



Saving Energy, Growing Jobs

Illinois' Energy Efficiency Industry



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Table of Contents

Executive Summary	1
Introduction	4
Energy Efficiency Is the Quickest, Cheapest, Smartest Way to Meet Future Energy Needs	6
Energy Efficiency Reduces Global Warming and Air Pollution	6
Energy Efficiency Saves Money for Illinois Residents and Businesses	7
Illinois' Energy Efficiency Industry Creates Jobs Across the Economy	8
Energy Raters and Auditors	10
Comprehensive Energy Management Companies	15
Building Weatherization Contractors and Agencies	16
Manufacturers of Energy Efficient Products	18
Distributors and Retailers of Energy Efficient Products	22
Designers and Builders of Energy Efficient Buildings	24
Illinois Should Continue to Build Its Green Energy Economy by Investing in Energy Efficiency	31
Notes	33

Executive Summary

Every day, thousands of Illinois residents go to work to make our state more energy efficient. Across the state and in fields ranging from manufacturing and installation to architecture and engineering, Illinois has a thriving energy efficiency sector. **At least 330 individual businesses and 737 retail outlets in Illinois are already working to increase the efficiency of our state's homes, businesses and industry.**

Energy efficiency is the quickest, cheapest, smartest way to reduce pollution and curb our dependence on fossil fuels. By continuing to invest in energy efficiency, Illinois can create jobs right now and enjoy the benefits of decreased pollution and fossil fuel dependence well into the future.

Energy efficiency reduces global warming and air pollution—quickly, cheaply and effectively.

- Illinois could save 21.4 percent of the electricity and 46.9 percent of the natural gas that we currently use by implementing energy efficiency improvements, according to research by the Midwest Energy Efficiency Alliance.

- These reductions in energy use would cut Illinois' total global warming emissions by 18.4 million metric tons per year. That is equivalent to the annual emissions of 3.5 million cars. They would also reduce emissions of pollutants that form smog and soot by 6 percent, making the state's air cleaner and healthier to breathe.
- Improving energy efficiency saves Illinois residents money. An average family that receives weatherization services through Illinois' Weatherization Assistance Program, for instance, saves \$437 on its energy bills the next year.
- Illinois has already begun to tap its efficiency potential. In 2007, the state adopted an Energy Efficiency Resource Standard requiring electric utilities to hit targets for energy efficiency savings. A 2009 law set a similar requirement for gas utilities.

Illinois' energy efficiency industry creates jobs across the entire economy. More than 330 independent companies

and 737 independent and chain retail outlets work to make the state more energy efficient, employing thousands of workers.

- Illinois' energy efficiency companies are part of a growing national industry. In 2006, the nation's energy efficiency industry employed 2.1 million people, a number that could skyrocket by 2030 if the nation continues to prioritize efficiency.
- Sieben Energy Associates of Chicago is one of at least 40 Illinois companies that perform **energy ratings and audits** to identify opportunities for homeowners and businesses to improve energy efficiency. Since 1990, the company has grown to employ 25 people, and regularly takes on large-scale projects
- The Sangamon County Department of Community Resources is one of at least 63 businesses or agencies in Illinois that **weatherize homes and buildings**, providing free services to low income clients. Thanks to funding from the American Reinvestment and Recovery Act (ARRA), the department was able to hire four new full-time auditors and weatherized four times as many buildings in 2010 as in 2009.
- Serious Materials of Chicago is one of at least 73 companies that **manufacture energy efficient products** in Illinois. After learning of new incentives for efficiency under the ARRA, Serious Materials purchased the recently closed Republic Window and Door factory in Chicago, and rehired some of the laid off workers.
- Better Way Builders of Brighton is one of at least 120 companies that

design or build energy efficient buildings. As a small business in the homebuilding industry founded shortly before the housing crash, Better Way would appear to be vulnerable to the slump in its industry. In fact, the owners report that strong demand for energy efficient homes has kept them busy right through the recession.

- At least 21 Illinois companies provide **commercial efficiency services**, guiding companies and institutions through the process of identifying and taking advantage of opportunities for efficiency savings.

Energy efficiency can be an engine of growth for Illinois' economic future.

- The American Solar Energy Society projects that energy efficiency could create up to 32.1 million jobs nationwide by 2030.
- Illinois has lost 61,000 construction jobs and more than 100,000 manufacturing jobs during the economic downturn. Since many of the jobs created by energy efficiency spending are in those two fields, increased investment in energy efficiency could reduce unemployment in these two sectors.

Illinois should continue to expand and strengthen its energy efficiency policies and programs.

- In 2007, Illinois adopted an **energy efficiency resource standard** that commits the state to saving 2 percent of the electricity it would otherwise use every year. State leaders should make sure that this standard is implemented well, and remove policy barriers to its implementation so that

Illinois receives the greatest benefits possible.

- The Illinois Power Agency, which procures the power distributed by Illinois's electric utilities, should **procure efficiency instead of electricity** when it is the least cost option.
- Illinois has adopted the strongest **national model building codes**. To ensure that we continue to benefit from advances in efficient design and construction, Illinois should make sure that all jurisdictions in the state

automatically adopt the strongest national codes.

- Illinois should adopt **appliance efficiency standards** for products it has not yet covered with its current standards, like televisions.
- Illinois should continue to work with other Midwestern states to implement policies to **reduce global warming pollution**, which would also spark increased investment in clean energy solutions such as energy efficiency.

Introduction

In the 20th century, Illinois reaped the benefits of being at the heart of America's booming industrial economy. In the years after World War II, Illinois workers enjoyed high wages and good job security in the state's countless manufacturing plants. In turn, rising wages and purchasing power in the middle class created a virtuous circle through which Illinois, the industrial Midwest, and the nation became more prosperous than any society in history.

In recent decades, however, Illinois' economic foundation has become shakier. Increased mechanization has replaced jobs in some manufacturing fields, while competition from abroad has led some factories to close. And while parts of Illinois have enjoyed the benefits of rising "21st century" industries in high tech, health care, and the like, other attempts to fill the state's economic void—most recently, through the rapid growth of the housing industry that defined much of the 2000s—have proved unsustainable.

No industry can lift Illinois' economy singlehandedly in the next decade, but there is work being done in the state that can create jobs while making the state more

economically competitive as a whole. Businesses in certain industries provide skilled jobs, offer important social benefits, and make our state more competitive nationally and internationally.

One such industry is the "energy efficiency industry." In fields ranging from energy efficient home construction to manufacturing of Energy Star appliances, companies that work to improve energy efficiency are creating jobs while saving Illinois money and protecting the environment. In Brighton, Better Way Building Company is finding success as a startup construction company in a tough home building market by emphasizing energy efficiency. In Chicago, the Center for Neighborhood Technology is showing landlords how they can slash their energy bills through building renovations—putting contractors to work and keeping housing affordable. In Rockford, Alpha Controls and Services is installing heating and ventilation systems that help building managers decrease their energy needs and operating costs even as they maintain high performance.

As Illinois' potential for energy efficiency improvements has come into clearer focus,

hundreds of Illinois companies have stepped up to meet the growing demand. The potential for further growth, though, remains immense. For instance, the hundreds of skilled workers who will renovate almost 20,000 homes in our state this year could see their ranks grow tenfold and still have years of productive work in front of them renovating our state's millions of old buildings.

Investment in energy efficiency makes Illinois more energy independent, creates skilled jobs, and places the state in the lead in a growing industry. As our leaders look to lay the foundation of a prosperous 21st century economy, clean energy industries such as energy efficiency can play an important role.

Energy Efficiency Is the Quickest, Cheapest, Smartest Way to Meet Future Energy Needs

By increasing the efficiency of our homes, businesses and factories, Illinois could use far less energy than it does today, with environmental, health and financial benefits for residents.

Today's buildings leak energy through poor insulation, badly sealed ducts, and thin doors and windows with cracks around them. Outdated or poorly built appliances and light bulbs use far more energy than necessary. Factory buildings leak energy in the same ways, and their processes waste even more energy that could be used more efficiently to produce the same results.

This energy waste is a problem for Illinois, but it's also a huge opportunity. By capturing wasted energy and putting it to good use, Illinois can use far less energy than it does today, while keeping homes and businesses just as comfortable and producing just as much in the state's factories.

Reducing Illinois' energy consumption by cutting down waste will help the state solve the urgent problems created by our current dependence on fossil fuels. In particular, energy efficiency will help Illinois reduce its global warming emissions and air pollution, and cut utility bills for residents and business owners.

Energy Efficiency Reduces Global Warming and Air Pollution

Reducing wasted energy also reduces global warming pollution and other air pollution. This is particularly true in Illinois, since much of our electricity is produced using coal, a particularly dirty fuel.

Illinois produces just under half of its electricity from coal.¹ When burned, coal produces compounds that create smog and soot, which can cause health problems when inhaled. Low levels of soot and smog inhaled over the long term can cause or aggravate a host of health problems, especially lung problems and cancer, while inhalation of high levels of pollution can damage lungs and send vulnerable people to the emergency room.²

Burning coal also produces carbon dioxide, the leading contributor to global warming. In 2007, Illinois' use of coal produced 101 million metric tons of carbon dioxide, 42 percent of the state's total emissions.³ Natural gas, which is used to heat 81 percent of Illinois homes, produces additional carbon dioxide. Global warming could significantly alter Illinois' environment, harm

the economy and impair public health. Carbon dioxide emissions from Illinois' electricity production have increased over the last two decades, growing 26 percent between 1990 and 2007.⁴ Today, Illinois' carbon dioxide emissions are the sixth highest in the country.⁵

Illinois' potential for energy savings and emission reductions from efficiency are tremendous. A study by the Midwest Energy Efficiency Alliance (MEEA) found that Illinois has the potential to reduce residential electricity use by 21.4 percent and residential natural gas use by 46.9 percent from projected consumption.⁶

If realized today, those savings would cut Illinois' total global warming emissions by 18.4 million metric tons (MMT), more than 7 percent of Illinois' total emissions in 2007, and the equivalent of taking 2.5 million cars off the road.⁷ Emissions of sulfur dioxide and nitrogen dioxide, two pollutants harmful to human health, would be cut by more than 6 percent.⁸ These figures reflect the potential for savings from the residential sector alone; pursuing commercial efficiency measures as well would result in further emission reductions.

Energy Efficiency Saves Money for Illinois Residents and Businesses

Energy savings through improved efficiency directly translate into lower electricity and gas bills. These ongoing savings often far outstrip the increased cost of a higher efficiency light bulb or a high-performance motor, delivering net savings over time. An analysis by the American Council for an Energy-Efficient Economy found that national energy efficiency programs could save Illinois consumers \$744 a year per household by 2030.⁹

MEEA found that more than half of the potential for residential energy efficiency came from improvements that cost less per kilowatt-hour of electricity saved than electricity costs today in Illinois.¹⁰ For example, a homeowner will find that savings on electricity and replacement bulbs more than justify investing in compact fluorescent light bulbs (CFLs). The bulbs effectively pay for themselves in less than four months, and replacing five bulbs will save the consumer \$370 over their useful lifetime.¹¹

Other efficiency measures can have very quick payback times as well. For example, Energy Star gas furnaces can pay back their additional cost in fuel savings within one to five years depending on equipment type—with savings throughout the remainder of their typical 18-year lifetime returning as profit.¹² Improved furnace fans can save a homeowner in a cooler climate on the order of 680 kWh per year—\$75 annually, at Illinois electricity rates—paying for themselves in about two years.¹³

Efficiency measures have the same effect for industrial, commercial and institutional customers. Low-hanging fruit (such as installing improved controls for building environmental systems) can often yield an extremely high return on investment—in a few cases, as large as 1,000 percent. For example, Adobe, Inc. reprogrammed the central air conditioner and water heater in its headquarters in San Jose, California, to operate more efficiently and according to the actual needs of the building, yielding over \$50,000 a year in energy savings at a one-time cost of \$1,000.¹⁴

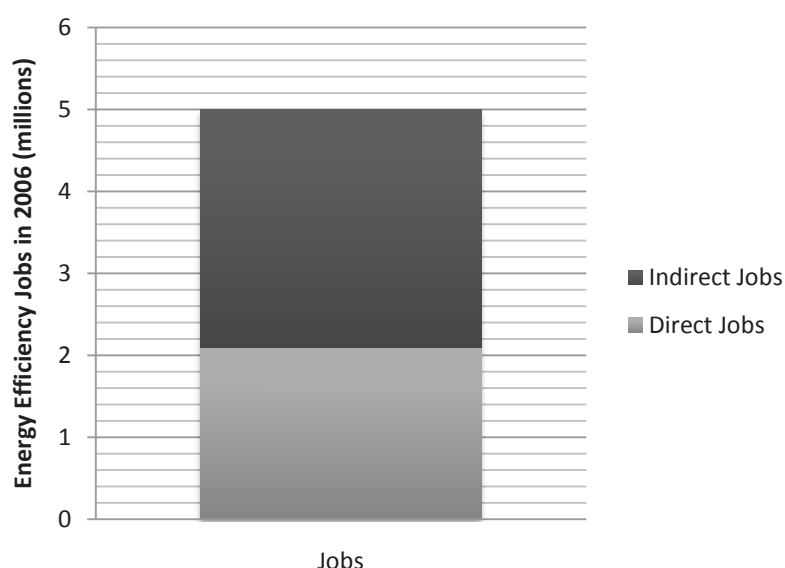
These energy savings put more money in pocketbooks and boost businesses' profits. For Illinois' economy, these savings mean higher consumer spending, as well as businesses and manufacturers that have more resources with which to expand and hire more employees.

Illinois' Energy Efficiency Industry Creates Jobs Across the Economy

When Illinoisans think about “green jobs,” they tend to think about workers building wind turbines or installing solar panels on rooftops. Jobs in businesses that promote energy efficiency are less glamorous, but are potentially even more important for moving Illinois toward a clean energy future. The “energy efficiency industry” is hard to define because the work of improving energy efficiency is dispersed

throughout the economy. No one “builds energy efficiency,” but thousands of people build energy efficient buildings. Nor does anyone “manufacture energy efficiency,” though factories all across Illinois—from the Eagle Panel Systems insulated panel factory in Willow Grove to the Solid State Luminaires LED lighting factory in St. Charles—manufacture the building components, appliances, light bulbs, and

Figure 1: Jobs supported by America's Energy Efficiency Industry



Indirect Jobs: The Ripple Effects of Efficiency

Energy efficiency creates a number of jobs for workers directly involved in implementing efficiency measures. Those aren't, however, the only jobs created by efficiency programs—or even the majority of those jobs.

Efficiency creates jobs indirectly in two ways.

First, the economic activity generated by efficiency measures generates a ripple effect through the economy. When someone takes a job at an energy efficiency company, they have a paycheck to spend—which helps create jobs in the businesses where the newly employed person spends their money. Meanwhile, the efficiency company also purchases goods and services from companies in its supply chain, spurring hiring at those businesses, and launching a similar ripple effect.

Efficiency also creates jobs by freeing up money that would otherwise be spent on fuel. A homeowner who has extra money in his or her pocket each month because of a lowered gas bill can spend that money on other things—like extra nights out at local restaurants, or new living room furniture. By lowering energy costs, efficiency drives up demand in the rest of the economy.

electronics that go into making the state more efficient.

The energy efficiency industry includes those manufacturers and homebuilders, along with the energy auditors who identify opportunities for efficiency, the architects who design new buildings and assist with retrofits, the construction workers who install new insulation and equipment in aging buildings, the truck drivers who deliver energy efficient products to stores, and the retail workers who sell them.

Energy efficiency is not only a powerful tool for reducing emissions and saving consumers money, but it is also a source of good jobs, with the potential for even greater growth. Millions of Americans already work in the energy efficiency industry; a 2007 study concluded that the sector employed 2.1 million workers. The secondary effects of that economic activity support another 2.9 million jobs in supply chains, restaurants, and other sectors of the economy.¹⁵

Sizable though the energy efficiency sector is, it still has room to grow. Under

a “business as usual” scenario that assumes no dramatic policy changes or increases in research investment, 14.9 million Americans are expected to work in the energy efficiency industry or in a job supported by that industry in 2030.¹⁶ Policies that promote energy efficiency could increase the size of that industry even further; if states and the federal government adopt the strongest possible policies to encourage efficiency, and support research into energy-saving technologies, the number of jobs in or supported by the energy efficiency industry could grow as large as 32.1 million by 2030.¹⁷

The energy efficiency industry takes many forms—from family businesses that audit and weatherize homes in their community to energy service companies and retailers that employ hundreds or thousands of people. Illinois' energy efficiency economy is comprised of at least 1,072 businesses and retail outlets spread throughout the state. The largest of these companies are listed on the Fortune 500; the smallest are one or two person startup

operations. The greatest concentration, naturally, is in and around Chicago, but energy efficiency businesses operate in every large city in Illinois and in smaller towns in all parts of the state. In the sections below, we describe a few of these businesses and the sectors in which they operate.

Energy Raters and Auditors

Hiring an energy auditor is an important first step in improving the energy efficiency of a home, business, or manufacturing plant. An energy auditor identifies the sources of the building's energy waste and provides concrete recommendations for upgrades. At least 40 businesses in the state perform home energy audits, with

many providing additional services as well (such as weatherizing homes).

Illinois needs energy auditors for at least two reasons. First, consumers seek audits because energy efficiency improvements that auditors suggest are an attractive way to save money. Many of the simplest weatherization projects are cheap and will substantially lower energy costs, and people need information about what projects to undertake and where to start to improve efficiency. Second, the state needs more auditors because policies such as the Public Utilities Act, the 2009 natural gas efficiency law, and Chicago's climate action plan all set aggressive efficiency targets for utilities and the state. As a result, energy companies and government agencies are offering low-cost audits to homeowners and businesses to reduce energy usage, lower operating costs, and fight global warming.¹⁸ For these reasons, it is not surprising that the *U.S. News and World Report* has named energy auditing one of the best fields in which to start a small business.¹⁹

Instead of just assessing specific potential energy waste, such as leaky windows, out-of-date appliances, or inefficient light bulbs, auditors adopt a "whole-building" approach that looks at the building as an integrated system. Energy auditors perform an array of tests on buildings to assess their energy performance, ranging from infrared imaging (to identify poorly insulated areas) to blower door tests (to find air leaks). The auditors then enumerate potential energy-saving improvements to the home or building, with projected costs, savings, and materials. Thus, home and business owners can quickly determine the best ways to improve the efficiency of their buildings and lower their annual energy costs.

Energy audits can be performed at any time during the life of a building. Though most commonly employed to work on existing buildings, energy auditors increasingly

Figure 2: Locations of Illinois Energy Efficiency Businesses

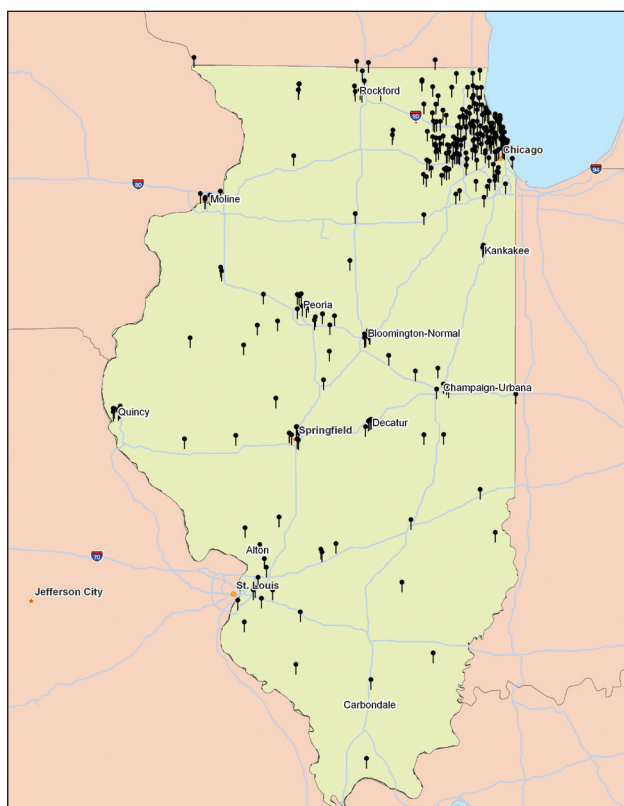


Figure 3: Energy Efficiency Businesses in the Chicago Region

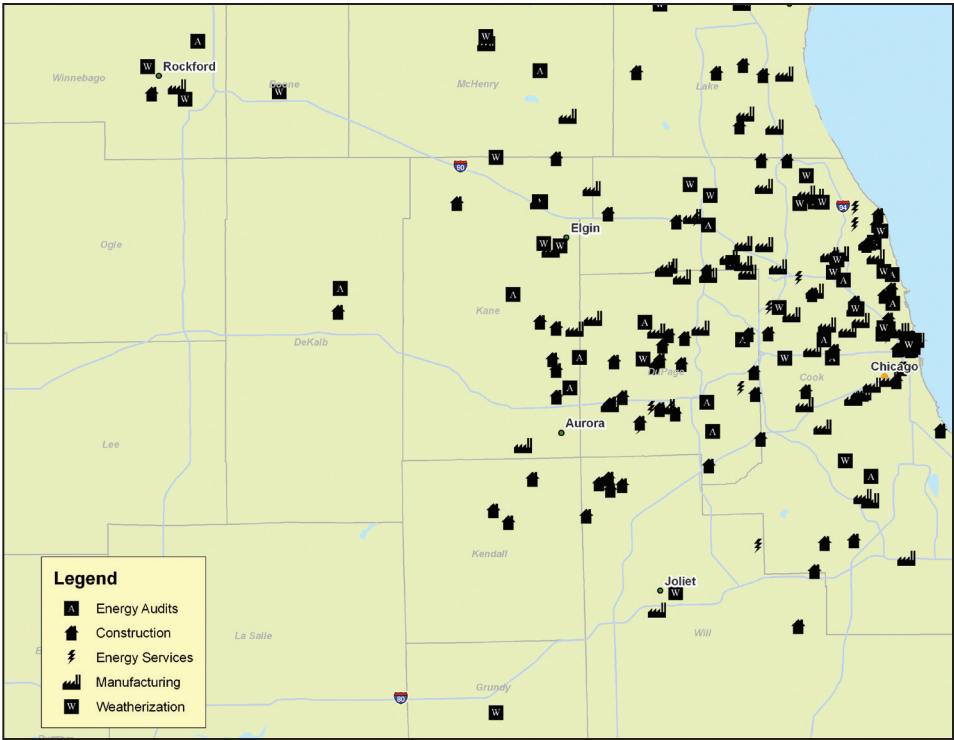
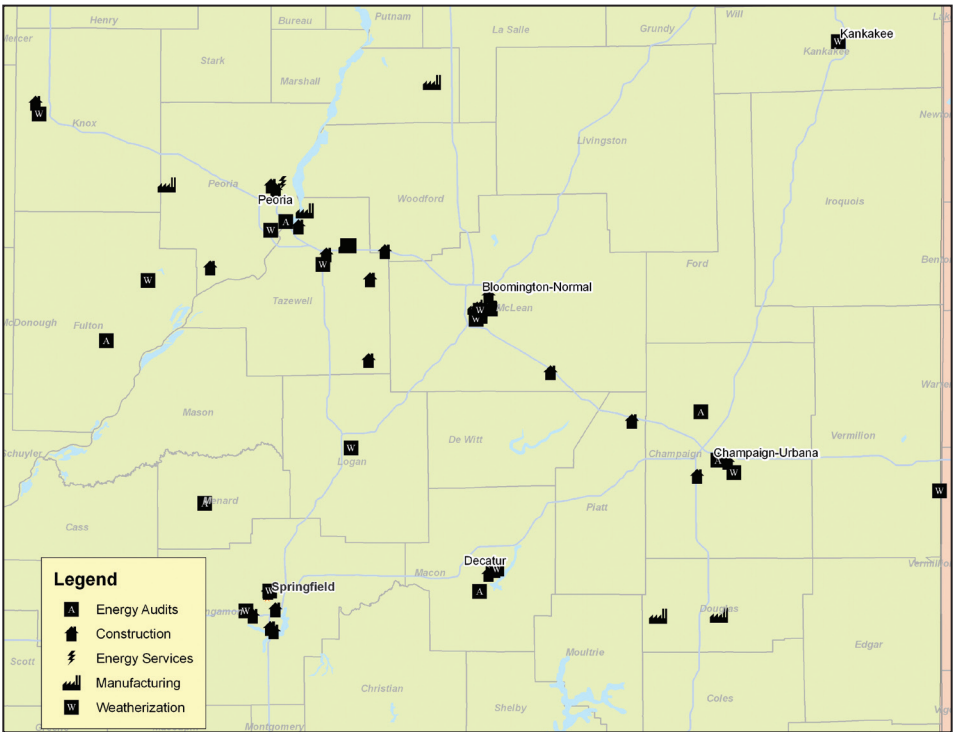


Figure 4: Energy Efficiency Businesses in Central Illinois



are involved during pre-construction, using software that analyzes a building's design. After construction is complete, additional tests can be run to determine whether the

building is actually delivering the intended level of energy efficiency.²²

Auditors help create other jobs across the energy efficiency industry. Once a

Twenty Years of Energy Efficiency Leadership: Sieben Energy Associates of Chicago

When Craig Sieben launched his energy consulting firm, Sieben Energy Associates (SEA), out of his apartment in 1990, he was one of the earliest entrants into the field of energy efficiency. With a degree in energy policy and planning, he was convinced that he could make his living showing companies how to decrease their energy costs. It wasn't, at the time, an entirely conventional idea.

"At the beginning," he recalls, "we found ourselves in the position of explaining to potential clients what we were offering, not simply how they could benefit from our services."

One of the services Sieben found himself explaining was energy auditing for commercial customers, a critical element of his business then and now. SEA's energy engineers comprehensively examine an entire building—from the insulation value of the walls and windows, to the machinery and layout of the building's mechanical systems, to the efficiency of any industrial processes carried out in the building. Based on this examination, the team then recommends strategies for increasing the building's efficiency. The proposed investments usually allow the building to consume 5 to 20 percent less energy, through measures that generally pay for themselves within five years.²⁰ SEA believes that an independent energy audit of this kind is a critical step for a building owner looking to save energy, since an independent auditor is free from any need to recommend more services than would be advisable, and acts strictly in the client's best interest.

Today, SEA is one of a growing number of companies that provide services of this kind, but stands out for its longstanding expertise. At the company's founding in 1990, however, the concept of energy efficiency as a business proposition was new and unfamiliar, and only a few other companies were in the field. Potential customers had heard of energy conservation—saving energy by cutting back on activity—but the idea that their businesses might be rife with opportunities to save energy without cutting back was a new one.

Right from the start, though, Sieben was able to convince enough customers of the value of his services to stay afloat and begin growing. As energy efficiency has become more and more widely recognized as a cost saving opportunity, Sieben has been able to keep expanding. Since 1990, his one-man startup has grown into a staff of over twenty that serves many of Illinois and the nation's largest companies. SEA remains a Chicago-based company, and Illinois projects are a central element of its business, but the company has grown into a national presence, working with Fortune 500 companies and taking on contracts involving dozens of buildings across multiple states. Since 2007, SEA has worked with the Metropolitan Chicago

(Sieben Energy cont'd. next page)

building undergoes an energy audit, the owner implements the plans and changes to save energy—creating more work in energy efficiency. To weatherize or construct

a building, the owner employs construction workers; to replace an appliance, the owner gives business to a manufacturers, retailers, and installers.

(Sieben Energy cont'd.)

Healthcare Council (MCHC) as a strategic and technical consultant for their Energy Improvement Program. Healthcare facilities face unique energy and sustainability challenges due to the need to provide round-the-clock patient care and meet numerous sanitation and other regulatory requirements. The first program (ten hospitals) took place in 2007-2008. The second program year—2009-2010—SEA worked with four additional hospitals.

SEA conducted an audit of each facility's heating, cooling, water, and lighting systems. Using the data from these onsite surveys, historical energy usage and cost trends, and interviews with building staff, the team customized an energy improvement plan to fit each hospital's specific challenges, needs, and opportunities. At each site, SEA identified several no- and low-cost energy savings opportunities that would not adversely impact patient care or operational excellence.

The project aims to reduce annual energy expenditures at each participating hospital by 2–10 percent. The average estimated reduction in energy costs was 5.3 percent in 2007-2008, and 6 percent in 2009-2010. The energy efficiency recommendations identified in the 2009-2010 program, properly implemented, are projected to save each hospital \$642 per bed on average.

In addition to uncovering these immediate opportunities, SEA worked closely with each hospital's engineering staff to provide them with a strategic energy management plan to guide future improvements.

Over the twenty years his company has been in business, Sieben has seen the energy efficiency market grow and transform around him. Customers who wouldn't have considered paying for an energy audit in 1990 now actively seek the company out. Where Sieben was once relatively alone in a new field, today he can partner with other Illinois companies on efficient design projects, or recommend a number of local efficiency contractors to clients who are looking to follow up on an audit's recommendations.

As for the future, Sieben sees opportunities for energy efficiency growing steadily. Programs like ComEd's "Smart Ideas for Your Business," a program created because of the state's 2007 efficiency law which offers businesses financial incentives for pursuing energy efficiency projects, have increased awareness of efficiency as a strategy. Sieben cites increased focus on efficiency from a number of levels—ranging from national political leaders to utility companies and local elected officials—as an important factor in creating more demand for efficiency. The future will bring new challenges—for one, new competitors are springing up as efficiency's growing profile makes it a ever more popular business idea—but Sieben is convinced that the team of people who have helped SEA grow from an apartment-based startup to a national presence will help keep it growing for years to come.²¹

Table 1: Energy Auditors in Illinois

Company	Town	County
A Anderson Building Systems	Petersburg	Menard
American Renewable Energy	Evanston	Cook
Blue Sky Energy Rating, Inc.	Waterloo	Monroe
Bluestone Energy Services	Chicago	Cook
Building Energy Experts	Crystal Lake	McHenry
Burlingame Home Inspection Services	Champaign	Champaign
Chapala Energy Consulting	Evansville	Randolph
Chicago Energy Consultants	Chicago	Cook
Conservation Services Group	Peoria	Peoria
Cornerstone Energy Group	Chicago	Cook
D/R Services Unlimited	Glenview	Cook
Domus Plus	Chicago	Cook
Eco Energy	Elgin	Cook
Eco Sun, Inc.	Carol Stream	DuPage
Energistics	Bloomington	McLean
Energy 360 Solutions	Rolling Meadows	Cook
Energy Audits of Chicagoland	River Forest	Cook
Energy Auditiz	Vernon Hills	Lake
Energy Pro Source	Sycamore	DeKalb
EnergyMen	Chicago	Cook
eZing	Oak Park	Cook
First Energy Conservation	Chicago	Cook
Go Goby	Chicago	Cook
Green Dream Group	Chicago	Cook
Green Home Inspections and Energy Auditing	Decatur	Macon
Green Light Limited	Champaign	Champaign
Indoor Sciences	Chicago	Cook
Intelligent Energy Solutions	Batavia	Kane
Kouba-Cavallo Associates	Downers Grove	DuPage
LA Robbins and Associates	Elmhurst	DuPage
LED Light Energy LLC	Chicago	Cook
Midwest Energy Audits	Chicago	Cook
Midwest Energy Systems	Elk Grove Village	Cook
Midwest Sustainable Energy Contractors Inc.	Moline	Rock Island
New Edison Energy LLC	St. Charles	Kane
Northern Illinois Home Energy Raters	Loves Park	Boone
Priority Energy	Chicago	Cook
Sieben Energy Associates	Chicago	Cook
Stumptail Energy Audits	Downers Grove	DuPage
Thermal Imaging Services of Central IL	Lewistown	Fulton

Comprehensive Energy Management Companies

Homeowners or small businesses who seek to improve their energy efficiency often begin by calling in an energy auditor to evaluate the potential for energy savings, then hire a separate contractor to implement the changes, and leave the job of managing their ongoing energy use to themselves. Large businesses and factories, however, often seek out the services of energy management or energy service companies that combine these functions under a single roof.

These energy management companies often take ongoing responsibility for optimizing a business's use of energy—identifying opportunities for improved energy efficiency, implementing those solutions, and providing ongoing consulting and

management to ensure that the promised benefits of energy efficiency improvements are actually realized.

At least 21 businesses in Illinois perform comprehensive energy management. Some of these are energy service companies, which perform an energy audit and then manage the process of carrying out their recommendations, identifying and supervising contractors. Others follow up their audits with the installation of specialized components to meet the energy needs that they identify. These businesses are generally large, with dozens or hundreds of employees, which enables them to bring together the range of different specialists needed to analyze and transform how a large building uses energy.

Beyond analyzing buildings and mechanical systems to recommend efficiency

Table 2: Comprehensive Energy Management Companies in Illinois

Company	Town	County
Alpha Controls and Services	Rockford	Winnebago
Burns and McDonnell	O'Fallon	St. Clair
JND Property Management	Belleville	St. Clair
Environmental Systems Design	Chicago	Cook
Synergy Viridis LLC	Chicago	Cook
e-One	Chicago	Cook
TerraLocke Sustainability Consultants	Chicago	Cook
Entech Utility Service Bureau	Chicago	Cook
GH Michaels Associates	Evanston	Cook
Hill Mechanical Operations	Franklin Park	Cook
Bright Ideas Energy Solutions	Homer Glen	Will
Patrick Engineering Inc.	Lisle	DuPage
MWE2, LLC	Naperville	DuPage
PCM Thermal Solutions	Naperville	DuPage
Nalco Company	Naperville	DuPage
Farnsworth Group	Peoria	Peoria
e-Sight Energy	Schaumburg	Cook
Energy Cost Reduction Associates, LLC	Skokie	Cook
Recycled Energy	Westmont	DuPage
Future Energy Enterprises, LLC	Wilmette	Cook
Siemens Industry Inc.	Addison	DuPage

improvements, comprehensive energy management companies are often capable of helping to implement the recommendations they make. In some cases, this extends to manufacturing specialized components for energy systems, or continuing to operate a building's HVAC system long after the end of the initial project. As companies in this field are generally large, they often offer specially tailored packages to each customer, calling on the expertise of a number of different employees.

Many energy service companies use a payment model under which, instead of paying for the company's services up front, customers pay the company a share of the savings they realize after the work is done. If the renovations fail to deliver the expected savings, the energy service company bears the cost.²³ This model is particularly useful for institutional or government customers, which may have difficulty financing an improvement with loans; commercial customers are more likely to pay for their improvements up front.

Building Weatherization Contractors and Agencies

Aging homes are filled with opportunities for energy savings. Leaky windows, poorly insulated walls, and outdated appliances all waste energy. Through weatherization—the process of retrofitting a home for greater efficiency—homeowners can decrease their energy bills sharply, increasing the resale value of their home as well as saving them money immediately. Common steps undertaken during weatherization include patching leaks, replacing windows, and adding insulation in walls and around pipes and boilers. At least 63 businesses and community organizations offer weatherization services to Illinois residents.

Weatherization can cut a home or business owner's utility bills substantially. The American Council for an Energy Efficient Economy (ACEEE) estimates that an aggressive weatherization project can lead to savings of 20 percent or more just from sealing leaks and adding insulation; duct repair and sealing can save a further 15 percent, and other measures such as installing more efficient heating and air conditioning equipment can also contribute significant savings.²⁴ A national study of the benefits of weatherization found that natural gas consumption for heating declined by 32 percent on average in homes that were worked on through the National Weatherization Assistance Program (which generally targets older buildings with greater than average savings potential).²⁵



Workers renovate a home in Grayslake, installing additional insulation and efficient windows. Photo Credit: Warren Gretz. Courtesy DOE/NREL.

Illinois has many aging buildings that are particularly likely to benefit from weatherization. Almost one quarter of homes here were built before 1940—significantly more than the national average.²⁶ Homes constructed in that time period use twice as much energy for space heating as homes built after 1980, despite their smaller average size.²⁷

Improving that building stock to modern efficiency standards is a job perfectly suited to one of the groups of workers who suffered most in the recent recession—construction workers. Between June 2007 and June 2010, Illinois lost 61,000 construction jobs, or 22 percent of its pre-recession peak.²⁸ While new home construction is

unlikely to return soon to the levels it enjoyed during the housing boom, renovation work on older buildings could return thousands of construction workers to employment, while offering long-term benefits to Illinois' economy.

Illinois offers free weatherization services to low-income families through the

CNT Energy: Renovating Multi-family Dwellings in Chicago

In 2007, the Chicago-based CNT Energy launched a weatherization program with a unique model, based on the idea that, if they had the support to do it properly, local landlords would find it hard to turn down the monetary savings weatherization has to offer. Three years and 9,000 residential units later, the evidence shows that CNT was right.

Unlike many nonprofit weatherization programs, which are subsidized by the government, CNT's "Energy Savers" program relies on private financing to fund energy efficiency retrofits. The program focuses on multi-family buildings in Cook County containing affordable housing. After receiving an application and information about current energy spending from a building owner, CNT dispatches an energy auditor to examine the building, and then proposes a suite of cost-effective efficiency measures.

After the owner chooses a set of improvements to pursue, CNT Energy helps them solicit bids and line up low-interest financing, supervises the renovation to assure quality, and tracks the cost savings after the renovation is completed. Based on that tracking, program manager Peter Ludwig reports that an average project saves the owner 25 to 30 percent of their pre-renovation energy costs.²⁹

The program has been popular with building owners, many of whom have learned of the possibility of significant energy savings for the first time through the program. Ludwig reports that some owners who prefer not to take on new loans still pay for some improvements out of pocket after seeing that they can recoup their costs in as little as two years. One owner who chose a more extensive program of renovations reported that he saved \$30,000 in the first year after renovating five buildings, and described the improvements to CNT as "the best investment I've made in my property in the last 10 years."³⁰ Ludwig states that "people are very happy with the program, and we've gotten a lot of returning owners who've done one building and now are doing more."³¹ Having renovated 9,000 units since 2007, CNT now aims to keep the project running at a steady clip of 5,000 units annually.³²

Beyond the success they've had decreasing energy costs, CNT leaders also point to their record of job creation as a distinguishing success of the program. Anne McKibbin, the policy director for CNT's energy programs, reports that the Energy Savers program is creating 14 jobs for every \$1 million invested in weatherization.³³

Ramping up Energy Savings: The Sangamon County Department of Community Resources

After 2010, 350 families in Sangamon County will pay less on their energy bills every month, courtesy of the Sangamon County Department of Community Resources. That's over four times the previous year's total, an increase made possible by funding from the American Recovery and Reinvestment Act.³⁷

Like the other Illinois community action agencies (CAAs)—the organizations tasked with carrying out the state's home weatherization assistance program—the Sangamon County DCR has been doing brisk business all year. In Illinois, the CAAs have been dealing with an influx of applications—three times as many state-wide in 2010 as in 2009—but have also seen a substantial increase in their funding and ability to meet the demand.³⁸

To meet its increased workload in 2010, the Sangamon County DCR has taken on four new staff to perform audits and final verifications of work. The department has also employed a number of outside contractors and purchased weatherization supplies locally, creating further jobs and economic activity in the local economy.

On average, the DCR estimates that its work saves families an average of \$437 a year after renovation. That is money that low-income families can spend on goods and services in their local community rather than paying for energy. In 2011, the agency hopes to work on 400 homes—an almost fivefold increase over the rate of only a few years ago.³⁹ For the long haul, the pace of the DCR's work will depend largely on whether another source of funding replaces the ARRA money that has allowed it to do more for the past several years.

Illinois Home Weatherization Assistance Program (IHWAP). IHWAP receives grants from a number of federal agencies, and uses those to finance home efficiency improvements. Home renovations are largely carried out through local non-profit and community organizations.

In 2010, IHWAP expected to renovate over 17,000 homes, using \$42 million that the program was awarded through the American Reconstruction and Recovery Act, as well as its standard funding.³⁴ The boost in funding allowed IHWAP to step up its efforts, renovating more than twice as many homes in 2010 as in 2009.

Middle income homeowners who earn too much for IHWAP can still benefit from other programs that offer support for weatherization projects. Federal tax

credits for efficiency upgrades can cover 10 percent of the cost of an upgrade, up to \$500.³⁵ As a result of the energy efficiency resource standard Illinois adopted in 2007, the state's major utilities also provide a range of energy efficiency incentives that can aid their customers in weatherizing their homes.³⁶

Manufacturers of Energy Efficient Products

Weatherizing old homes and constructing new, energy efficient buildings requires the use of specialized products, such as high efficiency building materials and appliances.

Numerous Illinois businesses manufacture efficient furnaces, insulation, double-paned windows, and other energy efficient products. There are already at least 73 manufacturers of energy efficient products located in the state, and there is potential for much more growth.

For years, Illinois has been suffering from a decline in manufacturing. The state has lost more than 300,000 manufacturing jobs since 2000, including 100,000 during the current recession.⁴⁰ While some of these workers have found other jobs, many remain unemployed or under-employed.

Manufacturers of energy efficient products, however, are a silver lining in this dark cloud. Given that 50 percent of all jobs in the energy efficiency industry are located in the manufacturing sector, measures to improve energy efficiency across Illinois and the nation have provided a boost to manufacturers of energy efficient goods.⁴¹ Consumers who receive tax and other incentives to improve energy efficiency will replace doors, windows, furnaces, and other products years before they are worn out, spurring production of these items.

Consumers in Illinois have had multiple

New Energy Efficiency Standards Create Jobs: Serious Materials of Chicago

The story of how a shuttered window and door factory reopened to manufacture high-efficiency windows perfectly illustrates the job creation potential of energy efficiency.

In December 2008, Chicago-based Republic Windows and Doors closed down after the slow housing market weakened demand for the facility's products.⁴³ More than 250 employees received just three days' notice that they would be out of work, forced to compete for scarce jobs with thousands of other unemployed Illinois manufacturing workers.

A new federal commitment in early 2009 to improving energy efficiency changed the fortunes of the plant's workers. After passage of the American Recovery and Reinvestment Act in February 2009, Serious Materials purchased the plant in anticipation of increased demand for efficient products.⁴⁴ The ARRA included multiple elements that would boost demand for Serious Materials' products: \$5 billion worth of funding for energy efficiency programs, including \$240 million for Illinois, and plans to improve the efficiency of federal buildings.⁴⁵ Serious Materials promised to rehire all of the laid-off Republic Windows and Doors workers and to pay them their previous salary.⁴⁶ The company has rehired some of the workers, while working to replace missing or damaged equipment and return the factory to full working order.⁴⁷

Serious Materials manufactures energy efficient windows and glass, environmentally friendly drywall, and soundproof drywall at six facilities in the U.S.⁴⁸

Across its product lines, Serious Materials seeks to help consumers reduce energy consumption and global warming pollution. The company has set a goal of saving 1 billion tons of carbon dioxide annually through the widespread use of its efficient building products.⁴⁹

Table 3: Weatherization Companies and Agencies in Illinois

Company	Town	County
AA Service Company	Northbrook	Cook
Advanced Geothermal Plumbing & Heating LLC	Elgin	Cook
BCMWW Community Services, Inc.	Greenville	Bond
Bomar Heating and Air Conditioning	Freeport	Stephenson
BorCaT Inc.	Palatine	Cook
C.E.F.S. Economic Opportunity Corporation	Effingham	Effingham
Carver Community Action Agency	Galesburg	Knox
Center for Neighborhood Technology	Chicago	Cook
Community Action Partnership of Central Illinois	Lincoln	Logan
Community Action Project of Lake County	Round Lake Beach	Lake
Community and Economic Development Association of Cook County	Chicago	Cook
Community Contacts, Inc.	Elgin	Cook
Continental Window and Glass	Chicago	Cook
Creative Horizons Home Improvements	Palatine	Cook
Crosswalk Community Action Agency	West Frankfort	Franklin
D&H Energy Management Corp	Huntley	McHenry
Decatur Macon County Opportunities Corporation	Decatur	Macon
Design-Air LLC	Decatur	Macon
DuPage County Human Services	Wheaton	DuPage
East Central Illinois Community Action Agency	Danville	Vermilion
Ebener Construction/ Sustainable Building Systems	La Salle	La Salle
Efficient Insulation Systems	Franklin Park	Cook
Embarras River Basin Agency, Inc.	Martinsville	Clark
Excel Windows	Oak Lawn	Cook
Expo 2000	Glenview	Cook
Fulton County Health Department	Canton	Fulton
Goley Inc	Dupo	St. Clair
Green Envelope	Westchester	Cook
Houseworks Daylighting Solutions	Glenview	Cook
Illinois Geothermal Engineering, Inc	Urbana	Champaign
Illinois Valley Economic Development Corporation	Gillespie	Macoupin
Imbert Corp	Niles	Cook

incentives in recent years to upgrade the efficiency of their homes and appliances. The state's energy efficiency resource standard and efficient building codes, along with federal energy efficiency funding, have fueled demand for efficient doors, windows, heating equipment and insulation. Manufactur-

ers like Serious Windows have responded to this demand (see text box).

The benefits of these manufacturing jobs extend across the economy. The Economic Policy Institute estimates that each job in manufacturing supports an additional 2.9 indirect jobs in other sectors

Table 3 cont'd.

Company	Town	County
Indie Energy Systems Company	Evanston	Cook
Jacob Sunroom and Exteriors	Fairview Heights	St. Clair
K&H Exteriors	Roscoe	Winnebago
Kankakee County Community Services, Inc.	Kankakee	Kankakee
Kendall-Grundy Community Services	Morris	Grundy
Kroll Siding and Supply	East Moline	Rock Island
Madison County Community Development	Edwardsville	Madison
McHenry County Housing Authority	Woodstock	McHenry
MCS Community Services	Jacksonville	Morgan
Mid Central Community Action, Inc.	Bloomington	McLean
Northwestern Illinois Community Action Agency	Freeport	Stephenson
Peoria Citizens Committee for Economic Opportunity	Peoria	Peoria
Prairie Insulation	Springfield	Sangamon
ProAir Heating, Cooling & Electrical	Bloomington	McLean
Project NOW, Inc.	Rock Island	Rock Island
Rockford Geothermal	Rockford	Winnebago
Rockford Human Services Dept.	Rockford	Winnebago
Sangamon County Department of Community Resources	Springfield	Sangamon
Scientific Window Company	Chicago	Cook
Shawnee Development Council	Karnak	Alexander
Smart Sealed, LLC	Chicago	Cook
St. Clair County Community Action Agency	Belleville	St. Clair
Tazewood Community Services, Inc.	Morton	Tazewell
Tri-County Opportunities Council	Rock Falls	Whiteside
Two Rivers Regional Council of Public Officials	Quincy	Adams
USA Geothermal, LLC	Belvidere	Boone
Wabash Area Development Inc.	Enfield	White
Western Egyptian Economic Opportunity Council	Steeleville	Randolph
Western Illinois Regional Council	Macomb	McDonough
Will County Center for Community Concerns	Joliet	Will
Window City	Chicago	Cook

of the economy, such as finance, transportation, and supply chains. In fact, a dollar invested in manufacturing creates more indirect jobs than investments in any other sector.⁴² Thus, activity in the manufacturing sector provides benefits to other businesses across the state.

The state has a large pool of highly skilled manufacturing workers, and there is no reason that Illinois could not recruit more companies that offer high-paying and diversified jobs making energy efficient products.

Table 4: Manufacturers of Energy Efficient Products in Illinois

Company	Town	County
Ace Technology Partners, LLC	Arlington Heights	Cook
Acquion Water Treatment Products	Elk Grove Village	Cook
ADCO Global Inc.	Lincolnshire	Lake
Advanced Window Corp	Chicago	Cook
Aero-Tech Light Bulb Company	Schaumburg	Cook
ALP Lighting Components Inc.	Niles	Cook
American Fluorescent Corp	Waukegan	Lake
American Hydrotech	Chicago	Cook
America's Best Sunrooms, Inc.	Addison	DuPage
Architectural Fan Coil	Chicago	Cook
Armaclad Windows	Chicago	Cook
Beckers Specialty Corp	Elk Grove Village	Cook
BlueAir	Chicago	Cook
Braeburn Systems LLC	Montgomery	Kane
C.E. Thermal Systems	Harwood Heights	Cook
Cloos Robotic Welding	Schaumburg	Cook
Cobra Electronics	Chicago	Cook
Con-Tech Lighting	Northbrook	Cook
Continental Window & Glass	Chicago	Cook
Cornerstone Building Products	Arthur	Douglas
Drainman Industries Corp	Chicago	Cook
Eagle Panel Systems Inc.	Mulberry Grove	Bond
Earthmate Lighting	Harvey	Cook
Electrolux Home Care	Bloomington	McLean
Encompass Lighting Group	Skokie	Cook
Enertech	Greenville	Bond
FC Lighting	St. Charles	Kane
Focal Point	Chicago	Cook
Food Warming Equipment	Crystal Lake	McHenry
Forecast Lighting	Elgin	Cook
G&W Electric Co	Blue Island	Cook
Gardner Denver	Quincy	Adams
GLJ LLC	Chicago	Cook
Goodearth Lighting	Wheeling	Cook
H&H Industries	Elmwood	Peoria
Herschberger Windows	Tuscola	Douglas

Distributors and Retailers of Energy Efficient Products

Every community in Illinois has stores—hubs of commerce that keep homes and businesses stocked with the products they need for day to day life. The Department

of Energy's Energy Star program lists 737 retailers in Illinois that provide energy efficient products.⁵⁰ These companies range from large international wholesale distributors such as Grainger Industrial Supply; to major retail chains such as Sears, Home

Table 4 cont'd.

Company	Town	County
IMI Cornelius	Glendale Heights	DuPage
Inliten	Glenview	Cook
Insulation Solutions Inc.	East Peoria	Tazewell
Invensys Appliance Controls	Carol Stream	DuPage
Juno Lighting Group	Des Plaines	Cook
Keating of Chicago	McCook	Cook
Kenall Manufacturing	Gurnee	Lake
Lambright Vinyl Windows	Xenia	Clay
Litetronics International	Alsip	Cook
Lynk Labs	Elgin	Cook
Masonite International	Chicago	Cook
Midway Windows & Doors	Chicago	Cook
Molex	Lisle	DuPage
Monda Window & Door	Chicago	Cook
Motorola	Schaumburg	Cook
NEC Display Solutions of America, Inc.	Itasca	DuPage
Neptun Lighting	Lake Bluff	Lake
Newtec Window & Door Inc.	Chicago	Cook
Northshore Welding	Skokie	Cook
Petersen Aluminum Corporation	Elk Grove Village	Cook
Philips Advance	Rosemont	Cook
PolyBrite International	Naperville	DuPage
RM Lucas Co	Chicago	Cook
ROW Window Company	Rockdale	Will
Salom Electric Co.	River Forest	Cook
Scotsman Ice Systems	Vernon Hills	Lake
Seaga Manufacturing Inc.	Freeport	Stephenson
Serious Materials	Chicago	Cook
Solid State Luminaires	St. Charles	Kane
Sound Solutions Windows and Doors	Chicago	Cook
Sternberg Lighting	Roselle	DuPage
Taylor Company	Rockton	Winnebago
Tempco Products Co.	Robinson	Crawford
TKO Waterproof Coatings	Woodstock	McHenry
U.S. WAY Lighting	Franklin Park	Cook

Depot, and Lowes; to specialty stores like Midwest Industrial Lighting in Chicago.

When customers purchase energy-efficient products from these retailers, they support jobs. Illinois retailers active in energy efficiency provide thousands of jobs in the state—employing salesmen and sales-

women, managers, technology specialists, customer service agents, marketers and more. In addition, these businesses help to support jobs in manufacturing energy-efficient goods, transportation, banking, and related services.

Customers of all kinds have increasingly

come to appreciate the benefits of purchasing energy-efficient products, driving revenues for Illinois retail companies active in the business. For example, Advanced Appliances, with locations across the Chicago metropolitan area, has sold increasing quantities of efficient Energy Star-rated appliances since they were first introduced 15 years ago.⁵¹ Rich Lindblom of the Advanced Appliances store in Schaumburg told the *Chicago Daily News* in May 2010 that 80 to 90 percent of the refrigerators, 50 to 60 percent of the clothes washers, nearly all of the dishwashers, 75 percent of the freezers, and 80 to 90 percent of the wall-mounted air conditioners sold in the store deliver Energy Star-level performance.⁵²

Lindblom told the paper, “I can’t say that most of my customers come in here looking for Energy Star appliances, but when you give them a choice between an Energy Star appliance and another one and show them how much they will save in energy each year, they see the measurable difference and decide that it makes sense to pay a little extra for an Energy Star appliance upfront, especially since energy costs are constantly going up.”⁵³

Energy efficiency programs can increase demand for energy-saving products—increasing sales for Illinois businesses and encouraging them to hire more workers. For example, the 2009 American Reinvestment and Recovery Act created a “cash-for-appliances” program, encouraging Illinois residents to retire old, inefficient appliances and replace them with newer, high-performance models. In a press release, Doug Moore of Sears said that, “When the Illinois appliance rebate program initially launched in April, we had hundreds of customers lining up at many of our stores before they even opened.”⁵⁴ The increased business driven by energy efficiency incentives helped Sears increase sales revenue, supporting jobs throughout the company.

Similarly, retail businesses can use energy efficiency programs to improve the success of their marketing programs, attracting new customers and growing revenues. For example, Midwest Industrial Lighting in Chicago markets itself as a source for energy-efficient lighting systems eligible for incentive payments from ComEd and Ameren Illinois under the state’s energy efficiency resource standard policy.⁵⁵ New customers and revenue attracted by these incentive programs help the company to hire more employees.

Energy efficiency programs like these can continue to accelerate the growth of the energy efficiency retail market in Illinois, benefiting businesses and workers across the state.

Illinois retailers of Energy Star products can be located on Energy Star’s website at www.energystar.gov/index.cfm?fuseaction=store.store_locator.

Designers and Builders of Energy Efficient Buildings

High energy costs have made energy efficient construction an increasingly attractive option for families and businesses buying a new home or building. An entire industry has sprung up to meet that demand. Businesses ranging from massive Chicago architecture firms that design high-rises certified to the Leadership in Energy and Environmental Design (LEED) standard—a widely used standard for green building—to small, owner-operated firms constructing highly efficient houses all over the state are taking advantage of the demand for efficiency. That decision has paid off for many of them, as demand for energy efficient construction has remained high even while the construction industry overall has suffered in the ongoing economic downturn.⁵⁶

Energy efficient homes and office buildings can be constructed to several different national standards, which assure the purchaser that the building will deliver the energy savings they expect. Homes meeting federal Energy Star standards can provide energy savings of at least 15 percent, and are typically 20-30 percent more efficient than standard homes, while costing only 2 to 3 percent more to construct.⁵⁷ The EPA Energy Star program reports that American families living in Energy Star homes saved \$270 million on their energy bills last year. The global warming pollution prevented by saving that energy would be equal to the annual emissions from 370,000 cars.⁵⁸ Another study found that energy efficient green commercial buildings outperformed the national averages for traditional commercial buildings in energy use (27 percent less), overall maintenance costs (13 percent lower) and carbon dioxide emissions (33 percent lower).⁵⁹



A model home in Crest Hill with a number of Energy Star features. Photo Credit: Christine Bruncati. Courtesy DOE/NREL.

As consumers increasingly look for such savings, builders have responded to their needs: There are at least 120 builders and architects in Illinois that design or construct Energy Star and other energy-efficient buildings. Together, they have built 6,122 Energy Star-qualified homes in Illinois to date, and 719 in 2010.⁶⁰ A study by McGraw-Hill Construction estimates that

the national market for energy efficient construction for both the commercial and residential sectors grew to between \$55 and \$71 billion in 2010.⁶¹

On the national level, legislators have supported a number of measures to bolster both the supply of and demand for construction and design services in order to maximize the economic benefits of the green building industry for all states. In 2008, the U.S. Department of Energy launched the Builders Challenge, which calls for the construction of 220,000 high-performance homes by 2012, and so far 11 builders in Illinois — from Rockford to Decatur — have joined the effort.⁶² Under the American Recovery and Reinvestment Act of 2009, eligible contractors can receive a \$2,000 tax credit for building new homes that achieve an energy savings of 50 percent compared to standard houses, and they can receive an additional \$1,000 tax credit for installing heating and cooling systems that are 30 percent more efficient.⁶³ For commercial buildings, incentives for LEED-certified construction include tax abatements and credits, grants, expedited permitting, technical assistance, loans, and fee reductions.⁶⁴

Public policies are also pushing builders toward increased energy efficiency. In 2009, Illinois adopted the most recent standards set forth in the International Energy Conservation Code, which will reduce the millions of dollars wasted on energy in Illinois every year. Further evidence of the state's new energy paradigm appears in Illinois' affordable housing program. "Affordable housing must be energy efficient to be truly affordable," according to the Illinois Department of Commerce and Economic Opportunity, which has funded the construction of nearly 3,600 units of affordable housing and given grants to 68 non-profit developers to offset energy efficient construction costs since 1988, under the Illinois Energy Efficient Affordable Housing Construction Program.⁶⁵

An Illinois Success Story: Better Way Builders Corp.

Some would say that Troy Libbra and William Seniker of Brighton picked the exact wrong time to launch their small home-building business. In 2005, the housing boom was in full swing, but the market for new homes soon collapsed, putting many builders out of work.

Libbra and Seniker, however, have managed not only to survive but to thrive during the housing crash by focusing on a specific part of the market for which demand has remained strong: the construction of energy-efficient homes.

Neither Libbra nor Seniker was an expert at energy efficient construction before they started work on their “case study” home in Staunton in 2005. But when the pair called in an energy auditor from Chicago to inspect that house, he told them that the energy savings they had achieved were well above what was typical in the Chicago market. With that success under their belt, the two founded Better Way Builders shortly afterward.

The housing market was already headed into trouble at that point—Seniker reports that the company has been “building through the recession pretty much the whole time, so we don’t know what it’s like without it.” Despite that, the company found another contract after building their first house, and another, and another after that. Business has held fairly steady, at about three houses a year.

Libbra attributes part of the success to the growing market for homes that take advantage of energy efficiency. “You’ve got consumers who are a lot more conscientious about these things,” he says, adding that “we’re not building for the same consumers we were building for in 2000, who wanted square footage and granite countertops. The days of just throwing up houses are gone.”

While Better Way Builders is a small operation, their success—and that of other green builders—has spilled over to help create jobs with suppliers and sub-contractors. Libbra says that it has become easier to find suppliers for the materials needed to build energy efficient homes as interest in energy savings has heated up. And many of those suppliers are local. Precast Concrete Solutions in Springfield supplies the company’s pre-cast, insulated foundations; Simonton Windows in Paris is the top vendor for high-performance windows; and Mid-America Advanced Power Solutions in Swansea supplies solar panels. Finally, the air-tight, insulated walls that Libbra calls a “cornerstone” material for his houses come from Thermocore, a short drive away in Jefferson City, Mo.

In addition, Libbra says that on any one of his building sites there are 10-15 subcontractors—including “estimators, plumbers, roofers, masons, framers, electricians, insulators, painters, drywallers, gutter, heating and cooling, electricians—the list goes on.”

Libbra feels fortunate to have “carved a niche” for his business in the fledging energy efficiency building market. As consumers demand (and legislators require) that more homes be energy efficient, Better Way Builders, as an early player, is well-situated to take advantage of a changing housing market.

“We’ve been able to stay ahead of the curve as some things have been changing. When the Energy Star minimum standards increase, for instance, we’re not going to have to rearrange the way we do things.” “In fact,” Libbra says, “Our houses have been blowing the minimums out of the water.”

By staying ahead of the curve on energy efficiency, Better Way Builders has managed to survive in a depressed housing market, and is well-positioned to thrive as the economy recovers.

LEED: Setting the Standard for Green Buildings

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System was developed by the U.S. Green Building Council to create third-party certification for green buildings that achieve superior environmental performance, including energy efficiency. LEED-certified buildings are primarily new commercial and residential buildings, although existing buildings or buildings being renovated can now also be LEED certified.⁶⁶

LEED buildings receive points for energy efficiency measures taken beyond standard codes, but also for environmentally beneficial measures such as use of renewable energy, water conservation, location near public transit, and use of non-toxic materials. Buildings that qualify for LEED certification must meet minimum standards, and those that earn points beyond the minimum can receive higher levels of certification.⁶⁷

The goal of LEED certification sets a high standard for builders and clients who want their building to be a leader in efficiency and other environmentally beneficial features.

Table 5: Designers and Builders of Energy Efficient Buildings In Illinois

Company	Town	County
AFE Construction	Mackinaw	Tazewell
Airhart Construction	West Chicago	DuPage
Allen & Pepa Architects	Batavia	Kane
Allied Design Consultants, Inc.	Springfield	Sangamon
Alternative Energy Builders	Moline	Rock Island
Arden Inc.	Chicago	Cook
Arthur Custom Homes	Tinley Park	Cook
Avaloft Designers and Builders	Naperville	DuPage
Beechen and Dill Homes	Burr Ridge	Cook
Better Way Builders of Central Ill.	Brighton	Jersey
BJ Armstrong Custom Homes	Bloomington	McLean
BLDD Architects Inc.	Decatur	Macon
Blume Construction	East Peoria	Tazewell
Brockmeier Construction	Okawville	Washington
Byrne Builders	Oak Forest	Cook
CR Embassy Construction	Hampshire	Kane
Custom Built Homes	Carol Stream	DuPage
D&S Builders	Springfield	Sangamon
Dale Koontz Builder	Quincy	Adams
Davis Caves, Inc.	Armington	Tazewell
dbHMS	Chicago	Cook
Dedert Construction	Quincy	Adams
Design Built Homes	Peoria	Peoria
DMA Architects NorthStar Studio	Chicago	Cook
DML USA	Northlake	Cook
DT Group Development	Lisle	DuPage
DuPage Habitat for Humanity	Wheaton	DuPage
Ebener Construction/ Sustainable Building Systems	La Salle	La Salle
Eco Achievers LLC	Oak Park	Cook
Ecohabitat LLC	Riverside	Cook
EcoSmart Building	Chicago	Cook
Empeco Custom Builders	Northbrook	Cook
Farr Associates Energy and Urban Design	Chicago	Cook
Fieldcrest Development	White Heath	Piatt
Forum Development Co.	Wilmette	Cook
Franke Construction	Bloomington	McLean
Glen Ellyn Homes	Glen Ellyn	DuPage
Goettsch Partners	Chicago	Cook
Greentone Environmental Design	Rockford	Winnebago
GreenWorks Studio	Chicago	Cook
GVP Development	Chicago	Cook
Habitat for Humanity of McLean County	Bloomington	McLean
Hartz Homes	Woodridge	DuPage
Healy, Bender and Associates	Naperville	DuPage

Table 5 cont'd.

Company	Town	County
Heitman Architects	Itasca	DuPage
Homeway Homes	Galesburg	Knox
Homeway Homes	Goodfield	Tazewell
Homeway Homes	Quincy	Adams
Homeway Homes	Springfield	Sangamon
Huber Homes	Naperville	DuPage
ICF Midwest Builders Inc.	Urbana	Champaign
IG Construction	Wheeling	Cook
Independent Living Consultants	DeKalb	DeKalb
Integrity Homes Inc.	Wauconda	Lake
JAW Builders	Wheaton	DuPage
JB Carpentry	Peoria	Peoria
JD's Domes	Moro	Madison
JNC Inc.	Springfield	Sangamon
Johnston Builders	Bloomington	McLean
Kenmore Builders	Chicago	Cook
Kennedy Builders	Champaign	Champaign
Kilmurry Development	Chicago	Cook
Kings Court Builders	Naperville	DuPage
Kingsbrook Glen LLC	Glen Ellyn	DuPage
Kluber Inc.	Batavia	Kane
KR Custom Builders	Algonquin	McHenry
Krueck and Sexton	Chicago	Cook
L Martinez Construction	Warrenville	DuPage
Leopardo Construction	Chicago	Cook
Lloyd E. Lawber - General Contractor	Griggsville	Pike
Lorsch Construction and Development	Chicago	Cook
Lyng Builders	Frankfort	Will
M/I Homes of Chicago	Naperville	DuPage
Matt Holtmeyer Construction	Quincy	Adams
MBA Construction Services	Mundelein	Lake
Melotte Morse Leonatti Ltd.	Springfield	Sangamon
Metro Arch, P.C.	Niles	Cook
Meyer & Meyer Construction, LLC	Skokie	Cook
Meyer Homes, Inc.	Libertyville	Lake
MI Construction	Moline	Rock Island
Miller Homes Inc.	St. Charles	Kane
MKT Custom Homes, Inc.	Mansfield	Piatt
Mondo Builders	Elmhurst	DuPage
Morton Buildings, Inc.	Morton	Tazewell
Morton Buildings, Inc.	Naperville	DuPage
Nagle Hartray Danker Kagan McKay Penney, Architects	Chicago	Cook
Nathan Kipnis Architects	Evanston	Cook
Neo Tek Corp	Richmond	McHenry

Table 5 cont'd.

Company	Town	County
Newgrange Development, LLC	Tinley Park	Cook
Northpoint Construction Services Inc.	Chicago	Cook
O'Neal Builders	Normal	McLean
Oleson Construction, Inc.	LeRoy	McLean
OM Development LLC	Chicago	Cook
Paul T. Kelzer Custom Homes	Oswego	Kendall
Plus House Inc.	Chicago	Cook
Princeton Woods	Lisle	DuPage
PSA-Dewberry	Chicago	Cook
Pulte Homes of Illinois	Schaumburg	Cook
R.O. Financial Group	Hinsdale	DuPage
Remington Properties LLC	Glen Carbon	Madison
Rhead Construction Corporation	Roscoe	Winnebago
River Trail Properties LLC	Libertyville	Lake
Robert C. Vagnieres, Jr. and Associates	Chicago	Cook
Robert Lord Builders, Inc.	St. Charles	Kane
Scalf Construction Co.	Canton	Fulton
Serena Sturm Architects, Ltd	Chicago	Cook
Shanahan Homes	Yorkville	Kendall
SmartHaus	Prairie View	Lake
SMT Architects, PC	Glen Ellyn	DuPage
Solomon Cordwell Buenz	Chicago	Cook
Teng & Associates Inc.	Chicago	Cook
The John Buck Company	Chicago	Cook
Tofilo Construction	Norridge	Cook
Tom Bart Construction	Plainfield	Will
Vermillion Development	Chicago	Cook
Walsh Construction	Chicago	Cook
Weber Consultants Ltd.	Chicago	Cook
Whitney Inc.	Oak Brook	DuPage
Wyndham Deerpoint Homes	North Aurora	Kane
Zinn Construction	Sherman	Sangamon

Illinois Should Continue to Build Its Green Energy Economy by Investing in Energy Efficiency

Illinois' energy efficiency industry is thriving, employing thousands of workers and helping customers ranging from family homebuyers to large commercial landlords to save money and energy. The industry has achieved this in part because Illinois has committed itself to building a more energy efficient economy, creating opportunities for businesses along the way. Both because of the inherent benefits of energy efficiency and because of energy efficiency's potential to create more jobs and economic opportunities for Illinoisans, Illinois should continue to enforce and build on its existing energy efficiency policies.

- Illinois' 2007 **energy efficiency resource standard** is a strong step in the right direction, committing the state to saving 2 percent of its previous year's energy use every year by the middle of this decade. That standard will ensure that Illinois continues to take advantage of new efficiency technologies, and that Illinois families and businesses will have the support of their utility companies in selecting and implementing

efficiency measures. Our state leaders should make sure that the law is implemented fully. They should also ensure that the state can achieve its energy savings goals by authorizing the Illinois Commerce Commission to relax the budget cap on utility energy efficiency programs if doing so would result in a net cost saving for customers.

- In 2007, Illinois created the Illinois Power Agency (IPA) to procure power from the cheapest sources for distribution by Illinois's electric utilities. The agency should be authorized to **include energy efficiency among the mix of energy sources** it procures, when efficiency is cheaper, per mega-watt saved, than the cost per mega-watt of procuring electricity. This change would allow companies to bid energy efficiency programs as energy supply in lieu of electricity. For example, a private company could propose a program to upgrade a city's streetlights to LEDs. The energy savings would be measured and verified and the program could

be procured by the IPA for sale to Illinois electric utilities, offsetting the need to procure the excess electricity consumed by the old streetlights.

- Illinois has also adopted the strongest version of the national model **building codes**, ensuring that new buildings in our state will incorporate current best practices in efficient design and construction. The state will automatically adopt new, stronger codes once those are published. The state should extend those codes to all jurisdictions (currently, certain large cities like Chicago set their codes separately, and are lagging behind the rest of Illinois). Building codes save property owners money, create opportunities for the manufacturers of products like efficient windows and insulation, and help position Illinois' homebuilding industry in the lead of national trends towards more efficient construction.
- Illinois should also look for opportunities to set **appliance efficiency standards** for appliances not already covered by federal standards, such as televisions. Appliance standards can transform the market for consumer appliances by pushing manufacturers

to develop more efficient products that deliver the same quality of service at lower prices, and can also create opportunities for local manufacturing firms to start or expand their production of efficient products. They also save consumers money on energy costs, letting them spend it on other goods and services.

- Illinois should continue to work with other Midwestern states toward **approaches to reduce global warming pollution** from the region's economy. The Midwest Greenhouse Gas Reduction Accord brought a number of Midwestern states, including Illinois, together to develop regional approaches to reducing global warming pollution. By adopting strong policies to reduce emissions—such as a strong, economy-wide cap on global warming pollution—Illinois and other Midwestern states can encourage a transition to cleaner sources of energy, including investments in energy efficiency, which could trigger new investment and new jobs throughout the region. Illinois' leaders should also advocate for federal solutions to reduce global warming pollution and increase investment in energy efficiency.

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