Chicago Climate Strategy
Concept for an Aligned Jobs Initiative
October 17, 2007

Overview

The City of Chicago is in the process of adopting an ambitious climate strategy to reduce greenhouse gas emissions. According to research by the Regional Economic Applications Laboratory at University of Illinois for the Chicago Climate Strategy, the strategy has significant job creation potential. The City only has employment impact calculations for a small share of the strategies in the Chicago Climate Action Plan. In sum, this small sample could generate employment of 5,000 to 10,000 jobs per year over existing levels. To benchmark this number, Chicago added 50,000 jobs in 2006, so the job creation just for this small set of programs could be seen to contribute in excess of 10% of the additions to the region's economy. The climate strategy could create many Chicago jobs **if** local firms take advantage of the opportunity and there is adequate job training for workers.

The Global Philanthropy Partnership is working with the Department of Environment to craft a jobs strategy aligned with the Chicago Climate Action Plan that will be released this winter. The goal of the jobs initiative would be to contribute to the Chicago economy and quality of life, but also reinforce the point that climate action is good for Chicago. Other cities have good models from which Chicago can draw ideas for a jobs initiative and a group of Chicago stakeholders already is emerging. With the right investment, the growth of environmental industries like green manufacturing and high performance construction could become key drivers in the Chicago economy.

Job and Economic Benefits of Early Action to Reduce Emissions of Greenhouse Gases

The City of Chicago has one of the most vibrant and diverse economies of any major city in the United States. It is known as a center of global commerce, finance and good old-fashioned business ingenuity. But it also increasingly is becoming known as a center of environmental innovation. In Chicago, environmental protection and economic development go hand-in-hand.

This unique convergence couldn't have come at a better time. You can't open the business section of any major daily newspaper these days without finding an article on sustainability, renewable energy, climate change or a story about how the considerable power of global markets is developing innovative business models to address the major environmental issues we face. The environmental community and the business community are no longer sworn enemies—they are increasingly becoming partners. They have recognized that the environmental challenges and crises we face are often opportunities for business innovation that can improve the environment while strengthening and diversifying the economy.

All of the strategies for reducing emissions in Chicago Climate Action Plan can increase productivity and produce new income and jobs for Chicago. There is a strong basis for this assertion, which is backed up by an increasing body of research.

Transit and Neighborhood Development Strategies

Recent research for Chicago by Impresa Consulting describes how city residents earn a "green dividend[1]" because transit and walking save people money on cars and gas. The Center for Neighborhood Technology and the Center for Transit Oriented Development have documented the cost savings that can result from living in a dense, convenient, and transit friendly community and they are significant, as much as $400/month for many people.

Shorter distances traveled means Chicago residents have more money to spend on housing and other goods and services. Residents spend this money on other things they value, which in turn stimulates the Chicago economy. Compared to other large metropolitan areas in the US, Chicagoland residents travel about 10% fewer miles every day. According to Impresa, this translates to out-of-pocket savings of $2.4 billion per year. This works out to about two-thirds of one percent of all personal income earned in the region in 2005.

Most of the dollars Chicagoans spend on fuel leave the region. In contrast, what residents save on lower fuel costs is more likely to be spent locally. Chicago's transit system and walkable neighborhoods play a key role in enabling residents to travel fewer vehicle miles. Neighborhoods that have key services so that people can walk to shopping, etc. also enable fewer trips and save time and money. The strategies in the Chicago Climate Action Plan for reducing emissions by increasing use of transit and development of walkable communities where people can shop and live will grow Chicago's "green dividend."

The Regional Economic Applications Laboratory (REAL) at the University of Illinois reviewed Chicago's climate strategies for transit and neighborhood development. REAL estimated that transit improvements will generate as many as 5,000 new jobs per year. Similarly, the research estimates that steps taken to promote walkable neighborhoods around transit stations will save $150 million in expenditures on gasoline by 2020, which, when redirected to other consumption will generate as many as 4,700 jobs/year in the region.

Energy Efficiency Strategies

Study after study has shown that energy efficiency and renewable energy have a high return on investment for Chicago and the entire Midwest. The Regional Economic Applications Laboratory (REAL) at the University of Illinois did an

[1] Joe Cortright, "Chicago's Green Dividend", 2007.

analysis of the employment and overall economic impacts of adoption of energy efficiency initiatives detailed in *Repowering the Midwest: The Clean Energy Development Plan for the Heartland*. REAL studied the economic impacts of the energy efficiency plan in Repowering the Midwest, which relies on the same measures as Chicago's retrofit programs in the Chicago Climate Action Plan and assumes the same 30 percent improvement in efficiency by 2020. REAL found that these measures would enable higher levels of economic output, free income, consumption, and investment that would be redirected and potentially increase employment in the Midwest region. The actions also will enhance opportunities for manufacturers of efficiency equipment and appliances.

Although REAL did not produce impact figures just for Chicago, the figures for Illinois show an increase in employment for Illinois of 26,000 by 2010 and 43,400 by 2020. Illinois is projected as the biggest employment winner in the Midwest. Most of these jobs will be generated in the trade, services and manufacturing durable goods sectors. These jobs will generate local income—direct and indirect—of up to $739 million by 2010 rising to $1.23 billion in the year 2020. The plan will increase Midwest economic output by as much as $2.6 billion by 2010 rising to $4.57 billion by 2020. Many of the largest beneficiaries of a conversion to energy efficiency are manufacturers already located in the Midwest. More workers will be needed, for example, to make triple-glazed windows for Andersen Windows, smart thermostats for Honeywell and Johnson Controls, energy efficient lighting equipment for Osram Sylvania, and Energy Star® appliances.

More recently, REAL looked at the economic impacts of a few of the high priority strategies that are part of the Chicago Climate Action Plan. Some of these strategies have an upfront cost to businesses and residents, such as additional insulation or Energy-Star replacement appliances. Analysis shows that this cost represents an investment with a return much higher than the cost.

Behavior Change Action

The Chicago Climate Action Plan depends not only on technology and better planning, but also changes in behavior. If a household decides to take the Chicago Climate Challenge that is part of the Chicago Climate Action Plan, it might turn off lights in rooms that are not occupied and lower the thermostat by 1-3 degrees in winter or raise it in the summer. The Plan's goal is for 50% of Chicago households to adopt these steps. Households will on average save $192, which they can use to buy other goods and services. This simple transfer will have a positive ripple effect on Chicago's economy. It turns out that expenditures on energy generate smaller ripple effects on the Chicago economy than those made on other goods and services, so much so that this modest re-allocation would generate 6,920 additional jobs in the Chicago region, as many as 2,700 jobs per year in the city itself.

Home Weatherization

The home weatherization strategy in the Chicago Climate Action Plan assumes that people will take steps to reduce energy consumption by 30% by 2020 through steps that include more energy efficient heating and cooling systems, additional insulation, energy efficient windows and so forth. These steps will require expenditures to be made by households; now funds that were formerly allocated to a whole range of goods and services will be re-directed to retrofit investment. It turns out that the initial estimate of the direct expenditures would be of the order of $1.65 million for retrofitting 65% of existing housing units. In the short-run, this would generate an average loss of 1,890 jobs per year, if these expenditures were allocated equally over the period 2008-2020. However, once the savings are realized, (about $1.79 billion over the same period), the funds formerly spent on energy will be redirected to other goods and services generating an additional 4,300 jobs in the region. On balance, the economy posts a gain of as many as 2,410 jobs per year from this single strategy.

Policy Strategies

The 30 strategies in the Chicago Climate Action Plan are aligned with the recommended policy changes of the Illinois Climate Change Advisory Group. According to economic research by ICF for the State of Illinois, all of these policies to reduce greenhouse emissions have positive income and job impacts.

Exploiting New Job Opportunities

As mentioned, it was possible to create employment impact calculations only for a small share of the strategies in the Chicago Climate Action Plan. These numbers cannot be added together as there is overlap across them. However, it is fair to say that this small sample of programs in the Chicago Climate Action Plan could generate employment of 5,000 to 10,000 annually over existing levels. To benchmark this number, Chicago added 50,000 jobs in 2006, so the job creation just for this small set of programs could be seen to contribute in excess of 10% of the additions to the region's economy.

Likely new jobs include the following:

Auditing and Appraisal Jobs: These jobs pop up wherever there are policy commitments for retrofits. Some are highly credentialed. Some are blue tech or AA jobs.

Environmental and Energy Underwriting Jobs: Trained people will be needed for environmental and energy underwriting. They will be able to certify that rehab projects meet underwriting criteria.

Contracting Jobs: More equipment will be installed and more people will have to learn how to install more types of equipment. There are likely to be many more performance-based agreements.

Manufacturing Jobs: Chicago could be an attractive place to manufacture needed goods. For example, Chicago is a center for manufacturing ballasts for fluorescent lighting. Elk Grove Village has a Pella Window factory.

Construction Jobs: The high performance construction associated with green buildings requires training for new kinds of jobs.

Community Planning Jobs: Planners for smart growth and TOD will have an important role too.

The City of Chicago wants to take steps to ensure that Chicago area residents and companies are prepared to benefit from potential green job creation.

Leveraging the Job Opportunity in the Chicago Climate Action Plan

The Global Philanthropy has proposed the following steps to understand better the job opportunity for Chicago and develop a plan to pursue it. Staff from the City of Chicago is considering these steps as well as others.

Task I: Develop White Papers to Help Target Efforts at Job Creation

The Chicago Climate Strategy can be a source of many jobs and significant economic development for Chicago. Some of the likely opportunities include the following:

Before we can design a jobs strategy, we need to know more about the capacity of Chicago's current industrial base to meet the emerging needs. We also need to know more about the training requirements for Chicagoans to fill the new jobs and the pathways for providing training.

GPP has proposed that the City of Chicago commission research projects to answer the following questions:

1. What is the economic development and job potential of the Climate Strategy?
2. What is the potential for Chicago businesses to gain market share for green products and services?
3. What is the match between anticipated demand and the current industrial sector?

4. How much could market share grow and in what sectors?
3. What sectors will create what kind of jobs?
4. What are the skill requirements?
5. What is the capacity to train for these skills requirements?
6. How can training programs be linked to community development and job training for disadvantaged residents?
7. What are the barriers?

Based upon this research, the City of Chicago would be able to choose the top priority sectors and the most important steps to expand opportunities for current businesses, create new businesses, and prepare Chicagoans for jobs.

Task II: Inventory Key Partners

The City of Chicago would play the role of a broker in this job creation initiative rather than provide funding or training itself. Its role would be to bring together the people and resources needed to develop and implement a strategy. Four key partners are as follows:

Building Trades and Apprenticeship Programs

One important partner would be the building trade unions. The City of Chicago is working with the Chicago and Cook County Building Trades Council on a summit to explore job opportunities and training needs. The Chicago Federation of Labor has access to federal funds that it would like to see help train workforce members in this area. Local 330 building engineers have participated in green technology training at the Chicago Center for Green Technology. These are just a few examples.

Union apprenticeship programs can play an important role in preparing a green workforce. Several partnerships with unions are already at work in New York. Genergy, an energy management company, is working with IBEW Local 3 electricians to develop a training program for a new metering division. The Electrical Training Institute (ETI) of Southern California offers photovoltaic training in the fifth year of its apprenticeship program in partnership with the Los Angeles County Chapter of the National Electrical Contractors Association (NECA) and the International Brotherhood of Electrical Workers (IBEW) Local Union 11. The training program covers the basics of distributed generation. In addition, the California State Employment Development Department currently has a solar training program.[2]

Green Energy Ohio—A partnership of the Great Lakes Renewable Energy

[2] Paul M. Ong and Rita Varisa Patraporn, "The Economic Development Potential of the Green Sector" (June 30, 2006). *The Ralph and Goldy Lewis Center for Regional Policy Studies. Policy Briefs*. Paper Policy_Brief_06-06.
http://repositories.cdlib.org/lewis/pb/Policy_Brief_06-06

Association and Florida Solar Energy Center -- is a 5-day Photovoltaic (PV) Installer Apprentice Program. It is designed for individuals beginning a career as a PV system integrator, combining classroom sessions with field experience to introduce students to distributed generation technologies and interconnection issues, with a focus on solar energy. The Program requires a high school diploma, basic knowledge of electricity, and competence in arithmetic. Florida Solar Energy Center is the largest state-supported research and training institute nationally in the area of renewable energy and building energy efficiency. It offers courses for continuing education units (CEUs) in the following areas: photovoltaics, solar water heating, home energy rating certification, energy-efficient building strategies, duct leak diagnosis and repair, and alternative fuel vehicles. In addition, the Center develops curricula for national and international training on renewable energy, in partnership with other organizations, and has distance education and group videoconferencing capabilities.

The Ella Baker Center and the electrical union in Oakland created the Oakland Apollo Alliance. This coalition helped to raise $250,000 from the city government to create a union-supported training program to teach young people in Oakland how to put up solar panels and weatherize buildings. It is the beginning of a "Green for All" campaign (greenforall.org) to get Congress to allocate $125 million to train 30,000 young people a year in green trades. The idea is to get these youth in on the ground floor of the solar industry now, where they can be installers today, become managers in five years and be owners in 10 years.

Community Colleges, Universities, and Technical Programs

Another important partner would be education and training institutions.
Every high skilled, high tech job requires 6 to 8 relatively sophisticated support jobs at the associated arts level.[3] There are a variety of examples of regional training partnerships among renewable energy manufacturers, installers, and training providers to develop renewable energy workforce training programs.

Lane Community College in Portland, Oregon, has been providing training for new energy efficiency and renewable energy jobs since the 1980s. The Lane Community College Energy Management Program offers two comprehensive Associate of Applied Science Degrees leading to employment in the energy efficiency and renewable energy industry. The Lane Community College Energy Management Program uses its campus buildings as a tool to teach energy analyses and renewable energy system installation. On the drawing board is a new campus "Building that Teaches" specifically for energy students to practice their new skills. The building is ready for a capital campaign and completion by 2010.

The New York Consumer Education Program for Residential Energy Efficiency is

[3] Interview Scott Bernstein, May 2007.

a four-year partnership between NYSERDA and Cornell University through which Cornell faculty and Extension Educators in the statewide network of Cornell Cooperative Extension offer training to homeowners and renters, home buyers, builders, public officials, and others about residential energy efficiency.

The Department of Environment of the City of Chicago is creating a green campus challenge through which it is developing relationships with university administrators that could include discussion of educational programs. Wilbur Wright College has reached out to MEEA, Delta Institute and the City of Chicago-Department of Environment to plan a summit on Green Education and Training to identify partners and providers.

Businesses and Trade Associations

In interviews of 25 companies in late 2006, Bain and Company found that many feel there are strong selling points to attract green business to Chicago:

- Transportation Hub: Access to strong land and water transportation systems
- Manufacturing Base: Ability to accommodate high levels of development and manufacturing
- High Density market: many potential customers in a central downtown market
- Committed city: Mayor has committed to make Chicago the "greenest city in the US". Companies are increasingly interested in green initiatives
- Energy Market: Unlike some other states, not over-penetrated with renewable energy companies. Rising energy costs and new state law make renewable energy much more attractive
- Partnerships/Networking: Possibility of contracts with the City and ability to network with other green businesses are compelling

As pointed out by World Business Chicago, no other metropolitan economy outside the greater Chicago area can match its manufacturing base, nor a larger gross regional product in manufacturing ($72.4 billion). Moreover, no other metropolitan area's manufacturing base is as diversified across as many industrial sectors or clusters. At the same time some area manufacturers are 'post-growth', making mature products, using expensive, older and inefficient manufacturing processes, and selling these to a declining number of local or regional customers. Some of these companies can be helped to identify new green markets.

Partners in green jobs could include companies in goods and services. They would range from very large companies to very small contractors and developers. Trade associations in Chicago already have expressed interest in green job and product opportunities, including the Chicagoland Chamber of Commerce and the Alliance for Illinois Manufacturing. Also the City could reach out to the industrial councils.

Economic Development Entities and Business Incubators

Chicago has existing economic development capacity that can be marshaled to promote clean jobs, as other regions have done. It would build on its current industrial recruitment and retention program and close relationships with CDCs and venture funders throughout the region.

State Government

DCEO and other state agencies would be important partners. For example, *New York State Energy Research and Development Authority (*NYSERDA) provides seed money to training programs. NYSERDA has developed several training materials and curricula related to the delivery of energy efficiency and safe building practices. (*Rick Gerardi, Program Director, Residential Energy Affordability Program, New York State Energy Research and Development Authority)*

Federal Government

The proposed federal Green Jobs Act of 2007, would amend the Workforce Investment Act to train more workers to support the country's developing green economy. The program would award grants to eligible entities to carry out training leading to economic self-efficiency and to develop an energy efficiency and renewable energy industries workforce with priority on workers earning less than 200% of the federal poverty line. The Ella Baker Center, TWA, AFL-CIO, Center for American Progress, and the Apollo Alliance have been working together on this legislation. A related venture for inner cities, "Green Collar Jobs," is spearheaded by the Ella Baker Center.

Task III: Research Models for a Green Jobs Strategy

Other cities – and perhaps also other countries -- have begun to create green jobs strategies and we need to learn from them. We need to scan these programs and identify best practices that are relevant for Chicago. Some examples from other cities are below:

NYC

In August 2006, the New York City Council launched an initiative to grow the environmentally friendly building industry. The Council's New York City Green Manufacturing Initiative, headed by the New York Industrial Retention Network (NYIRN) and New York Apollo Alliance, will strengthen the City's "green" supply chain – the network of architects, workers, and purchasers of environmentally friendly products and services with local manufacturers of these products.

Green builders are often unaware of local businesses or workers that produce "green" products and services, and therefore cannot easily access them. In response to this problem, the Council's Green Manufacturing Initiative created a database of the City's "green" products and services, and links manufacturers and builders together. The Initiative will also study ways to expand "green collar" job opportunities for New Yorkers, especially in design, construction, manufacturing and business service sectors.

Key elements of the New York City Green Manufacturing Initiative include:

- Creating a network of local "green" manufacturers, architects, and contractors: NYIRN will team up with the New York Chapter of the U.S. Green Building Council to link green manufacturers and architects, developers and contractors involved with green building projects in the city. The initiative also calls for NYIRN to add a "green" products component to the "Made in NYC" online business-to-business database and encourage outreach to more local "green" manufacturers in the program;
- Developing the market for local "green" manufacturers: NYIRN, with the assistance of its Initiative partners, will help local manufacturers build relationships with potential consumers by hosting a series of mini-trade shows and workshops to facilitate face-to-face interactions between City "green" manufactures and key "players" in the city's market for "green" products; and
- Identifying and Expanding "green collar" job opportunities: NYC Apollo, a coalition of labor, unions, business leaders, and environmental justice advocates, will study "green collar" job opportunities for New Yorkers, especially in design, construction, manufacturing and business services, and will look for ways to expand those jobs.

Cleveland

The Cleveland Foundation is helping to create an advanced energy industry cluster in Northeast Ohio. The Foundation's investment is about 70% in direct involvement to build the cluster – outreach, convening, and program development -- and 30% in grantmaking. The Foundation is taking a holistic approach by building partnerships, working with academic institutions to identify research with commercial potential, seeking financial capital, providing loans and grants, supporting studies, persuading companies to set up demonstration projects, promoting opportunities in the business community, supporting capacity building for nonprofit groups, and increasing public awareness and education. The Cleveland Foundation is developing a partnership with the Advanced Energy Research Institute at Case Western Reserve, which could be the engine for new technology and business development. The Foundation also will cultivate both private capital and public sector funding for wind, solar, bio-energy, and more.[4]

[4] Richard Stuebi, The Cleveland Foundation, Interview, June 2007.

The Cleveland Foundation believes that a regulatory agenda is needed to help drive innovation and market development and, therefore, is spending 60% of its time on policy. The top two or three items on the policy agenda are a renewable portfolio standard for Ohio, decoupling utility profitability and volumes, better codes and efficiency standards, and cap and trade or some other related policy.[5]

Oakland

Oakland's older manufacturing hub has lost many good jobs. The Ella Baker Center for Human Rights launched a campaign to help Oakland redevelop as a model green city. Along with the IBEW and the National Apollo Alliance, it convened the Oakland Apollo Alliance to demonstrate the potential for "green jobs." The Ella Baker Center is pursuing three proposals:

1. Create the nation's first "Green Jobs Corps," a training pipeline and partnership between labor unions, the community college system, and the City to train and employ residents—particularly hard-to-employ constituencies—in the new green economy.
2. Declare "Green Enterprise Zones" in Oakland—areas where green businesses and green-collar employers are given incentives and benefits to locate and hire.
3. Green the Port, building on an inspiring success story in Los Angeles, where a healthy port program is dramatically reducing emissions. [6]

All three proposals are linked. Converting the Port to biodiesel creates demand for a fueling station and a manufacturing plant nearby. Businesses in the Green Enterprise Zone will hire Jobs Corps graduates.

The pilot Green Jobs Corps will:

- Recruit participants and provide them with ongoing support;
- Teach participants "soft" skills: general life skills necessary to be successful in any work environment;
- Teach participants "hard" skills: specific required to work on new energy projects as a member of the Oakland Green Corps;
- Provide participants with employment experience for a limited time on City-funded renewable energy and efficiency projects;
- Support participants in transitioning from the Oakland Green Jobs Corps into independent employment.

The Ella Baker Center and the Apollo Alliance hope that the Green Jobs Corps can become a national collaborative model.

Pittsburgh

The western Pennsylvania Green Building Alliance is trying to create a regional

[5] Richard Stuebi, The Cleveland Foundation, Interview, June 2007.
[6] Van Jones and Ben Wyskida, **Creating Green-Collar Jobs**,TomPaine.com, January 23, 2007.

center for manufacturing green building products. Pittsburgh is already third in the nation in both the number and square footage of green buildings. The Green Building Alliance wants to maintain and add to the area's 68,000 jobs in the building supply industry. The Alliance provides technical assistance to builders and developers on how to work together and also works with manufacturers on researching and retooling to make new green products.

In October 2006, the Green Building Alliance received $250,000 from the Heinz Endowments and $1 million from the Ben Franklin Technology Development Authority, Pennsylvania's technology-based economic development program, to promote product and production research and attract green manufacturers to the region. Ben Franklin gave another $1 million to Philadelphia University to lead similar activities in the eastern part of the state. The two organizations are joining forces as the Pennsylvania Green Growth Partnership, a statewide alliance to help companies develop environmentally friendly building products. The project will start by building a Web-based database of products and manufacturers to make it easier for contractors to find and use green products.

Los Angeles

Los Angeles' mayor is developing a cluster economic development strategy that includes biotech and green business. encourages recycling, energy efficiency, water conservation, and other steps. The Mayor's Office of Economic Development and Housing is heading an effort to develop a comprehensive economic plan that will divide the economy into different economic sectors or industries. Growth sectors include: international, tourism, entertainment, biotech, green, fashion and digital. The city will focus its efforts on these particular industries as a way to garner more specific economic policy.

A recent paper recommended the following next steps for Los Angeles that could apply to other regions[7]:

1. Adopt goals for green technology in L.A that include creating new jobs for city residents with career paths out of the low-wage consumer services sector into living-wage jobs in the green technology sector.
2. Intentionally attract industries that will increase demand for the right kinds of jobs.
3. Build connections between Los Angeles' green technology industries and markets for their goods and services:
    - Meet with green technology business leaders to learn about their plans, needs, priorities, and suggestions for public assistance. Find ways for government to reduce friction in the marketplace
    - Provide opportunities for local businesses in green technology industries to learn about public sector needs for green products and

[7] Laurie Kaye, Attracting "Green Industry": An Economic Development Approach for the City of Los Angeles, The Ralph and Goldie Lewis Center for Policy Studies, UCLA, Student Reports, June, 2006.

services. Stimulate demand for the right goods and services.
    - Where possible give local preference or require local content for public purchases of green products and services.
4. Promote the "greening" of Los Angeles, including energy and resource conservation, sustainable transportation, green architecture, recycling, waste reduction, and pollution prevention. Stimulate demand for the right goods and services through public policies that alter private sector behavior.
5. Identify how Los Angeles' job training, economic development and business assistance programs can be used to support the growth of green technology businesses.
6. Investigate opportunities for economic growth in industries that provide important green technology inputs but are under-represented in the local economy. This includes "upstream" suppliers of green technology industries as well as suppliers identified through further research and implementation activities. Facilitate growth in demand for goods and services throughout the supply chain, not just finished products.
7. Strengthen links between L.A.'s research universities and green technology industries to increase technology transfer, consulting assistance, and business start-ups.

Task IV: Moving Ahead

Whether the City of Chicago pursues the strategy in the concept paper or another one, the City is committed to take advantage of the potential to create jobs and improve quality of life through the Chicago Climate Action Plan. There will be a jobs strategy aligned with the Chicago Climate Action Plan. The next step will be to work with partners to create pilot programs and take them to scale.