actively seeking out and developing the green consumer. While rebate and incentive programs have become one of the primary mechanisms to meet energy efficiency and renewable energy goals in urban sustainability plans, cities that understand that the green revolution relies on raising awareness will move ahead.

Consumer education: Challenges, contests and sustainability awards

There are many examples of city sustainability awards and most of these do not differ substantially from Saint Paul's "Sustainable Saint Paul Awards." Examples include the Boston Green Award and Santa Monica's Sustainable Quality Awards²¹. Most of these awards do not have much muscle — the nominations process is not rigorous, and the criteria are not transparent. Sustainable principles, such as continuous improvement, recycling, energy efficiency and even lean manufacturing are just good business these days. To really stand out, and to encourage next generation thinking, the awards need to create an environment of continuous improvement and innovation in sustainability. Awards can be used to promote the sustainability of the region, increase consumer knowledge about sustainability practices and highlight local sustainable business.

In the realm of challenges that increase public awareness and work to meet city environmental performance goals, the Chicago Green Office Challenge and the Kilowatt Crackdown first developed by BOMA in King County (Seattle) and now offered in a number of cities, including Louisville, Kentucky,²² create fun, inspiring ways for businesses to improve their environmental bottom line.

Chicago Green Office Challenge: <http://www.chicagogreenofficechallenge.org/>
Louisville, Kentucky's Kilowatt Crackdown: <http://www.louisvilleenergyalliance.com/>

Consumer education: sustainability forums

While networking opportunities such as the Green Drinks events often function as sustainability forums, there are a few programs that really stand out in this regard. Locally the City of Saint Paul has been hosting sustainability forums within the planning department, and 3M also created a sustainability forum to help employees think sustainably at work and at home. By far the most developed sustainability forums are the monthly Urban Sustainability Forums sponsored by Sustainable Philadelphia²³ and hosted by the Academy of Natural Sciences' Town Square Program. Since 2006, there have been 35 Urban Sustainability Forums on a wide range of topics, featuring local, national and international speakers. The forums are open to the public and well attended. Last year's forum (February 2008) with sold out and was webcast from multiple locations throughout the city.

²¹ From the awards website, "The Sustainable Quality Awards Program was created and implemented to recognize businesses and organizations which implement sustainable practices in the natural and built environments, social responsibility and economic development."

²² http://www.louisvilleky.gov/GoGreen/metro_go_green.htm

²³ Sustainable Philadelphia is a collaboration of many organizations including educational institutions, environmental organizations, and government partners from the greater Philadelphia/Delaware Valley region.

Sustainable Philadelphia: <http://www.sustainablephiladelphia.com/>

Consumer education: getting people involved

There's nothing like getting your hands dirty. Through this extensive volunteer program, Chicago Conservation Corps increases citizen's knowledge about the environment, air and water conservation, saving energy and restoring land. While this does not directly create a green economy, it does connect citizens to their city, the environment and the city's climate change and sustainability goals. Plus it is a fun way to contribute to greening a favorite corner of the city, and greening the city meets long-term economic development goals.

Chicago Conservation Corps:

<http://egov.cityofchicago.org/city/webportal/portalEntityHome>

Action.do?entityName=Chicago+Conservation+Corps&entityNameEnumValue=174

Consumer education: places for people to learn

From green expos to green building resource centers, green retail to green institutes, giving people a place to touch, feel, learn about and interact with the stuff that drives the green economy builds confidence, interest and understanding about green products, and that builds the green market place. In a few places residents and businesses have access to information, samples and experts who can help make better, informed choices about going green and building green.

Minneapolis's own Phillips Eco Enterprise Center (PEEC, formerly a Green Institute project) is a demonstration of many green building technologies and tours of the building can be arranged. The Chicago Center for Green Technology (CCGT) is part eco-enterprise center, and part green technology and exploration center. A model LEED-certified building renovation, home to Greencorps Chicago and WRD Environmental, the building is an open campus where people can learn about green buildings, environmental and human health. The CCGT also offers free seminars and the building houses a small library of green product samples. Initial plans for the new Portland Sustainability Institute included showcasing green products made by area businesses; with the center's recent launch it promises to be "a living laboratory of state of the art technologies and best practices."

Two of the best examples of green building resource centers are neXus in Boston and Santa Monica's Green Building Resource Center (GBRC). Both of these facilities include resource and sample libraries, host special events and workshops and connect residents and professionals to information on building green. The Green Building Resource Center provides a place where people can touch, compare and learn about green building materials. The resource center also provides free design advice on green building strategies, offers technical information to green building professionals, hosts monthly workshops and provides access to recent publications on green buildings and healthy homes.

neXus: <http://www.nexusboston.com/>

Green Building Resource Center: <http://www.globalgreen.org/gbrc/>

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Consumer education: green business certification

Green business certification has its merits. Done well, it can build consumer knowledge, build local pride and build a green brand for a city. The City of Santa Monica, as part of a group of California cities offering their own green business certification, has created a recognizable brand along with an online list of green certified businesses. Businesses that meet minimum criteria apply for certification (manufacturing and production related businesses are not included in the applicable business types).

A green business...

- *Conserves resources and prevents pollution*
- *Protects environmental and public health*
- *Strengthens its bottom line through operating efficiencies*
- *Improves employee morale*
- *Holds a marketing edge over the competition*
- *Is recognized as a business leader*

The Santa Monica Green Business Certification Program: <http://www.smgbc.org/>

Green certification is problematic in general. There are over 298 different green certification systems listed on ecolabeling.org's Web site and according to a recent study for Green Seal, one in three consumers doesn't know how to tell if a product is green, while 10 percent blindly trust green claims.²⁴ Consumers need good information about green products and transparency and education regarding the criteria used to assess green businesses. A better strategy than reinventing the wheel is for cities to research and endorse existing certification programs, for example the B-Corporation system, or BSR membership for companies in general, ISO 14001 for green manufacturing and GreenSeal or Design for the Environment certification.

*Local consumption: eat local*²⁵

We all have to eat, and buying locally-produced foods keeps money in the community, increases the local quality of life and improves the health of the environment and people. Eating local food means a greater level of safety and accountability. When you can look the producer in the eye over a table at the farmer's market, there's a level of confidence that you just don't get from opening a bag of frozen vegetables. Supporting local farms decreases greenhouse gas emissions, and protects the environment through less transportation and less packaging. Additionally, vibrant local agriculture ensures that the open space and pastureland that reduce the urban heat island effect, naturally filter storm water and provide breathing space around our cities stays viable against the pressures of development. Plus, local food tastes better.

There are many examples of "eat local" campaigns, and a number of national organizations advocate for locally produced foods. San Francisco has a well-developed, well-packaged Eat Local campaign, and the City of Minneapolis is developing the "Homegrown Minneapolis" program. The real star in connecting and promoting local foods as an economic development strategy is the City of Portland.

The City of Portland's Bureau of Planning and Sustainability (BPS) features extensive resources on Sustainable Food Policies and Programs for residents interested in

²⁴ http://www.greenseal.org/resources/green_buying_research.cfm

²⁵ Urban Agriculture and green collar jobs are discussed under quality of life improvements.

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sustainable health and environment. These resources include how to find local foods, how to grow your own food, information about farmers markets and studies on the economic impact of Portland's many markets. From the BPS Web site, citizens can learn about sustainable food programs in Portland, including Urban Growth Bounty, the Better Together Garden (the city's own vegetable garden at City Hall) and the Portland-Multnomah Food Policy Council.

Portland BPS Sustainable Foods:

<http://www.portlandonline.com/bps/index.cfm?c=41480>

Eat Local SF: <http://www.eatlocalsf.org>

Local consumption: stimulating the local economy

Just like eating locally, buying locally stimulates the regional economy and keeps dollars in the community. Local businesses that are supported by the community give back to the community. In Ann Arbor, Michigan, Zingermans approaches business development from their "Community of Business" perspective, looking to develop new business based on the needs of the community.²⁶ This model of development, driven by committed, local business leaders comes out of deep ties developed over time through the strong support of local business.

Integrating a buy local or hire local component into any green program will strengthen the local market for green products and services and increase the impacts of sustainability programs like energy-efficiency retrofitting and renewable-energy installation. Programs like the New York Industrial Retention Network's "Made in NYC" and "Food from New York" (a food manufacturing and production resource for the NYC food industry) increase the market for locally-produced goods, and also increase civic pride. Made in NYC has now added a "green business" search to their local producer database.

Green Enterprise Toronto is the Toronto network of the Business Alliance for Local Living Economies (BALLE) and is a project of the Centre for Social Innovation. Through consumer awareness campaigns and by providing market research, GET aims to build the capacity of locally-owned businesses.

BALLE is founded on the belief that the old way of doing economic development — offering companies large cash incentives — is outdated and ineffective, a viewpoint shared by many leading economic development professionals, including Tom Osdoba, former director of Portland's Office of Sustainability.²⁷ Through local chapters like Green Enterprise Toronto, BALLE works toward their vision of "communities largely self-reliant in basic needs, where entrepreneurship and local business ownership are the primary modes of economic security, with firm roots in healthy neighborhoods and the burgeoning green economy."

Green Enterprise Toronto: <http://www.greenenterprise.net/>

Centre for Social Innovation: <http://socialinnovation.ca/>

BALLE: <http://www.livingeconomies.org/>

Made in NYC: <http://www.madeinnyc.org/>

²⁶ Wallinga, David, Institute for Agriculture and Trade Policy. April 13, 2009. Personal communication; Zingerman's website: <http://www.zingermanscommunity.com/>

²⁷ "Beyond Growth: Sustainability and Economic Development" accessed online at: <http://www.metromodemedia.com/features/SustainEcDev0040.aspx>

Stimulating the local economy: mandate, rebate and incentive programs

Cities and states use mandates, rebates and incentive programs to meet energy efficiency, renewable energy and green building goals. In addition to meeting climate change and emissions reduction goals, these programs stimulate the market for green building, energy efficiency and renewable-energy installation and retrofitting services. When tied to local hiring and local purchasing requirements — such as the recently passed Los Angeles local hiring mandate for municipal green retrofits,²⁸ or Berkeley's First Source program which requires local hiring on publicly funded projects²⁹ — these programs have additional economic development power. Minneapolis and Saint Paul have already done a lot to retrofit municipal buildings for energy efficiency so an ordinance of this kind here, to maximize the benefit, would have to extend beyond municipal buildings.

Many states and utility companies have developed incentives programs for energy efficiency retrofitting or renewable-energy installations. Typically these entail a rebate on part of the installation cost, up to a capped amount. Even the most aggressive programs fund only a portion of the installation costs, leaving the homeowner footing the bill for a large percentage of the cost (at least 25 percent and more regularly 50 percent or more). For many residents the gap between what is funded and what they can afford is just too large. Even for the altruistic and civic minded, the personal risk can be too great to provide what is basically a public benefit.

Beyond installation rebates, there are feed-in and energy buy-back programs. Most of these buy-back programs do not guarantee returns over time, and since these are typically government-funded (grant-funded) programs, future funding is unstable, which could be too high a risk for some residential installers.

In addition, while installation incentives and rebates, and certainly energy-efficiency retrofitting programs, can stimulate the local demand for green jobs and assist cities in meeting their carbon reduction and renewable energy goals, most programs do not have a hire local or buy local component. Tying the incentive to local installers, and particularly local manufacturers, where feasible, increases the local demand for green manufacturing and green service providers.

There are a handful of innovative solutions to these issues: The GRU (Gainesville Regional Utilities) Solar FiT, Berkeley FIRST (Financing Initiative for Renewable and Solar Technology) program, and Solar Richmond. In addition to these three specific programs, the “power-purchase agreement” (PPA) model, also called a solar power service agreement, is becoming the dominant financing method for small renewable energy (solar) installation. Through this model, a solar utility company pays for the installation and the customer pays the utility company for the electricity generated, just like they would pay a monthly utility bill for non-renewable electricity³⁰.

The GRU Solar FiT addresses the instability in the energy buy-back market by creating a feed-in-tariff with a 20 year fixed rate guarantee.

²⁸ SCOPE - Strategic Concepts in Organizing and Policy Education (Los Angeles) "LA Apollo Alliance helps Los Angeles pass local hiring ordinance to bring jobs in municipal building green retrofits to inner city residents." <http://www.scopela.org/article.php?list=type&type=35>

²⁹ <http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=11676>

³⁰ http://www.nytimes.com/2008/03/26/business/businessspecial2/26sun.html?_r=1&ref=businessspecial2

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The Berkeley FIRST program addresses the financing gap and installation risk by attaching the cost of solar photovoltaic system installation to the property, reducing the risk by spreading the cost over the lifetime of the system through a property assessment, similar to other property assessments for public goods like streetlights, sidewalks and city tree maintenance. The repayment obligation stays with the property, so homeowners do not have to worry about the risk of lost investment if they choose to sell their home. Most importantly, the Berkeley FIRST program does not use City funds; a private company, Renewable Funding, LLC, which also administers the program, funds it through the purchase of municipal bonds. This structure could be used for other residential and small commercial sustainability projects such as landscaping for storm water management (rain gardens), green roof builds and other renewable energy installations (geothermal, solar thermal).

Solar Richmond is part green-collar jobs training program, part community-based solar installer and part advocacy program. Through a 9-week pre-apprenticeship training program in the building trades that includes solar installation, they bring solar-installation training and jobs to low-income Richmond residents, while also working with government, business leaders, community and non-profit organizations, such as Grid Alternatives, to install solar systems in low-income neighborhoods.³¹ In 2009, they were instrumental in getting a solar thermal rebate program linked to local green-collar jobs. They also secured no cost permitting for Richmond residents to go solar.

GRU Solar FiT: www.gru.com/Pdf/AboutGRU/News/Websitepercent20FAQs.pdf

Berkeley FIRST: <http://www.berkeleyfirst.renewfund.com/>

Solar Richmond: <http://www.solarrichmond.org>

International Trade Offices

In the past international trade offices were instrumental in facilitating export of goods from a U.S. region to an overseas market. Now, trade offices are critical in export and business attraction, keeping in contact with global green and clean-tech business. Global offices can be critical in making initial contact with innovators and green manufacturers worldwide, and can help keep regional businesses on the pulse of current trends and innovations.

Example: Ohio Department of Development | Global Markets

The Ohio Department of Development maintains 14 global offices, including offices in Australia, Canada, China (Beijing and Shanghai), Europe, Hong Kong, India, Israel, Japan, Mexico, Argentina, Brazil, Chile and South Africa. In addition, the Ohio Global Markets Division of the Department of Development includes 11 staff: 5 regional trade managers, global outreach, projects and marketing coordinators, an investment liaison, director and assistant director and business and export finance manager. Beyond providing export and trade relations resources to Ohio companies, the Global Markets Division actively seeks out relationships with businesses. During the Global Markets summit in May of 2008, when all of the global managing directors came together in Ohio, teams of directors toured the state talking to Ohio businesses. The summit also featured panel discussions on international business topics, and had plenty of opportunities for

³¹ Through this program the city of Richmond provides free labor (part of their green collar jobs training program), equipment at cost and a 3percent loan to low-income loan to the homeowner with payment deferred until the owner sells the house.

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networking between business leaders and the global managing directors. Through their international offices, the managing directors create relationships with global companies seeking to do business in the state. Beyond the state offices, there are small area initiatives in Ohio, like the NEOhio-Hungary economic Development Program, that are “fostering collaboration with Hungary for Economic Development.”

Ohio Global Markets: <http://development.ohio.gov/itd/>

NE Ohio-Hungary Development Program:

<http://www.clevelandhdp.org/economicdevelopment/index.htm>

Example: Iowa International Trade Offices

Iowa's Department of Economic Development (IDED) has five globally-dispersed international trade offices, including offices in Beijing (China), Tokyo (Japan), Mexico City (Mexico) and Frankfurt (Germany), plus a base at the International Trade Office in Des Moines, Iowa. The foreign offices and/or representatives assist Iowa companies with global market research, trade missions and trade shows. The office also provides one-on-one counseling to companies seeking international business, provides marketing assistance and coordinates a number of seminars held throughout the year on export related issues.

Iowa Trade: http://www.iowalifechanging.com/business/intltrade/export_assistance.aspx

Technical and business assistance

Technical and business assistance programs are critical for green(ing) business. Sustainability and triple-bottom-line thinking are still relatively new, and new technologies can be complex and hard to understand. New green technologies, policies and opportunities are evolving at a rapid pace. Businesses need help in understanding the best ways to prevent waste, recycle materials, conserve water and energy, and green their building and business practices given locally available programs, rebates and incentives.

Technical assistance programs come in two forms, those that offer free services to small business on waste prevention, recycling and other ways to green their business, and those that do not necessarily have a “green” focus but offer industry specific assistance such as process efficiency and lean manufacturing consulting. Green principles could easily be integrated into these programs, combining environmental assistance with business and production assistance. Businesses also need assistance with green networking, green supply chain development and marketing and communications assistance to help them talk about their green products and processes, translating complex ideas into simple and effective language.

Minnesota is already a leader in offering pollution and waste prevention consulting services to business through the Minnesota Pollution Control Agency's small business assistance program and the Minnesota Technical Assistance Program (MnTAP). Standout programs in other cities include Resource Ventures, a program of Seattle Public Utilities, connecting businesses to green rebates and incentives in addition to providing free business assistance on a range of pollution prevention, conservation and climate change issues. Similarly, the Santa Monica Sustainable Works Business Greening Program helps businesses “green their bottom line” through free consulting services in the areas of waste prevention, water efficiency, toxics elimination, transportation and energy use reduction and better purchasing.

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While some of the programs connect businesses with incentives and rebates, the effectiveness on outreach would be greatly improved if they could offer creative financing strategies for businesses who want to go green but can't afford to make the kind of major changes needed to take their facility, process or business to the next level of sustainability.

Green business and technical assistance programs could exist as consulting services within manufacturing and business training programs, similar to lean manufacturing consulting practices that operate out of community and technical colleges as student learning opportunities. These low-cost lean consulting programs are able to assist smaller businesses in improving production and efficiency; the experience of consulting on green business and lean and green manufacturing contributes to the next generation of green manufacturing consultants and environmental engineers, while at the same time increasing capacity of local manufacturers to go green with their production.

Resource Venture - Seattle Public Utilities: <http://www.resourceventure.org/>
Sustainable Works (Santa Monica): <http://www.sustainableworks.org/>

Example: Portland's BEST (Businesses for an Environmentally Sustainable Tomorrow) Business Center

The BEST Business Center is a partnership between Metro (Portland's regional authority), the Portland Development Commission, Portland General Electric, Pacific Power and the City of Portland. The center not only provides the kind of free assistance that other business greening programs offer, such as waste and pollution reduction, green building, water and energy conservation, but also access to financial incentives, current sustainability reports and research, networking opportunities and businesses are publicly recognized for their efforts. The BEST Business Center's team of "resource conservation experts" has a broad range of skills across the sustainable development spectrum.

Portland BEST: www.bestbusinesscenter.org/

Example: New York Industrial Retention Network, "Manufacturing for a Sustainable NYC"

NYIRN is a non-profit organization established in 1997 to strengthen manufacturing in NYC. The Board of Directors comes from private, public and education sectors. The organization provides business services to NYC manufacturers and operates programs that promote locally made products. The emphasis is on retaining and growing local manufacturing capacity and helping businesses green their operations through purchasing, lean manufacturing and energy efficiency.

Programs include:

- Business assistance, including real estate and relocation listings and assistance
- "Food from New York"
- "Made in NYC"
- "RenewableNY"
- Energy efficiency assistance for manufacturers
- "Spec It Green" connecting green manufacturers, builders and others, through networking and informational events
- Maintains a database of NYC business service providers

New York Industrial Retention Network: <http://www.nyirn.org/>

Example: The Illinois Manufacturing Extension Center (IMEC)

With a focus on improving long-term manufacturing productivity and competitiveness, the Illinois Manufacturing Extension Center (IMEC) provides business, technical, operational and process improvement assistance to manufacturers. The IMEC is a statewide organization with 16 offices, and a staff of engineers, specialists and project managers with extensive expertise. The IMEC also partners with research and educational institutions, private consultants and draws on lean specialists within the National Manufacturing Extension Partnership system. IMEC is hosting an upcoming "Building the Wind Supply Chain" conference.

"IMEC is a team of specialists who work with Illinois companies to be more productive and globally competitive. IMEC solutions help companies develop profitable business strategies, meet customer quality requirements, contain operating costs, increase capacity and on-time delivery and solve technical operating problems such as product defects or process bottlenecks. Our focus is on preparing a company's internal team to accelerate improvement and achieve results that will stick — long term. Since IMEC's inception in 1996, the 1,900 companies that have called on IMEC for assistance have realized an average of \$7 in sales and cost-saving improvements for every \$1 they have invested in our resources."

The Illinois Manufacturing Extension Center: <http://www.imec.org>

Example: Chicago LEED Council (Local Economic and Employment Development)

The LEED Council promotes business, workforce and community development with a focus on sustainability and economic opportunity. The Council has staff expertise in energy efficiency, green buildings and sustainable economic development. They aim to "improve the ecological footprint of their corridor" by reducing air pollution and emissions and advancing new technology such as alternative fuels and green building. They act as both an industry development organization and business technical assistance.

The LEED Council is a mature organization with more than 25 years of work in business, community and economic development. Founded in 1982, as part of the New City YMCA, the council became an independent organization in 2001 and is a "delegate agency" of the Chicago Department of Planning & Development serving the North River Industrial Corridor. Early in their history (1988), they helped to create the first Planned Manufacturing District (PMD) with a goal of "maintaining industrial land to retain Chicago's employment base." They further developed the PMD model that has been successfully replicated 14 times throughout Chicago.

Since 1992, more than 325 entrepreneurs have started or expanded their business out of LEED Council's business assistance.

In 2003, the LEED Council expanded their focus to encompass environmental performance as well as social and economic sustainability. Since then they have assisted more than 50 businesses in pollution reduction. They are currently researching the possibilities for green-collar jobs training and the "production and delivery of alternative fuels."

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LEED Council's comprehensive business development services include:

- assistance with government services such as zoning, licensing and planning commission hearings, and referrals and application assistance for public financing programs;
- site selection and relocation assistance, including business park and site planning and development;
- infrastructure and traffic improvement services; and,
- networking opportunities, including workshops and events on topics of interest to small business, member-to-member connections, links to banks and referrals to organizations providing productivity optimization assistance.

Chicago LEED Council: <http://www.leedcouncil.org>

Funding and Emerging Business Development

Example: Clean Tech Open

The Clean Tech Open is a privately owned and operated business-plan competition for emerging- and start-up clean-tech companies. The yearly competition starts with the Clean Tech Open Business Accelerator conference where 70 semifinalists in 3 regions (Pacific Northwest, Rocky Mountain and California) meet and attend an intensive business training program. After the initial conference, these semifinalists receive two months of mentoring that might include assistance in refining their business plan and pitch, building their leadership team, advancing their technology or manufacturing, developing sales, business and marketing or financial planning.

The Clean Tech Open leverages very little cash investment to reap amazing rewards and successes. Not just a financial prize, the Clean Tech Open provides high-level mentoring to program participants by a team of volunteer leaders with backgrounds in business and finance. The regional winners leave with "Start-Up in a Box" cash and services equal to at least \$50,000, and one team from amongst all the regions wins an additional \$250,000 investment funding.

Emerging companies compete in a no-risk environment. Throughout the process participants attend workshops, events and work with mentors, providing networking opportunities that opens doors.

In addition to the competition, the Clean Tech Open stimulates clean-tech and sustainable, innovative business through its innovation, mentorship, judging, summer and sustainability programs for business leaders. Participation in these programs leads to information exchange and networking amongst the nation's most innovative leaders.

The Clean Tech Open™ includes the following trademarked products:

Clean Tech Entrepreneur 201™

Start-Up in a Box™

Sustainability Starter Kit™

Clean Tech Innovation Catalyst for the 21st Century™

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The competition has created over 320 jobs among participating teams and this number is expected to double in the next few years. Clean Tech Open companies serve an 800-firm customer base.

To date, \$2.72 million worth of prizes (\$150 million in cash) has leveraged \$125 million in additional venture investments (\$45.96 return per \$1 invested). Clean Tech Open winners have an 84 percent viability/success rate. A few Clean Tech Open success stories:

- Aurora Biofuels – A micro algae bio oil production. Landed \$5M series A and \$20M series B financing after winning.
- Adura technologies – hardware and software aimed at reducing commercial energy use. Earned \$5M in series A financing after winning.
- Greenvolts – A solar energy company delivering solar at a price and scale to displace fossil fuels. Garnered \$10M series A, \$30M series B after winning.
- Coolearth – Developing a solar collector that uses less than 10 pounds of plastic to power a home. Winning the contest opened up a partnership with Sandia National Labs to further develop this technology.

Clean Tech Open: <http://www.cleantechopen.com/>

Example: Green Investment Fund (Portland)

The Green Investment Fund is a competitive grant program created by a multi-department, public-private entity that supports green building by investing in early stages of innovative project development, including hard-to-secure pre-development funding. In the last round of funding, a total of \$425,000 was available; qualifying projects include industrial, commercial, multi-family residential and mixed-use developments in the public and private realms.

The primary intent of the GIF is to support early building and site-related project activities that examine the potential and identify the means to realize an exemplary, comprehensive greenbuilding project.

Sponsored by the City of Portland Bureau of Environmental Services, Bureau of Planning and Sustainability, Water Bureau and Energy Trust of Oregon, Inc., the GIF aims to increase the number of “exemplary, comprehensive, green building projects” in the city by supporting early green building and site-related project activities.

Green Investment Fund: <http://www.portlandonline.com/bps/index.cfm?c=42134>

Building Competitive Capacity

Cluster initiatives: Networking

The keys to global competitiveness are the relationships within a region. Wealth is created in networks and the opportunity to interact with related, supporting and competing industries drives productive rivalry and innovation, increases social and intellectual capacity and connects innovators with services and resources needed to drive change.

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Success comes from adaptation and change, responsiveness to the market and adapting technology. In a fast-evolving industry, networks and relationships keep the business community informed of changes and trends.

This requires a new way to think about economic development. It is not about giving companies large incentives, but about convening complementary players in a way that leads to informed and challenging dialog. To have high-level, committed participation, particularly by business leaders and change makers, networking events have to be of immediate value. Short-term payoffs keep business interested, while the overall goal is long-term strengthening of networks and relationships.

*"Regions that build strong thick networks will be more competitive on the Second Curve economy. They will learn faster. They will spot opportunities faster. They will line their resources faster. And they will make decisions faster. [...] Simple connections, relentlessly made, will over time build strong, vibrant networks. These open networks drive the creation of innovation and prosperity in the Second Curve economy."*³²

Example: PDX Lounge

The PDX Lounge is a partnership between the City of Portland, the Portland Development Commission and Portland's green building community that was created because Portland area green building companies wanted to participate in GreenBuild Chicago 2006, but had missed the opportunity to sign up for a booth. The PDX Lounge is an opportunity for small businesses to participate in these national conferences, generating interest in Portland area businesses and acting as a business recruitment tool by showcasing Oregon's sustainable industry and culture.

Instead of each company creating, staffing and paying for their own booth, companies contributed cash, product and expertise toward the creation of a 20,000 square-foot temporary "lounge" built in an open commercial space near the exhibit (the City's booth on the tradeshow floor directed traffic to the Lounge which was off site). Highly popular and attended by mayors from both cities, the businesses found it to be an invaluable networking experience.

For area businesses, the PDX Lounge was seen as a valuable way to connect to other companies in the state and after GreenBuild 2007, a survey of participants conducted by the Portland Development Commission pointed to the creation of a permanent networking and product showcase space in Portland, which will be a part of the new Portland Sustainability Institute.

*"We see PDX Lounge as a way to export local talent and use it as a launching point at conferences to start conversations with firms that would be beneficial to recruit to the region [...] because they would supply local firms with more cost effective goods or services."*³³

PDX Lounge: <http://www.pdxlounge.com/AboutUs.html>

³² Morrison, Ed. iOpen White Paper - New Models of Economic Development, p. 10

³³ McCartney, Megan, Portland Development Commission, April 23, 2009. Personal email communication.

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Green Drinks Events

The Green Drinks movement is a networking event to facilitate connections between like minds at a monthly, informal meeting. Official Green Drinks events are now in 542 cities worldwide. In addition to the "official" Green Drinks events, there are a wide variety of "green drinks" events across the country, including recent events in Minneapolis sponsored by the Minneapolis Chamber. What makes these events effective is when the topic and the audience are targeted. Some green drinks events appeal to a base of concerned residents and the primary purpose of these events is awareness building, though they could also feature (or be hosted by) complementary local businesses to expand awareness of local green services and products. Having a wide variety of people at events, a mix of business leaders, policy and advocacy experts, government partners, venture capitalists and financiers, makes a successful event where networking extends beyond strengthening the choir. Successful events keep expanding naturally, bringing in new people and businesses. Simple marketing tactics such as a dedicated Web site with future event dates and topics, and holding the events at high visibility places, work well to create buzz. Bringing in speakers and varying the kind of event (discussion, panel, movie screening) are good strategies for keeping the events fresh.

Green Drinks: <http://www.greendrinks.org/>

Example: Chicago Green Drinks

The Chicago green drinks network, hosted by Foresight Design Initiative, is particularly effective at growing their network (started as one event and now has many locations) and bringing in speakers/creating topics for discussion. The 2008 green drinks events featured guest speakers, film screenings and discussions on a variety of topics, including climate change, local food systems, residential renewable energy and eco-parenting, among others. On average, 75 people attend the special "BizEdition" green drinks events, which focus on issues related to green business.

Chicago Green Drinks: <http://www.foresightdesign.org/greendrinks/>

Example: MIT E-Center Events

The MIT E-Center, a center for entrepreneurship at Massachusetts Institute of Technology, hosts seminars and receptions both in their home town of Cambridge, MA, and in other key locations around the world, specifically high-tech hot spots. These events planned in partnership with local MIT alumni clubs and MIT Enterprise Forum chapters are a place for top CEOs, Venture Capitalists, entrepreneurs and top university officials to connect and exchange ideas. Past locations include London and Cambridge (UK), Cologne and Munich (Germany), Tokyo and Sapporo (Japan), Dublin, Rio de Janeiro, Istanbul, Seattle, Menlo Park, Toronto, Washington and New York.

MIT E-Center: <http://entrepreneurship.mit.edu>

While a well-endowed private university sponsors these events, the format could be informative for other similar events that promote the innovation that has long driven Minnesota's economy. Using the University of Minnesota's extensive alumni network, as well as networks of other local colleges and universities, similar events could be held across the U.S. and worldwide with a small group of local CEOs, VCs, industry experts, academics and community leaders as the sponsors. The idea is to promote the innovation that is already happening in the metro area, the access to cutting edge research and development, the high-quality lifestyle and good business climate in the

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metro area. The best promoters are business people, community leaders and academics from the metro area. The MIT club of Northern California is a sponsor of the Clean Tech Open. It is this kind of alumni networking that strengthens industry perception of research institutions.

Example: New York Venture Summit

This private sector networking event brings together “senior executives of early-stage and emerging-growth companies, venture capitalists, angel investors, technology transfer professionals, university researchers, incubators, successful entrepreneurs and premier service providers.” The New York Venture Summit is an annual event presented by youngStartup Ventures to connect emerging companies with the capital and investment needed to move new ideas into the mainstream.

youngStartup: <http://www.youngstartup.com/newyork09/overview.php>

Example: Sustainable Business Network - Philadelphia

The Sustainable Business Network works with local, independent businesses to build a sustainable and just economy. By creating a supportive business network through collaborative events, peer-to-peer mentoring, Sustainable Venture Institute³⁴ conferences and events and a membership directory, they encourage member-to-member transactions that grow the local economy. The network also offers monthly events on best practices for triple-bottom-line management and consumer education on supporting the economy through local purchasing. They connect consumers to SBN members through Buy Local campaigns, public events and business directories. They also play an advocacy role, advising government and civic leaders on the benefits of independent, local business. SBN Philadelphia is a founding member of BALLE, the Business Alliance for Local Living Economies.

Sustainable Business Network of Philadelphia: <http://www.sbnphiladelphia.org>

Sustainable Ventures Network: <http://www.svn.org>

BSR (formerly Business for Social Responsibility): <http://www.bsr.org/>

BALLE: <http://www.livingeconomies.org/>

Cluster: Supply chain development, vertical integration and flexible manufacturing networks

A thriving regional economy depends on strong local ties between suppliers and manufacturers. Supply chain development keeps more of the dollars in the region and creates opportunities for firms and their suppliers to innovate and collaborate. Flexible Manufacturing Networks create opportunities for firms and their related businesses to share facilities, projects and equipment, which not only reduce the costs of building a capital-intensive industry, but ultimately leads to inter-firm innovation and builds capacity across a workforce as workers have access and exposure to equipment that might not otherwise experience. There are many great examples of supply chain development as a tool to strengthen the regional economy. In green manufacturing, particularly in the wind-turbine manufacturing industry, large multi-national OEMs are attracted to regions with well-developed supply chains where they can locally source a large portion of the more than 8,000 parts required to build each turbine.³⁵ The American Wind Energy Association has developed a wind power supply chain workshop, “Building Links in the

³⁴ In 2001, members of a Sustainable Ventures Network chapter in Minneapolis were a part of developing the SVN Local Network Initiative.

³⁵ “Assessment and Analysis of Wind Turbine OEM Needs and Regional Manufacturing Readiness,” prepared for the Area Partnership for Economic Expansion (APEX), January 2008

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Supply Chain," which has been held in Iowa a number of times and will next be held in Detroit. More and more state and regional economic development organizations are sponsoring wind supply chain development workshops, including:

"A Wind Energy Supply Chain Workshop," developed by the Missouri Partnership:
<http://www.missouripartnership.com>

Illinois Wind Working Group Supply Chain Workshops, co-developed with IMEC Illinois:
<http://www.renewableenergy.ilstu.edu/wind/conferences/>

Advancing Wind Power in Illinois Conference

Building the Wind Supply Chain Workshop (Pre-Conference Workshop):
A Market Opportunity Workshop for Manufacturers

"This hands-on program will enable manufacturers to assess their capabilities and develop initial plans for entering the lucrative Wind Power market. The goal of the workshop is to build a new industry of wind turbine components that will create new jobs and investments throughout Illinois. [...] The workshop will feature information on growing trends in wind power, major supply chain needs in the wind energy systems industry, retooling investments and process upgrades that suppliers must address in order to comply with wind industry standards."

Clusters: Partnerships for Industry-Specific Development

Example: Iowa Alliance for Wind Innovation and Novel Development

The Iowa Alliance for Wind Innovation and Novel Development is a statewide public-private partnership (including state and local government, community college and university and private-sector partnership, with support from the federal government) for the development of the wind energy industry in Iowa. It is a coordinated multi-agency effort to advance education, research, training and product development (testing) needs of the wind energy industry.

"IAWIND encourages interaction among the various partners interested in wind energy and to help forge new alliances and activities to better meet the needs of wind energy."

IAWIND promotes the state's wind energy capabilities including:

- *Basic and applied research and technology transfer in support of location, design, manufacturing, control, data acquisition and monitoring, construction and operations of wind power devices and facilities*
- *Training and education focused on wind power including programs at the community colleges, at universities in undergraduate and graduate studies, and continuing education for industry.*
- *Testing facilities for certification, testing, and design of key wind power components (e.g., gear boxes, blades, structures)*
- *Policies and actions that support the demand for renewable energy*

Iowa Alliance for Wind Innovation and Novel Development: <http://www.iawind.org>

Example: PolymerOhio

PolymerOhio is an industry-specific association, and along with Ohio Edison Technology Center, is funded by the Ohio Department of Development and member dues to enhance the global competitiveness of Ohio's plastics, rubber and advanced materials industries. PolymerOhio provides technical and business services, including technical and economic analyses for Ohio's more than 2,800 polymer facilities. The association returns \$15-\$20 in benefits for every dollar spent by member companies.³⁶

PolymerOhio provides companies with access to economic and industry research and holds conferences, seminars and workshops around the state to keep Ohio's firms informed about current practices, technologies and companies in the industry. It provides forums for "the exchange of ideas between the academic/research community and the commercial world" and provides opportunities for networking and collaboration. Recent activities include a widely-attended Legislative Meeting on June 29 of this year (2009) where PolymerOhio invited state legislators to eat lunch and hear first-hand from leaders about the state of the industry.

Related green industry organizations include the Ohio BioProduct Innovation Center, also funded by the Ohio Department of Development to position Ohio as a leader in bio-product commercialization (bioproducts.osu.edu), and the Center for Multifunctional Polymeric Nanomaterials and Devices (CMPND), a multi-institutional research and commercialization effort housed at The Ohio State University. Partners include the University of Dayton, the University of Akron, the University of Toledo, Kent State University and Wright State University (cmpnd.org).

PolymerOhio: <http://www.polymerohio.org>

Cluster: Spatial clustering, eco-industrial and green business parks, green zones

Spatial clustering and geographic concentration are considered key aspects to growing strong regional industries. Famous examples of the networking and innovation that result from the agglomeration effect are Silicon Valley and the dynamic industrial districts of Northern Italy. Similar to industrial parks and other industrial concentrations, such as the highly successful Planned Manufacturing Districts in Chicago,³⁷ spatial clustering of similar and related industries allows for greater inter-firm interaction, which can increase both the rivalry and networking that are a foundation for competitive advantage.

Spatial clustering takes on many forms, from projects like Cleveland's District of Design, which brings attention to and further concentrates the region's industrial design capacity through branding, marketing and integrated urban development plan, to clean-tech/green-manufacturing parks, from designated green zones such as Milwaukee's Greenlight District, to business incubators and office buildings like Toronto's Center for Social Innovation and the new Green Exchange in Chicago.

Many of these green corridor, business park and zone initiatives are in the early stages of development. For example, a proposed eco-industrial park in Hunts Point (South Bronx), the

³⁶ Comments by Tom Waltermire, Chairman of the Ohio Polymer Strategy Council at the Legislative Meeting on June 29, 2009.

³⁷ The Planned Manufacturing District (PMD) model that has been widely considered a successful economic development tool, particularly for urban industrial development. There are 15 PMDs in Chicago. This model would be easily adapted to integrate green building, site and location criteria.

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Oak Point Eco-Industrial Park, would be a \$36 million investment on 28-acres of waterfront Brownfield. The proposed park is geared toward the waste management industry and would include, "construction and demolition (C&D) debris recycling facility, a plastics-product manufacturer, a paper-converting operation, a wood salvage and re-milling operation, a glass powder manufacturing facility; and a small non-profit facility with educational exhibition space about recycling, re-use and re-manufacturing; incubator space for craftspeople designing artworks or products made from recycled materials; a small café; and a child-care facility for children of the employees." Currently in the feasibility study stage, forecasted revenues from the park are over \$90 million annually, and ecological benefits include emissions reduction through elimination of "20,100 truck trips annually (84 daily) by shipping and receiving on 4,300 barges and railcars a year (17 daily)." ³⁸

Eco-industrial parks ³⁹ have been successful in other parts of the world, particularly in Europe. However they have not yet flourished in the U.S. market. Some think this is due to issues with waste regulation preventing the flow of byproducts ("waste") from one manufacturer to another that makes the eco-industrial model unique. Other barriers include stronger negative attitudes about sharing resources and information among private business.

There has been some success in the history of eco-enterprise sites in the U.S. The Minneapolis-based Green Institute recently released a report on the history of the Philips Eco-Enterprise Center, an early leader in creating an ecologically sound office and industrial building. In Chattanooga, a failed first attempt at an eco-industrial development, The Volunteer Site (no longer operating as an eco-industrial park), eventually led to the attraction of Aerysin, a manufacturer of windmill towers for wind energy, and Alstom Power, a manufacturer of steam turbines for nuclear applications, to the riverfront site near downtown, which has also spurred development of other commercial green space in the area.

Minneapolis and Saint Paul have tremendous resources for concentrated development of green industrial parks. Teams in both cities are working on plans for green development of large sites such as the 3M and Ford plants in Saint Paul and the Southeast Minneapolis Industrial area (SEMI) adjacent to the University of Minnesota's East Bank campus. In 2006, the mayors proposed the creation of a "joint jurisdiction" between the cities along Highway 280 at University Avenue to create a life-sciences corridor. The proposed corridor would include the existing UEL facility in an urban version of Research Triangle Park (North Carolina), which is home to more than 100 companies and 44,000 employees. ⁴⁰ Other regional initiatives include the UMore Park plans to convert the University's Rosemount facility into a planned green development including residential, commercial and industrial areas.

Cleveland District of Design: <http://www.districtofdesign.com/>

Milwaukee Greenlight District (30th Street Industrial Corridor):

<http://www.mkedcd.org/30thstreet/>

Centre for Social Innovation (Toronto): <http://socialinnovation.ca/>

Green Exchange (Chicago): <http://www.greenexchange.com/>

Green Institute (Minneapolis): <http://www.greeninstitute.org/>

³⁸ <http://communitybasedplanning.wordpress.com/2009/05/28/community-based-plan-of-the-month-oak-point-eco-industrial-park/>

³⁹ More information and examples of U.S. Eco-Industrial sites can be found here: http://www2.ucsc.edu/gei/eco-industrial_parks.html

⁴⁰ "Creating a Twin Cities science district" Star Tribune, 2/13/2006, from a personal communication with Brian McMahon of University United, April 21, 2009.

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Example: Green Impact Zone of Missouri

This new initiative, sponsored by U.S. Congressman Emanuel Cleaver (D-Missouri), will make this area — a 150-block zone in the poorest part of Kansas City — the target for \$200 million in stimulus funding.⁴¹ The area includes houses from Prospect Avenue to Troost Avenue and from East 39th Street to East 51st Street. While this is a new initiative, it already has positive support and committed funding. The Kansas City Council voted 13-0 in favor of the zone's creation, approving \$42 million⁴² of funding, with more grants and funding available, mostly through the allocation of Recovery Act funding.

The Green Impact Zone has four primary components. The first piece is a large-scale home weatherization project. The plan is to put area residents to work conducting energy audits and weatherizing the majority of the homes in the Zone (approximately 2,500 homes), providing green jobs in the short-run and energy savings of up to \$1,200 per year for each homeowner. Secondly, the Green Impact Zone will develop a green bus rapid transit system, using bio-diesel technology and green-designed shelters. In addition to providing weatherization and energy audit training for residents, the Zone proposes to create a green jobs training and employment program focusing on green building, park restoration and transit work.⁴³ The program is aimed at ex-parolees. Lastly, the creation of the Zone has garnered the support of Kansas City Power & Light. The utility company is committing to build a smart electricity grid within the Green Impact Zone.

Example: Bio-Research and Development Growth (BRDG="Bridge"), St. Louis

The Bio-Research and Development Growth Park was built to promote and develop the plant sciences cluster, making St. Louis a bio-science center. The research park is on the Donald Danforth Plant Science Center campus, one of the world's largest independent research facilities in the plant sciences. The first of three planned buildings on the 9-acre site is now open, featuring 111,000 square feet of space in a LEED Silver certified building, already at 63 percent occupancy. Key tenants include Divergence and Phycal LLC, while in-house resources include the Nidus Center for Scientific Enterprise (a business incubator) and the biotech training program of the St. Louis Community College, which is developing the workforce to meet the industry's growing needs. Current tenants will employ about 300 people, but with the project's second and third phases complete the BRDG could have up to 450,000 square feet of space housing 1,100 scientists, technicians and entrepreneurs.⁴⁴ Monsanto's world headquarters is located across the street, adding another 4,000 employees on a 250-acre campus to the mix. The BRDG represents a \$40 million investment of the Greater St. Louis Inc., the regional economic development initiative of the St. Louis Regional Chamber & Growth Association.

BRDG Park: <http://www.brdg-park.com/>

Danforth Plant Science Center: <http://www.danforthcenter.org/>

⁴¹ <http://www.kansascity.com/278/story/1150681.html>

⁴² <http://www.kctv5.com/news/19912962/detail.html>

⁴³ <http://www.greenbuildinglawupdate.com/2009/05/articles/codes-and-regulations/the-green-impact-zone/>

⁴⁴ <http://www.stlrcga.org/x3937.xml>

Cluster: Building innovative capacity, industry development and incubation

Centers of innovation and excellence drive the next generation economy. Incubation centers, research centers and development, commercialization and technology assistance centers play a critical role in job creation within the research driven clean-tech/green-tech industries. Clean-tech firms state that proximity to innovation centers is important to the strength of their business.⁴⁵

Example: Oregon BEST (Built Environment and Sustainable Technologies Center)

Oregon BEST acts at the intersection of business and research, developing and commercializing green building and renewable energy research into products and services that build Oregon's industry. Created by legislature in 2007, the center is an independent, non-profit organization (see Oregon Inc. for more information on funding). The center creates a statewide network for research, development and innovation, including 140 faculty at four universities. The center assists researchers in securing funding and connects business to research and development.

Oregon BEST leverages knowledge and skills at Oregon's Economic Development Agency (business Oregon), and the University Venture Development Fund. In 2005, the Oregon Legislature passed a state tax credit (not a tax-liability deduction) for charitable donations made to the University Venture Development Funds at the seven Oregon University System (OUS) campuses and the Oregon Health & Science University (OHSU). These universities can receive a total of \$14 million in tax credit eligible donations to support commercialization of technology.⁴⁶ This unique fund provides early-stage venture capital that is designed to move innovations developed at Oregon universities to market. "...donations will create an "evergreen" endowment to foster innovation because universities will repay the state for claimed tax credits with income from royalties and licensing fees. The state will issue additional tax credits as the initial ones are repaid, allowing a cycle of reinvestment in university-derived innovation."

Oregon BEST meets their goals of fueling the state's green economy by:

- *Fostering industry-university collaborations that transform university research into new ventures, products and living-wage jobs for Oregon.*
- *Helping new and existing Oregon companies utilize the shared network of university research labs and expertise in the green building and renewable energy sectors to advance their products and services and be more competitive.*

Recent successes:

- \$35,000 in Oregon BEST matching funds helped to leverage a \$385,000 grant for a demonstration project in renewable power storage.
- A \$480,000 investment in 10 faculty research teams attracted additional investment from outside funders. Projects include:
 - Solar-Powered Fuels and Chemicals: Tapping the Sun to Produce Transportation Fuels

⁴⁵ From SPUR's 2008 report "Growing green: How San Francisco can become a leader in the cleantech boom," "Innovation is the key requirement for the growth of many cleantech firms. Over one third of firms surveyed for this study indicated that proximity to innovation centers was extremely important to their location decisions. Over 40 percent stated that it was somewhat important." accessed online at <http://www.worldchanging.com/archives/008828.html>

⁴⁶ http://www.ous.edu/news_and_information/news/100407.php

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- Customizing Green Roofs: New Design Tool Helps Select the Right Green Roof for Specific Locations
- Building Oregon SunRISE: A Network of Solar Research Tools Shared by Academia and Industry
- Better Bioproducts From Biomass: Utilizing Waste Plant Material to Produce Useful New Products and Fuels
- Turning Recycled Plastics Into Green Insulation: Developing a New Generation of Insulation Materials for the Green Building Industry
- Helping Farmers Grow Their Own Green Diesel: Improving Biodiesel Production on Family-owned Farms
- Producing Greener Biofuels: Improving Enzyme Technologies for Better Green Manufacturing of Biofuels
- Green Building Materials: Helping Oregon Businesses Compete and Oregon Graduate Students Succeed
- Better Wind Energy: New Modeling Techniques Could Speed Turbine Improvements
- Harvesting Light: Designing More Efficient Solar Cells

Oregon BEST: <http://oregonbest.org>

Example: Peoria NEXT

Peoria NEXT is a clean technology research, development and product commercialization center. Part of the Heartland Partnership, Peoria NEXT has a well developed strategic operational structure that allows it to deliver focused, high-quality support to regional businesses. The center utilizes connections to business and educational institutions and benefits from proximity and partnership with the largest of four federal USDA-Agricultural research utilization centers, the National Center for Agriculture Utilization Research (ncaur.usda.gov). Through this relationship they have access to more than \$27 million in federal funding and over 100 Ph.D. scientists and 160 research and technical support staff.

From 2000 to 2006, Peoria NEXT secured a \$5 million investment by individuals and organizations and nurtured 26 small green businesses, which they hope will create over 1,500 new jobs in the region.⁴⁷

Peoria NEXT: <http://www.peorianext.org>

Example: Ohio BioProducts Innovation Center

Part of Ohio State University, the Ohio BioProducts Innovation Center (OBIC) connects industry and research to develop renewable chemicals, polymers, plastics and other advanced materials. Their innovative program, the “Cell to Sell” pipeline, works to identify gaps and develop the soy-based supply chain and market through a network of stakeholders across the soy-technology industry in Ohio. The project aims to accelerate commercialization of soy-based bioproducts.

⁴⁷ Hillary Rosner, Will green play in Peoria? This heartland city is betting its future on ethanol, wind and other environmental industries, FSB Magazine, April 9 2007 cited in Parzen, Julia. Integrating Green Chemistry and Safer Materials into Regional Economics and Workforce Development Strategies. Health and Environmental Funders Network. August 2007.

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Through OSU, and strategic partnerships with Battelle Memorial Institute, national laboratories and industry partners, OBIC provides “access to services and programs that focus on commercialization and economic development.” The OBIC benefits from proximity and relationships with federal research institutes, such as Battelle, and well-established industry associations such as PolymerOhio.

The board of advisors includes industry leaders such as Cargill, ADM and Sherwin Williams, growers associations, and research and university partners.

Ohio BioProducts Innovation Center: <http://bioproducts.osu.edu/>

Building Capacity: Grassroots and Entrepreneurial Business Incubation

Example: Green Worker Cooperatives

Green Worker Cooperatives is a grassroots environmental justice and zero-waste advocate operating an entrepreneurial business incubator for worker-owned and environmentally-friendly cooperatives in the South Bronx. The Green Worker Cooperative proactively works to create jobs and new alternatives for employment while addressing the environmental and economic issues that disproportionately affect low-income communities like the South Bronx. While many green economy incubators focus on high-technology, research-driven businesses, Green Worker Cooperatives works on the low-technology end of the green business spectrum by providing critical services and business advice to entrepreneurs in their low-income community. In addition to their advocacy work and business assistance, Green Worker Cooperatives also sponsor the Bronx Green Drinks events.

Green Worker Cooperatives success story: ReBuilders Source

ReBuilders Source is a Bronx-based worker-owned cooperative selling reused and overstocked building materials. Started by Omar Freilla, with business advice and assistance from Green Worker Cooperatives, the cooperative opened in April of 2008. Freilla found three others to join the cooperative and secured enough startup funding to pay four salaries and business costs for three years.⁴⁸

Green Worker Cooperatives: <http://greenworker.coop>

Workforce Development

Much of the green workforce development activity is directed at growing green-collar jobs for low-income workers. At the upper end, university research centers and workforce development programs inside research parks (such as the biotech training program of the St. Louis Community College co-located with emerging and leading business innovators in the BRDG business incubator) grow research support and upper-level research leadership. Many of the green collar workforce programs support urban sustainability programs such as Brownfield remediation, tree care for urban forestry, urban agriculture, energy efficiency retrofitting and weatherization, and renewable energy installation. Solar Richmond, profiled earlier for their work in renewable energy installation, offers pre-apprenticeship training in green building and

⁴⁸http://www.nytimes.com/2008/04/21/nyregion/21citywide.html?_r=1&ex=1209441600&en=cf99153264e902bb&ei=5070&emc=eta1percent22

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renewable energy installation. While there are only a handful of programs with a long track record, such as B.E.S.T. Academy in the South Bronx and the Greencorps Chicago program, there are a growing number of these programs nationwide.

Example: B.E.S.T. Academy (Bronx Environmental Stewardship Training)

A project of Sustainable South Bronx, the B.E.S.T. program offers two training programs for local people in environmental cleanup and stewardship. Programs are open to any participant from the five boroughs with their high school diploma equivalent, but most participants are on public assistance and come from the South Bronx area.

The BEST Eco training is a comprehensive program that prepares participants for jobs in horticulture, landscape contracting and bioremediation.

- Comprised of three 14-week sessions
- Over 160 program graduates, 80 percent gainfully employed after three years, 15 percent attending college and 7 percent in school and employed.
- Comprehensive, hands-on training in subjects such as:
 - Riverbank restoration, water and soil testing, wetland restoration, green roof installation and maintenance, Brownfield remediation and hazardous waste cleanup.
- Upon completion, participants are certified in:
 - First Aid and CPR, NYC Tree Pruner, Entry Level Tree Climbing, 40-Hour Hazardous Waste Cleanup, 10-Hour OSHA and Herbicide/Pesticide Applicator.
- Through the program, participants take classes at the New York Botanical Gardens.

BEST for Buildings (B4B) is a new program designed to give people life-skills and hands-on knowledge and experience in energy-efficiency retrofitting based on the success and best practices from the BEST Eco training program. The B4B program includes:

- Job readiness/soft skills and customer-service training
- Training on:
 - Solar PV systems, green roof installations, mini energy auditing and updating low-income rental buildings, introductions to HVAC, insulation materials and building science and lead awareness.
- Upon completion, participants are certified in:
 - 10-Hour OSHA, Hazardous Waste Operations and Emergency Response (HAZWOPER), asbestos handling and lead awareness.

Sustainable South Bronx: <http://www.ssbx.org/best.html>⁴⁹

Example: GreenCorps Chicago

The GreenCorps Chicago program is one the largest, and oldest of its kind. Established in 1994, the program, which operates through the Chicago Green Technology Center, has trained over 250 participants, supported over 500 established gardens and installed over 300 gardens. A program of the Chicago Department of Environment, Greencorps provides garden assistance and builds new gardens on vacant lots, school grounds and on sites owned by non-profits. The program prepares participants for work in

⁴⁹ Note, at publication this website was under redesign and could be found at: <http://captivatedesigns.net/clients/ssbx/index.php?link=33#best>

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landscaping, environmental health and safety (Brownfield remediation) and green workforce projects such as HCCRF and electronics recycling and home weatherization.

Participants learn through job-specific, hands-on training and also receive training in soft skills, business and professional development (conflict resolution, leadership, goal setting and financial literacy), counseling and job placement. Program participants gain job experience while working on a variety of public works projects.

The program operates with five full time staff, six contract employees. There are 40 seasonal trainees and 3-6 trainees in longer-term placements.⁵⁰

Example: Iowa Energy Center

The Iowa Energy Center is one example of a public-private partnership to provide research and training facilities to develop both the industry and the next generation of researchers. Funded through an assessment on gas and electric revenues, and administered through Iowa State University, the center funds research on energy, provides information and outreach. A majority of the funds are used for a competitive grant program for research and education on renewable energy and energy efficiency. In 2008, a little over \$1.3 million was granted, approximately 94 percent to research and development, and the rest to conferences and small demonstration projects.

The energy center operates two state-of-the-art research facilities: ERS (Energy Resource Station) and BECON (Biomass Energy CONversion facility). With the Energy Center financing the operations and maintenance of the facilities at close to \$1 million in combined facilities costs, university researchers and private-sector partners are freed up to conduct research, evaluate new technology and receive training. In addition, the center spent nearly \$600,000 on information and outreach. Just under \$300,000 in external funding was received through federal and non-federal sources. The Iowa Energy Center is a partner of the Iowa Alliance for Wind Innovation and Novel Development.

Iowa Energy Center: <http://www.energy.iastate.edu/>

Quality of Life

From an economic development perspective, broad municipal/regional sustainability goals are a long-term strategy that increases the overall quality of life, which leads to retaining companies and makes the city and region attractive to the workforce needed to continue driving innovation. City greening includes programs such as urban forestry and agriculture, local food support (farmer's markets, CSAs, community gardens and eat local programs) and Brownfield development. Green building programs, bike and transit development and community energy programs support energy efficiency and carbon emissions reduction goals and improve the green infrastructure and housing stock, increasing the region's attractiveness while building green community capacity and improving life for all of the region's residents. Strengthening communities and improving economic opportunity for those at the bottom — through affordable housing and energy — can contribute to long-term development of the region, reduce crime and increase community vitality in the poorest neighborhoods.

⁵⁰, Suzanne E. Malec-McKenna, Commissioner, City of Chicago Department of Environment. "Natural Resources & Water Quality Overview of Greencorps Chicago" for the Green Collar Summit, December 7, 2007.

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Example: Community Energy

The cities of Minneapolis and Saint Paul have a high quality of life and a number of these sustainability programs and initiatives are already in place. Community energy is supported through organizations and programs such as the Neighborhood Energy Center (www.thenec.org), the Philips Community Energy Cooperative (www.phillipsenergycoop.com - now defunct), the statewide CERTs program (Community Energy Resource Teams - www.cleanenergyresourceteams.org), District Energy of Saint Paul (www.districtenergy.com) and programs through the Green Institute (www.greeninstitute.org).

Examples of community energy projects:

Community Energy Project, Inc. (Portland)

This 30-year-old organization partners with community organizations and service providers, utilities, public and private organizations and government agencies to “empower people to maintain healthier, more livable homes, control their utility costs and conserve natural resources.” They provide hands-on training and education, distribute materials for conservation and pollution prevention and provide weatherization and water-conservation services to elderly and disabled community residents.

Community Energy Project: <http://www.communityenergyproject.org/>

Isles - Fostering Self Reliance (New Jersey)

Founded in 1981, Isles is a non-profit community development and environmental organization “fostering self-reliance and healthy, sustainable communities.” Using an entrepreneurial approach to address basic needs (like food, shelter, jobs and pollution), Isles works to “re-imagine and re-develop older communities.” Programs include low-cost community Brownfield remediation, park creation and renovation, education on environment and health and healthy schools initiatives. Isles also provides training for careers in environmental remediation.

Isles: <http://isles.org/>

Example: Urban Agriculture

Combining environmental, economic and social goals, urban agriculture programs are some of the most comprehensive green initiatives. These programs not only transform underused lots in poor neighborhoods into green, thriving and productive agricultural spaces, they also provide residents in these areas with health food options, education and outreach on food justice, and often include a training component for community members, youth at risk and people with difficult circumstances (former inmates, chronically unemployed and people on public assistance). While there are a handful of such programs in Minneapolis and Saint Paul, for example the Youth Farm Project, they are young or have not realized full capacity as green community and economic development organizations.

Examples of successful urban agriculture programs:

The Food Project (Boston)

Since 1991, the Food Project has been a national leader in working with youth and adults at risk to create sustainable urban food systems. As a leader, the Food Project

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also provides consulting services to other communities and cities desiring to create youth and community programs for healthy cities.

The Food Project: <http://www.thefoodproject.org>

Growing Home, Inc. (Chicago, Southside)

This project came out of a community planning process sponsored by LISC's (Local Initiatives Support Corporation) New Communities Program and Teamwork Englewood. The Quality of Life Plan addresses the lack of access to food, particularly fresh produce, in the Englewood area through development of an urban agriculture district. The plan also calls for integrating jobs training and employment opportunities with community agriculture problems, combining community greening, economic development and healthy living into one program.

Growing Home, Inc.: <http://www.growinghomeinc.org/>

Growing Power Farm (Milwaukee)

Founded by MacArthur Foundation Fellow Will Allen in 1993, Growing Power Farm started as a youth work project and now features 14 greenhouses on two acres in a working class neighborhood near the city's largest public-housing project. The farm produces \$250,000 worth of healthy food for 10,000 residents per year. The model also includes a retail store, distribution to schools and restaurants and stands at farmers' markets, and low-cost delivery to neighborhood pickup points (similar to CSA distribution).⁵¹

Growing Power Farm: <http://www.growingpower.org/>

Added Value (Brooklyn, NY)

Added Value engages youth in South Brooklyn, training them in leadership, community and socially responsible business development. They have trained over 85 teenagers and hundreds of elementary school students, and work with a large base of volunteers transforming vacant land and underutilized parks into sustainable and socially responsible urban farms. They work with a 30-member Community Advisory Board with representation from local, regional and national institutions.

Added Value: <http://www.added-value.org/>

Building Area Reputation and Green "Brand"

International/National export of expertise and services

Oregon's work to grow expertise in green buildings is now being recognized internationally. Oregon is exporting LEED expertise as international companies and projects hire Oregon companies for green building projects.⁵² In the green building industry, having an Oregon address is an asset. While there is a certain reality to this industry-specific knowledge, the recognition of it is in part due to strong and consistent communication from government and industry leaders in Oregon. Minnesota has a large

⁵¹http://www.nytimes.com/2009/07/05/magazine/05allent.html?_r=2&hpw=&pagewanted=all&pagewanted=all

⁵²<http://portland.bizjournals.com/portland/stories/2008/12/01/focus1.html?page=1>

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amount of expertise in corporate responsibility, particularly at the large, Fortune 500 level. We also have expertise in green chemistry across a number of different industries. Celebrating the success of local companies and the value in local expertise begins to create a picture of the region's talent and expertise. This not only attracts new talent and companies to the area, but in service-based industries, can also stimulate valuable consulting contracts.

Marketing and branding

Many states have seen the value in rebranding and packaging their departments of economic and community development to be catchy, business friendly and consumer driven; built for users, not bureaucrats. Iowa ("Life Changing"), Iowa's Department of Economic Development and Ohio.gov, the state of Ohio's consumer-driven Web site, are two examples. In addition to Web sites and branding, simple strategies such as Iowa's GreeNetwork, an e-newsletter distributed every 4-6 weeks to over 3,000 recipients, celebrate existing business and green development and communicate upcoming opportunities.

Iowa | Life Changing: <http://www.iowalifechanging.com/>

Ohio: Ohio.gov

There are abundant examples of communications and marketing strategies at a local and regional level aimed at consumers (current and prospective residents and businesses). One of the best is St. Louis regional chamber and growth association's Web site. It is not only clear and graphically savvy; it communicates St. Louis's assets through simply stated facts and catchy, inspiring content. While the City of Portland's Bureau of Sustainability and Planning Web site exists within a bureaucratic graphic framework, it is consumer driven, designed with clear and easily accessed information for current residents with enough attention to visuals and content to attract prospective residents and businesses. Additionally, multi-agency programs such as the Portland BEST Center, PDX Lounge and PDX Institute have their own distinctive Web sites and branding. Each of these programs can be easily accessed from the Bureau's Web site.

St. Louis. Perfectly centered. Remarkably connected.: <http://www.stlrcga.org/>

Portland's Bureau of Sustainability and Planning:

<http://www.portlandonline.com/bps/>

In communicating green programs, the cities of New York, San Francisco and Chicago take the lead. New York City's PlaNYC 2030 site lays out the five components of the city's sustainability plan and connects New Yorkers to events, reports and successes. In addition, the GreeNYC campaign presents residents with easy-to-follow ideas on how they can participate and help green New York City. San Francisco takes a different approach, and while the city's Web site and visual brand are strong, it is how Mayor Newsom handles the press and promotes the city's strategies in the national and international media — using appropriate venues like the Long Now Foundation's Seminars about Long Term Thinking series and a rivalry between San Francisco and Portland on who will dominate the electric car market⁵³ — that gives them a clear and strong presence within the sustainable cities leadership. Lastly, Chicago's Chicago

⁵³ SF/Portland EV war (<http://gas2.org/2009/04/07/its-on-portland-and-san-francisco-battle-for-electric-car-domination/>)

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Climate Action Plan mini-site, and promotions like the Chicago Green Office Challenge, create urban pride and help residents understand what the city is doing and how they can be a part of the solution.

PlaNYC: <http://www.nyc.gov/html/planyc2030/html/home/home.shtml>

Chicago Climate Action Plan: <http://www.chicagoclimateaction.org>

What are the Challenges to Green Economic Development in Minneapolis Saint Paul?

Minneapolis and Saint Paul are already leading the way in green economic development with the Mayor's Initiative on Green Manufacturing. It is a unique, proactive approach to creating a strong and comprehensive green economic development strategy for the region. The cities face a number of challenges to implementing any comprehensive green economic development plan. Without a regional or dual-city agency, effective marketing and communications strategy, strong leadership across all levels of government and the private sector, active and engaged networks and a business climate that fosters emerging and innovative companies, green economic development will be stunted. There is a great opportunity for inventing new partnerships, new strategies, new ways to communicate and new ways to foster sustainable business in the region.

A Strong REGIONAL Approach

Minneapolis and Saint Paul, and the metro region, lack one unifying organization for economic development. Economic activity does not obey political boundaries, and neither does environmental impact. Sustainable development is a *regional* issue. With two anchor cities and a multitude of smaller governments and a variety of organizations and agencies for economic development, one entity is needed to oversee and direct economic development activity to meet sustainability and green development goals in this growing region.

In order to stay competitive globally, we have to have a regional voice: a regional identity and one clear place for insiders and outsiders to get information on green programs and policies and to celebrate our resources and successes. Existing businesses want one point of contact for assistance and information on policies, programs and resources that impact their bottom line — prospective businesses want a single, responsive entity to help them understand whether the region is a good fit.

Many other regions have strong regional entities that are public-private partnerships for economic development and prosperity. These organizations are business-focused; they often include a large proportion of leading private businesses as well as high-level participation from public agencies (state, county, city and local), leading social service, environmental, community and economic development organizations and regional educational and research institutions and organizations. Seattle's Prosperity Partners has over 300 members and Metro Denver EDC includes over 70 economic and community development partners all working toward the GreenPrint Denver goals.

The issue of combining city governments has come up from time to time.⁵⁴ While the cities could add yet another entity, such as a regional economic development coordinating agency, with tight city budgets and city planning departments shrinking (or folding altogether) across the United States, it may be time again to revisit whether having two large administrations, in

⁵⁴ McMahon, Brian, University United. April 22, 2009. Personal communication.

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addition to the many smaller suburban governments, makes sense for the long-term prosperity of the region.

Marketing

Building the area's reputation and brand is a key factor in green growth. The green market is savvy and trendy. As an emerging market, it requires constant attention. Technology is rapidly evolving, and people, cities and organizations are coming up with innovative ways to address environmental, social and economic sustainability. Good marketing and communications effectively spread new ideas, causing innovation to inspire innovation.

If you've had visitors from outside the state, you've probably heard something like, "wow, I had no idea this was such a great city," more than once. Keeping the region's vitality a "best-kept secret" keeps our cities and regions out of the sustainability limelight and off the front pages, impacting our ability to attract top-level talent and opportunities. We have some of the best public relations, marketing, branding and graphics expertise in the nation. The cities, economic development organizations and private partners need to start utilizing these resources to talk about sustainability programs, green business and community leaders, regional strengths and successes in green business. Very few organizations and agencies publish concrete results. Integrating rigorous evaluation criteria into programs and policies and making results public would be a great contribution, both to success in the region and to green economic development as a whole. It is critical that the cities showcase real success stories. There's a lot of "green washing" out there; flowery descriptions of programs without much depth. Real inspiration is in the successes and on-the-ground results that have come out of the region's commitment to sustainability.

Marketing and communications is not only about attracting attention and promoting the region to the outside world, effective strategies also connect current residents and businesses with programs, initiatives and resources they can use to support their own sustainability goals. A good campaign can create civic pride, inspire people to join in and increase the viability and sustainability of municipal and community-based programs.

The cities are doing great things, from piloting a composting program in Saint Paul public schools to testing green cleaning in Minneapolis public schools; from the richness of our local food system, to the abundance of community and boulevard gardens; from our bikeways to our new bus rapid transit line; we are up to great things, and we have great resources for sustainable development from our leading businesses, politically and civically engaged leaders, and leading environmental organizations. To increase global competitive advantage, the cities need to tell the world what they have going on, attracting talent and firms and spurring the kind of rivalry that drives innovation.

Networking

Known by newcomers as one of the hardest places to make friends, networking is one of the biggest challenges for the region; it is also an opportunity for fun, creating buzz, celebrating the city's businesses, connecting citizens to the bigger picture, and supporting the next wave of innovation. The key to effective networking is to have committed participation from high-level leaders across business, government, finance and research. The City of Minneapolis, along with the City of Lakes Chamber of Commerce, have recently created a number of networking opportunities, such as a business-to-business green expo (thought to be the first-of-its-kind) attended by 58 exhibitors and over 200 participants, a green business happy hour and the Minneapolis Area Green Business Network. While these are a great step in the right direction,

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networking needs to be regional, with sponsorship and committed partnership from key business and civic leaders.

Venture Capital

One of the regions greatest weaknesses is the lack of early stage venture capital for business innovation. While there is money in the region, it is not directed at funding emerging technology or business. For example, the recent influx of venture capital into the region's biopolymer industry came mostly from external partners, such as Khosla Ventures. With strong political and business leadership, effective networking and savvy marketing, the local financial sector may become more interested in funding regional innovation. Partnering with local organizations such as the LEAD Project may be an opportunity to stimulate the young venture capital community.

Strong Leadership

Economic development and industry growth follows inspired leadership. Whether by “guru” leaders Chicago Mayor Richard Daley, San Francisco Mayor Gavin Newsom or Iowa Governor Chet Culver, or through well-developed and well-promoted plans such as GreenPrint Denver, PlaNYC 2030 or Chattanooga's VISION 2000, or through consistent distributed leadership as in Portland, Oregon, people and business need a strong unifying vision to follow.

"Building prosperous communities takes place in civic spaces where citizens can come together to exchange ideas and move forward. At the same time, these civic collaborations thrive with a new type of leadership. Command and control management styles do not work well. We need leadership with the skills to encourage alignment among different people and organizations."⁵⁵

"On the Second Curve, civic leadership is far more distributed than in a First Curve economy. Leadership comes from people who are willing to engage and who are capable of unleashing the energies of others for our common prosperity."⁵⁶

Distributed leadership: Like Minneapolis, Portland has a weak-mayor system. This gives the city some advantages and some disadvantages. One of the advantages, according to Tom Osdoba, is the government structure: “Portland is a bit unique in terms of its government structure — we have a commission structure where particular city council members run particular bureaus, they're the heads. This contributed to the formation of the [Office of Sustainability] about 10 years ago and we've been fortunate to have leaders who have remained committed to its expansion.” However, he also cites strong leadership and prioritization of sustainability across the state and region as being fundamental to the city's success in sustainability programs and policies.

High-level leadership: One of the reasons Iowa is able to attract wind turbine manufacturing companies is the attention and leadership of the governor. This high-level leadership is a proven model for growing competitive advantage. Connecticut's former Governor John Rowland transformed the state's economy through high-level cluster-based teams. His policy was that the business leaders, including CEOs of major corporations, had to be at the table. He figured that if he could make the time in his schedule to meet with business, they could make time in theirs as

⁵⁵ Morrison, Ed. iOpen White Paper - New Models of Economic Development, p. 10

⁵⁶ *ibid.*

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well. This proved to be a key part of an effective strategy to reinvent the state's economy after the manufacturing decline of the 1980s.

What Is Happening in Other Cities?

San Francisco

San Francisco, lead by Mayor Gavin Newsom, specializes in using technology to increase awareness and meet environmental goals. From its two iPhone applications — one aiming at reducing carbon emissions by helping users find the closest available parking meter and the other a resource on where to recycle just about anything — to innovative uses of mapping to communicate the city's sustainability strategy progress — such as the Urban Eco Map and the Solar Map — the City of San Francisco uses technology to help residents make choices that support the city's environmental goals.

While the sustainability strategy is very strong, featuring some of the nation's most aggressive policies aimed at waste reduction (zero waste), green buildings, renewable energy and alternative transportation, the green business program is at an early stage. A partner in the Bay Area Green Business Program, much of the focus is on encouraging businesses to go green, and providing a directory of green businesses. Green economic development activity in the Bay area is privately driven by growing market demands in clean and green technologies.

From a long-term policy and urban advocacy approach, the city benefits from an active, member-based progressive planning and urban policy organization, SPUR (San Francisco Planning and Urban Research Association). Formed in 1959 out of a reorganization of the San Francisco Planning and Housing Association, the organization was charged with fighting sprawl and revitalizing the city's core. Guided by a highly participatory process, SPUR sponsors thought-provoking research to guide the city's planning and hosts a variety of public talks on planning and urban issues. Their current mission is to: “promote good planning and good government in the San Francisco Bay Area. Our goal is to improve the quality of urban life and to promote greater understanding of urban issues facing San Francisco today.” Board members come from business, academia, government and advocacy organizations and currently include the Executive Directors of the San Francisco Urban Community Housing Corporation and the San Francisco Redevelopment Agency.

SF Environment: <http://www.sfenvironment.org>

SPUR: <http://www.spur.org/>

San Francisco Green Business: <http://www.sfgreenbiz.org/>

What could Minneapolis Saint Paul do to follow San Francisco's lead?

- Connect citizens and businesses with a way to be a part of the region's sustainability by developing clear, easy and accessible tools for residents and businesses to go green.
- Expand the use of technology to communicate progress on sustainability indicators.
- Work to develop and encourage growth of a regional planning policy organization. It could be built off of an existing resource such as CURA (Center for Urban and Regional Affairs) and would integrate business, government and academia with the region's strong neighborhood organizations.

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Cleveland

Sound economic development using cluster-based approach, District of Design builds on what they already have, with a high level of private sector buy-in. Utilizing economic development expertise at the University (Ned Hill), Civic Innovation Lab promotes and funds ideas that can improve the Greater Cleveland economy.

Launched in 2003, with funding from the Cleveland Foundation, the Civic Innovation Lab offers up to \$30,000 in grants to fund promising ideas that can have a tangible economic impact in the Greater Cleveland area. In addition to funding, the Lab provides training on building viable business models out of good ideas, and mentorship by experienced entrepreneurs, innovators and civic leaders. To date, the Lab has granted over \$1.4 million to 50 ideas, including projects that “foster downtown vibrancy, attract and retain talent, support entrepreneurship and build emerging industries.” Not only does this program foster innovation, but through championing and encouraging citizens, it builds civic pride and homegrown talent.

District of Design: <http://www.districtofdesign.com/>

Civic Innovation Lab: <http://www.civicinnovationlab.org/>

What could Minneapolis Saint Paul do to follow Cleveland's lead?

- Build and strengthen the region's green chemistry industry to create a green chemistry and biomaterials district.
- Foster the creation of a group of business mentors from amongst the talented and bold corporate and civic leaders in the region. We, too, are great at homegrown innovation. Let's celebrate and reward that!

Denver

In Denver, the Office of Economic Development is currently developing a comprehensive economic development strategy entitled Greener Denver.⁵⁷ The program is an implementation strategy of GreenPrint Denver,⁵⁸ the climate action plan for the city of Denver. The goal is to provide resources to evaluate and reduce the per capita energy needs of companies in the region through training on energy efficiency, water conservation, recycling, creation of strategic and influential networks, forums and financial incentives and discounts for implementing green initiatives.⁵⁹ Additionally, the key components of the program are consistent with the climate prosperity framework, i.e. savings, opportunity and talent, created by Global Urban Development,⁶⁰ which was adopted by seven other metro areas across the United States⁶¹.

According to Christopher Smith with the Office of Economic Development, Greener Denver is a “cross-cutting priority in our office. Thus, all of our programs and services will ultimately incorporate green objectives.”⁶² Essentially, Denver is seeking competitive status in what Colorado's Governor Ritter refers to as the “new energy economy.” This will enable the Denver MSA to incorporate each of four major economic development strategies (attraction of new business, creation of jobs, cost savings and “greening” of businesses) into its overall plan.

⁵⁷ Smith, Christopher, Office of Economic Development, Denver, Colorado. April 17, 2009. Personal communication.
⁵⁸ <http://www.greenprintdenver.org>

⁵⁹ <http://www.regonline.com/builder/site/Default.aspx?eventid=627794>

⁶⁰ http://www.globalurban.org/metro_econ.htm

⁶¹ Smith, Christopher, Office of Economic Development, Denver, Colorado. April 17, 2009. Personal communication.

⁶² Smith, Christopher, Office of Economic Development, Denver, Colorado. April 17, 2009. Personal communication.

Philadelphia

Philadelphia has strong leadership across both the public and private sphere. In the public space, Mayor Nutter's Office of Sustainability, Greenworks Philadelphia, and the city's planning agency, Plan Philly, are creating a sustainable Philadelphia through aggressive green-collar jobs, transit-oriented development, energy efficiency retrofitting and city greening programs. With aggressive, specific and measurable targets, and area expertise in city greening, Philadelphia is in the sights of the Obama administration as a leader in green development.

Philadelphia shines through its sustainable business leadership and sustainability forums. Corporate social and environmental sustainability have been key conversations in Philadelphia in some form since 1991 when business leaders began getting together to work on a "more just and sustainable economy." This eventually led to the formation of the Sustainable Business Network, and a national organization, the Business Alliance for Local Living Economies (BALLE), in 2001. The SBN currently has 57 sustaining members. Recently, local leaders in collaboration with 81 companies nationwide founded the B-Lab, an organization seeking sustainable corporate change. The B-Lab headquarters are in Philadelphia.

In addition to strong business leadership, Philadelphia excels at information exchange and public discussion about sustainability with the goal of moving the city towards a sustainable future. Since 2006, as part of Citizens for Pennsylvania's Future, and in partnership with the Academy of Natural Sciences, Sustainable Philadelphia has hosted monthly Urban Sustainability Forums that are open to the public on a broad variety of topics.

"The Urban Sustainability Forum is more than just a monthly series of presentations featuring the best local, national and international experts in many different fields.

It is, beyond that, a place where people gather, exchange information, and network--all with the goal of making Philadelphia the greenest, most livable and most sustainable city in America."

Greenworks Philadelphia: <http://www.phila.gov/green/greenworks/economy.html>

Plan Philly: <http://www.planphilly.com>

Sustainable Philadelphia: <http://www.sustainablephiladelphia.com/>

Sustainable Business Network: <http://www.sbnphiladelphia.org/>

B-Lab: <http://www.bcorporation.net/>

What could Minneapolis Saint Paul do to follow Philadelphia's lead?

- Expand on the Saint Paul's internal sustainability forums and use resources such as the LEAD Project, the Chambers of Commerce and sustainable business leaders such as 3M and Aveda to create public sustainability forums. What if these were more fun, and better attended, than the Walker's Movies and Music in the Park, or a Saint's game?
- Encourage businesses to be members of a nationally recognized sustainable business certification program such as B-Lab.

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Santa Monica

The City of Santa Monica excels at providing easy access to information and resources on environment and sustainability for residents and businesses. Through a number of public-private partnerships, they are enabling citizens to build, live and work green. The Web site for the Office of Sustainability and the Environment offers an easy-to-navigate one-stop resource for all city programs related to sustainability. While the city does not yet have any programs directed at growing the green economy, they do offer a few programs for green business, including technical assistance to businesses wanting to improve their triple-bottom line, a green business certification program and sustainable quality awards.

The Green Building Resource Center is a public-private partnership between the City of Santa Monica and environmental organization Global Green USA.

Sustainable Works, a Community Partners project, is a non-profit environmental education organization funded in part by the City of Santa Monica's Sustainable City Plan. Additional funding comes from program participants, grants and donations and in-kind services from Santa Monica College. The organization promotes the green economy by "fostering a culture of sustainability in cities, colleges and businesses." They provide greening programs for businesses, communities, residents and students, increasing environmental knowledge and growing the green market.

Santa Monica Office of Sustainability and the Environment:

<http://www.smgov.net/Departments/OSE/>

Sustainable Works: <http://www.sustainableworks.org>

Green Building Resource Center: <http://www.globalgreen.org/gbrc/>

What could Minneapolis Saint Paul do to follow Santa Monica's lead?

- Create a one-stop web resource for going green in the metro area.
- Foster collaborations with area organizations like the Green Institute to provide green building and renewable energy resources for residents and professionals.

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Web sites, news articles and online media are included in the text and accompanying footnotes.

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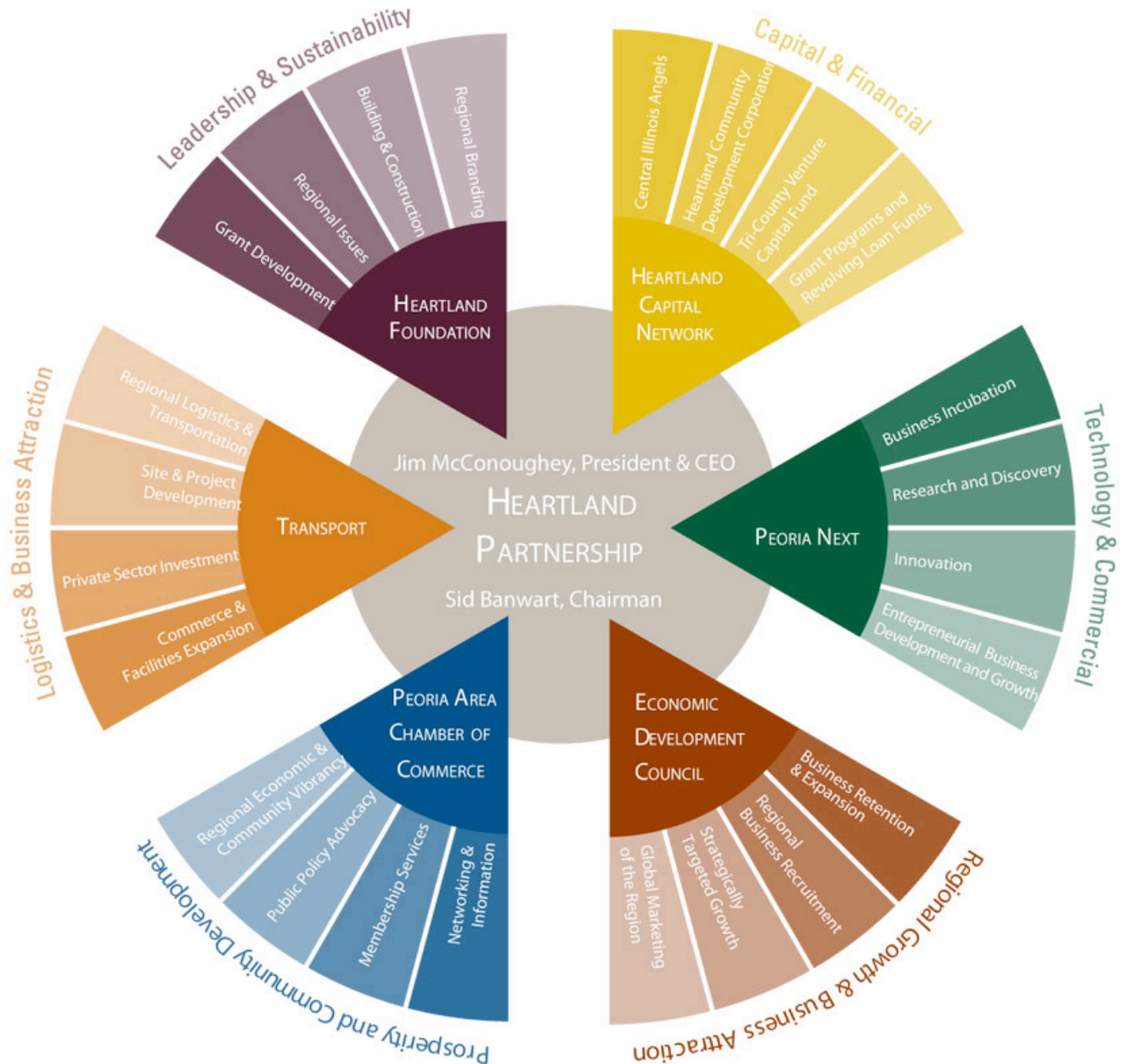
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Acknowledgements:

Many people generously gave us their time and knowledge, whether or not their names or specific thoughts made it in to the final draft, their contribution deepened our understanding and opened up avenues of exploration. My deepest thanks go to those who provided interviews, responded to emails and acted as sounding boards. These include: Brian McMahon, Jeremy Lenz, Pam Neild (Portland), Megan McCartney (Portland), B. Kyle, Emily Stern, Ellen Muller and the Saint Paul PED staff, David Wallinga, Dan Niziolek, Diana Sasser (Sacramento), Aligheri Saenz (Albuquerque), Christopher Smith (Denver) and Brian Hamilton (Austin).

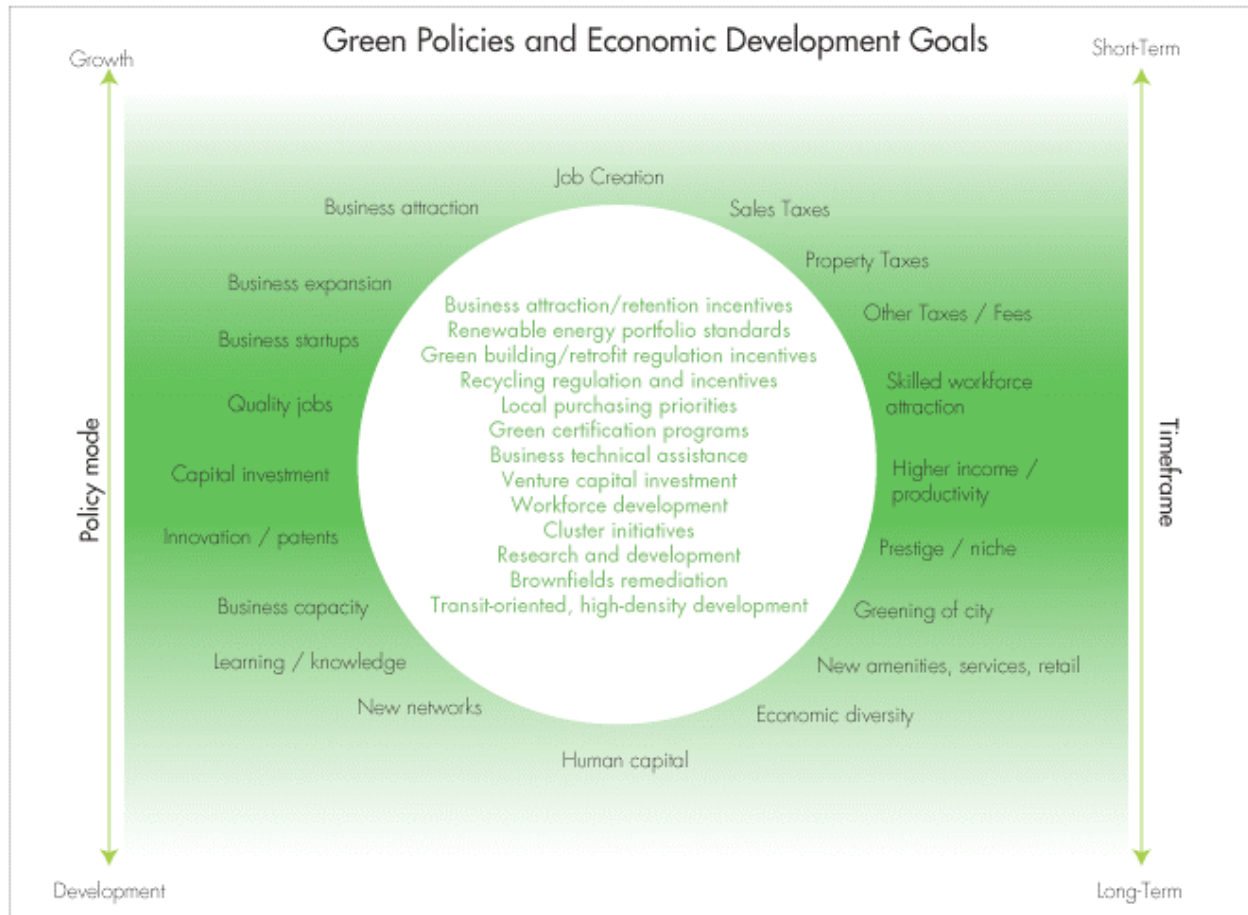
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Appendix A: Heartland Partnership Organizational Structure



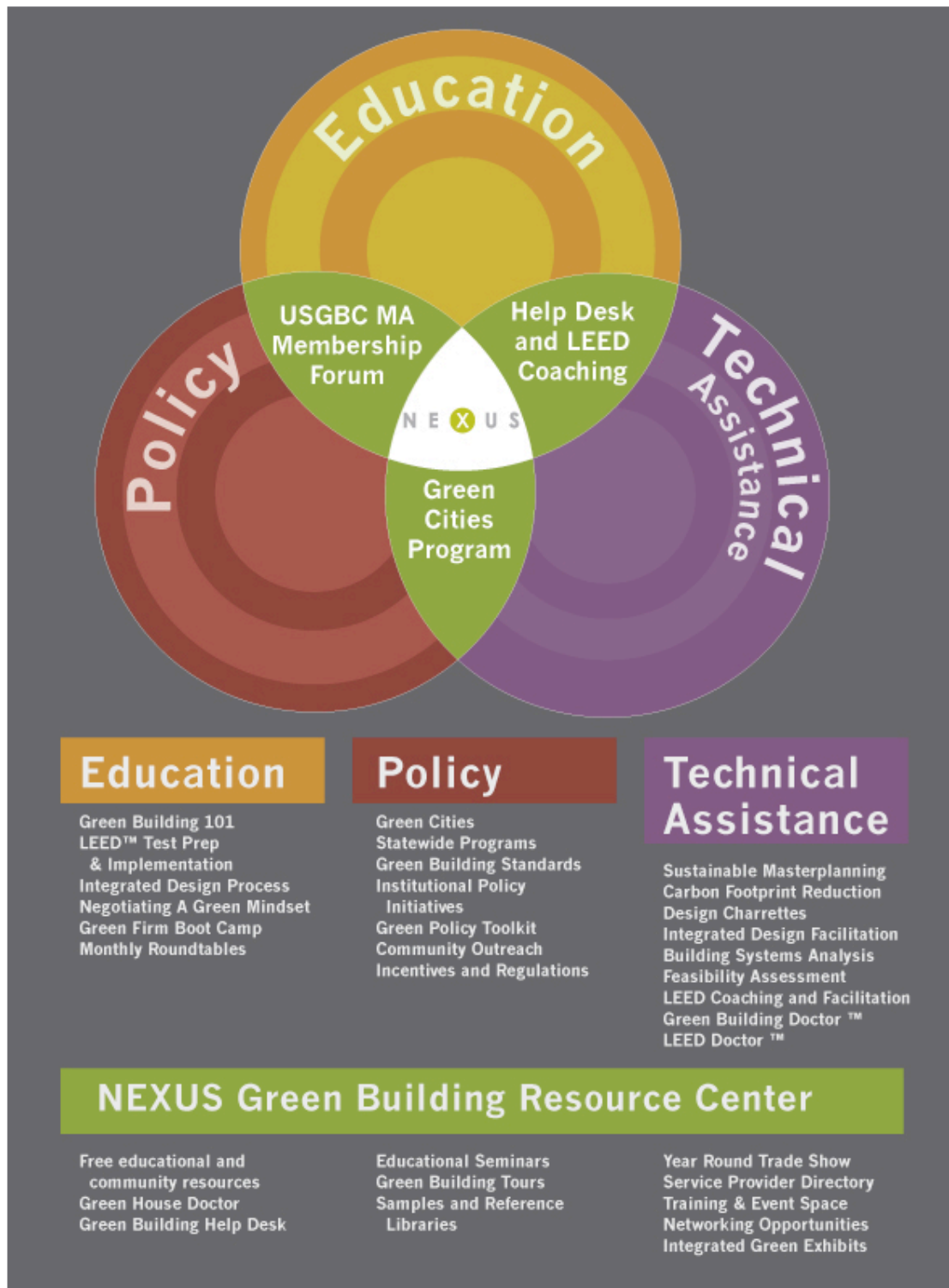
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Appendix B: Green Policies and Economic Development Goals



Adapted from Karen Chapple, "Defining the Green Economy: A Primer on Green Economic Development" the Center for Community Innovation (CCI) at UC Berkeley, 2008

Appendix C: "Moving Green into the Mainstream" — Boston Green Roundtable's Strategy



Appendix D: Examples from the Field

Web sites and marketing materials change rapidly. As part of this document, included are screen shots and examples of effective branding and communications of programs, policies and agencies included in this report. This is not comprehensive, but gives an idea of the scope and depth of information available and the range of communications strategies.

See attached documents:

Green / Economic Development Examples - Chicago

Green / Economic Development Examples - Missouri

Green / Economic Development Examples - NYC

Green / Economic Development Examples - Philadelphia

Green / Economic Development Examples - Portland

Green / Economic Development Examples - San Francisco

Green / Economic Development Examples - Santa Monica

Green / Economic Development Examples - St. Louis

Green / Economic Development Examples - Miscellaneous (includes Iowa, Ohio, Metro Denver, Kilowatt Crackdown, Boston's Green Roundtable and neXus, LOMA, B-Corporation)