



# Ohio's Green Energy Economy

## The Energy Efficiency Industry



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Siena Kaplan  
Kari Wohlschlegel  
Frontier Group

Jeff McCourt  
Environment Ohio  
Research & Policy Center



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# Executive Summary

**E**nergy efficiency is the cheapest, fastest way to reduce Ohio’s use of coal and natural gas—cleaning up Ohio’s air, reducing global warming emissions, and saving consumers and businesses money. The work of increasing energy efficiency also brings new business to a wide array of Ohio companies, from manufacturers to architects, meaning that an investment in efficiency is at the same time an investment in the state’s economy.

Ohio has at least 1,130 businesses that work to make the state’s buildings and industry more efficient—from selling energy efficient windows to analyzing buildings’ energy use—comprising the state’s “energy efficiency industry.”<sup>1</sup> Committing to increase Ohio’s energy efficiency will increase demand for these businesses’ services, allowing them to thrive, expand and add jobs, and opening up opportunities for Ohioans to start new businesses.

**By increasing the energy efficiency of its buildings and industry, Ohio can reduce its global warming emissions and clean up its air, while saving money for home and business owners.**

- Ohio’s homes, businesses and factories could be far more energy efficient than they are today. For example, a study by the Midwest Energy Efficiency Alliance (MEEA) found that Ohio has the potential to reduce residential electricity use by 23.3 percent and residential natural gas use by 47.7 percent from projected levels.
- If realized today, these reductions in electricity and natural gas consumption would cut Ohio’s total global warming emissions by 21.5 million metric tons, or the equivalent of 8 percent of Ohio’s emissions today.
- Reducing Ohio’s residential electricity use by 23.3 percent would reduce sulfur dioxide emissions—one of the main components of soot—and nitrogen dioxide emissions—one of the main components of smog—each by about 10 percent.
- Far from costing extra, reducing Ohio’s use of coal and natural gas through energy efficiency will save

money. MEEA found that over half of the potential for residential energy efficiency they identified would cost less than electricity costs today in Ohio. And an analysis by the American Council for an Energy-Efficient Economy found that national energy efficiency programs could save Ohio consumers \$744 per household by 2030.

**There are at least 1,130 businesses in Ohio involved in the work of increasing the state's energy efficiency.**

- At least 52 businesses in Ohio **perform energy audits**, an important first step in improving the energy efficiency of a home or building.
  - Energy auditors find places where energy can be saved in buildings by looking at a building as an integrated system, and by using an array of tests to find air leaks.
  - Demand for energy auditors has been growing. Affordable Energy LCC, an energy auditing company with 40 employees that serves Akron, Canton, and the rest of northeastern Ohio, sees large potential for growth, especially if more potential customers are made aware of energy auditing services through public education campaigns.
- At least 78 Ohio businesses and community organizations **weatherize buildings**, which reduces natural gas heating bills by an average of 32 percent by sealing air leaks and improving insulation.
  - Since the American Recovery and Reinvestment Act of 2009 increased funding for low-income weatherization services by five-fold and added a tax credit available to any homeowner for weatherization, Ohio weatherization services have expanded to meet the growing demand.
- Weatherization funds have directly led to new jobs. The Kno-Ho-Co-Ashland Community Action Commission, which provides weatherization services to Knox, Holmes, Coshocton and Ashland counties, had a four-year waiting list until the additional funding allowed them to double their staff and buy new equipment.
- At least 109 businesses in the state **manufacture energy efficient products**, such as insulation, high quality doors and windows, and Energy Star appliances.
  - Energy Star products, such as dishwashers, televisions and furnaces, can save up to 75 percent of the electricity used to run these products compared with standard models. Improving insulation can result in savings of up to 30 percent off a building's energy bills.
  - Programs that encourage consumers to upgrade their buildings' efficiency create a surge of replacements and demand for new products, boosting manufacturing. Ohio is well poised to benefit from this surge, with a strong manufacturing base.
  - Owens Corning, a leading international energy efficient building material manufacturer, has its headquarters in Toledo, as well

as manufacturing plants in Columbus, Mount Vernon, Newark and Tallmadge.

- At least 680 stores in Ohio **sell energy efficient products and appliances**, including all outlets of large changes such as Radio Shack and Sears, as well as specialized stores such as those owned by the Air Tight Corporation.
  - Programs such as additional home weatherization funding and the new federal “cash-for-appliances” program can create a surge of demand for energy efficient products, bringing new business to stores that sell energy efficient products.
  - The Pella Corporation, for example, has seven Window & Door showrooms in Ohio, serving the communities of Bedford Heights, Mentor, Westlake, Columbus, Canfield, Canton and Akron, and Pella Design Centers in 14 Lowe’s locations in Ohio. The success of these stores, and others like them, will benefit Ohio’s economy in general as more consumers buy new windows, doors, appliances, and other energy efficient products to upgrade their homes and businesses.
- At least 215 **homebuilders and architecture firms** in Ohio design and construct Energy Star-certified homes.
  - Energy Star new homes typically use 20-30 percent less energy than a standard house, with an incremental cost of only about 2-3 percent of the total cost of

the home, which can be rolled into a mortgage for immediate savings.

- Their expertise in energy efficient building has allowed some of these firms to ride out the housing crash unscathed. For Doty & Miller Architects in Cleveland, which specializes in green buildings, 2007 and 2008 were the firm’s best years in its 30-year history.

**Increasing the demand for these businesses’ services by making Ohio’s buildings and industry more efficient will drive job creation and economic growth in the state.**

- In 2006, Ohio’s energy efficiency industry employed over 500,000 people statewide and posted revenues of more than \$50 billion.
- By 2030, the sector is projected to create up to 2 million jobs in Ohio with revenues exceeding \$200 billion.
- Already, 125,000 workers in Ohio have the relevant skills for retrofitting buildings to improve efficiency. Other workers have the skills needed for manufacturing more efficient appliances that could be sold here and in other states.
- The success of Ohio’s energy efficiency industry has a ripple effect on the state’s wider economy. For example, the Economic Policy Institute estimates that each job in the manufacturing sector—which is responsible for half of all jobs in the energy efficiency industry—supports an additional 2.9 indirect jobs in other sectors, such as finance, transportation and supply chains.



**Ohio has made some good progress on energy efficiency, but still has a long way to go. Enacting and enforcing strong efficiency policies, both on the state and national level, could enable Ohio to tap into more of its potential for energy efficiency.**

- The United States should adopt a national global warming and energy policy that maximizes the country's energy efficiency, including:
  - A mandatory, economy-wide cap on global warming emissions. At minimum, total U.S. emissions should be capped at 35 percent below 2005 levels by 2020 and 80 percent below 2005 levels by 2050.
  - A national energy efficiency resource standard, like the one Ohio adopted in 2008, to reduce electricity demand by 15 percent by 2020 and natural gas demand by 10 percent.
  - National building energy codes that reduce energy consumption in new homes and commercial buildings by 50 percent by 2015 and by 75 percent by 2030.
- Ohio's residential building energy codes are currently out of date. The state should adopt the 2009 International Energy Conservation Code—the most recent version of the

building energy code recommended by the U.S. Department of Energy—to ensure that all new buildings use energy efficiently, rather than wasting energy and money. If Ohio adopts this standard, the Building Codes Assistance Project estimates that the state will save \$98 million in energy costs by 2020, and \$186 million by 2030.

- Ohio's current building code was developed through a process biased toward homebuilders. Ohio should eliminate the Residential Construction Advisory Committee and allow Ohio's official code-adoption agency to hear from all voices equally.
- The passage of Ohio's energy efficiency resource standard in 2008 was a big step in the right direction for the state. Projected annual savings from the program by 2025 are equal to the output of four 1,000-megawatt coal fired power plants. Ohio must ensure that this standard is implemented and enforced so that the state can realize these savings.
- Ohio should set a goal for all new buildings to create as much energy as they use by 2030. These "zero net energy" buildings are already being built across the United States, and by 2030 could be as common in Ohio as double pane windows if the state sets itself on a path toward this goal.

# Introduction

The phrase “green jobs” brings to mind images of workers assembling enormous wind turbine blades and installing solar panels on roofs. Environment Ohio Research & Policy Center’s 2009 report, *Growing Ohio’s Green Energy Economy*, described hundreds of renewable energy businesses that already employ thousands of Ohioans.

Ohio has an entire additional category of green jobs, however, that are less noticeably “green” but just as important in creating clean energy. These jobs are in Ohio’s energy efficiency industry, which includes businesses that participate in the work of reducing energy waste in homes, businesses and industry. Rather than replacing dirty energy with new, clean sources, people who hold energy efficiency jobs work to use less coal or natural gas to achieve the same purpose.

Ohio already supports a large energy efficiency industry employing hundreds of thousands of workers in a variety of jobs. From manufacturing efficient windows and insulation to performing energy audits to designing and building efficient houses, workers of all sorts are already busy increasing Ohio’s energy efficiency.

Jobs in energy efficiency are particularly valuable to Ohio because many of them cannot be outsourced. An energy auditor must be able to visit the buildings he or she is evaluating, while the workers hired to make the recommended improvements must be able to come to the building to change windows and patch insulation.

Demand has already begun to increase for services from Ohio’s energy efficiency sector as a result of new state and national investments in efficiency in addition to the rising energy prices of recent years. This has helped Ohio’s energy efficiency businesses, many of which have been able to grow and add jobs even in a tough economic climate. But this demand is still far lower than it could be, especially considering the full potential for financial and energy savings from efficiency.

Ohio can and should increase this demand. This report brings to light the multitude of often overlooked green businesses working to increase Ohio’s energy efficiency, and describes the policies that the state could use to increase demand for their services, along with the resulting environmental, financial, and economic benefits for Ohio.

# Energy Efficiency Is a Smart Choice for Ohio

**B**y increasing the efficiency of its homes, businesses and factories, Ohio could use far less energy than it does today, with environmental, health and financial benefits for residents.

Ohio could slash its energy use—and the money it pays for that energy—through energy efficiency. Today’s buildings leak energy—literally, 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 Ohio, but it’s also a huge opportunity. By capturing wasted energy and putting it to good use, Ohio can use far less energy than it does today, while keeping homes and businesses just as comfortable and convenient and producing just as much in its factories.

Reducing Ohio’s energy consumption by cutting down waste will help the state solve the urgent problems created by current energy use. In particular, energy efficiency

will help Ohio 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 the amount of energy wasted in Ohio also reduces global warming and other air pollution, which is particularly significant in Ohio because of the state’s heavy dependence on coal.

Coal provides 88 percent of the electricity in Ohio.<sup>2</sup> When it’s 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 and aggravate a host of health problems, especially lung problems and cancer, while inhalation of high levels can damage lungs and send vulnerable people to the emergency room. Ohio ranks number one in the country for emissions of sulfur dioxide and number two for emissions of nitrogen oxide, due to its high use of coal

for electricity.<sup>3</sup> These pollutants are the main components of soot and smog, respectively.

Burning coal also produces carbon dioxide, the leading contributor to global warming. Natural gas, used to heat 69 percent of Ohio homes, adds to this pollution. Global warming could significantly alter Ohio's environment, harm the economy and impair public health. Carbon dioxide emissions from Ohio's electricity production have increased over the last two decades, growing 19 percent between 1990 and 2007.<sup>4</sup> Today, Ohio's carbon dioxide emissions are the fourth highest in the country.<sup>5</sup>

The large energy savings that are possible from increased energy efficiency translate into large reductions in these air pollutants. For example, a study by the Midwest Energy Efficiency Alliance (MEEA) found that Ohio has the potential to reduce residential electricity use by 23.3 percent, and residential natural gas use by 47.7 percent from projected consumption.<sup>6</sup>

If realized today, these reductions in electricity and natural gas would cut Ohio's total global warming emissions by 21.5 million metric tons, or the equivalent of 8 percent of Ohio's emissions today.<sup>7</sup> Reducing Ohio's residential electricity use by 23.3 percent would reduce sulfur

dioxide emissions—one of the main components of soot—and nitrogen dioxide emissions—one of the main components of smog—each by about 10 percent.<sup>8</sup>

## Energy Efficiency Saves Ohioans Money

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 Ohio consumers \$744 a year per household by 2030.<sup>9</sup>

MEEA found that over 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 Ohio. 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.<sup>10</sup>

### Conservation Versus Efficiency

**T**hough they both help to reduce energy bills and cut pollution, conservation and efficiency are distinct. Efficiency means using improved technology to achieve greater productivity from a given unit of energy, whereas conservation can mean not using that energy at all. At home, efficiency might mean replacing conventional light bulbs with compact fluorescent bulbs, while conservation might involve turning off the lights when you leave the room. Both efficiency and conservation are valuable—why illuminate an unoccupied room?—but this report focuses on the long-lasting savings available with efficiency.

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.<sup>11</sup> Improved furnace fans can save a homeowner in a cooler climate on the order of 680 kWh per year, paying for themselves in about two years.<sup>12</sup>

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 of-

ten yield a return on investment 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.<sup>13</sup>

For consumers and businesses, these savings mean more money in pocketbooks and higher profits. For Ohio's 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.

# Ohio's Energy Efficiency Industry

**B**eyond the environmental and consumer benefits, energy efficiency is important in Ohio because of all of the businesses involved in doing the work of improving the state's energy efficiency. Increasing the efficiency of Ohio's homes, businesses, and industry brings work to at least 1,130 Ohio businesses, from energy auditors to manufacturers to weatherization agencies.<sup>14</sup>

Ohio's energy efficiency industry includes all the people and businesses involved in making the state's homes, businesses and factories more energy efficient. This includes the people who replace the old windows on a home with newer windows that keep the heat in better, for example, but it also includes the energy auditing firm hired to analyze the home's energy use that identified the old windows as a problem, the store that sold the new energy efficient windows, and the factory that manufactured the windows.

Energy efficiency is a rapidly growing industry in Ohio's economy. In 2006, the industry employed over 500,000 people statewide and posted revenues of more than \$50 billion. By 2030, the sector is projected to create up to 2 million

jobs and enjoy revenues exceeding \$200 billion, if investments are made in energy efficiency.<sup>15</sup>

And Ohio is ripe for growth in this industry. Already, 125,000 workers in Ohio have the relevant skills for retrofitting buildings to improve efficiency.<sup>16</sup> Other workers have the skills needed for manufacturing more efficient appliances that could be sold here and in other states.

## Energy Raters and Auditors

Hiring an energy auditor is an important first step in improving the energy efficiency of a home or business, identifying the sources of the building's energy waste and providing concrete recommendations for upgrades. At least 52 businesses in the state perform home energy audits, with many providing additional services as well (such as weatherizing homes).

Energy auditors play an important role in efficiency improvements. While you can improve the efficiency of a home by simply changing your windows or using compact fluorescent light bulbs (CFLs), energy

auditors adopt a “whole building” approach that looks at the building as an integrated system. Energy raters perform an array of tests on buildings to assess their performance, ranging from infrared imaging (to identify poorly insulated areas) to blower door tests (to find air leaks). The results of these tests are then inputted into software packages, such as those provided by the U.S. Department of Energy, to determine the most cost-effective ways to improve a building’s efficiency. The software not

only provides a list of recommendations, but it also includes an estimated dollar value for the projected energy savings and a list of materials necessary to upgrade the facility.<sup>17</sup> Thus, home and property 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 used on existing buildings, energy auditors increasingly are involved

## An Ohio Success Story: Affordable Energy LLC

**A**ffordable Energy LLC is a nationally licensed, Energy Star-certified home rater.<sup>22</sup> The company, run by Marshall Jennings, has been performing energy audits for more than 10 years and currently serves the communities of Akron and Canton and the rest of northeastern Ohio, as well as West Virginia, Maryland and Virginia. In addition to performing energy audits, Affordable Energy LLC also installs residential solar thermal, solar photovoltaic, and geothermal heating and cooling systems.

The company has 40 employees, but Jennings is the only energy audit specialist. In recent years, demand for the company’s services has grown, and Jennings sees a large growth potential for his company. He believes the biggest obstacle to greater growth is a lack of understanding and awareness among potential customers—they simply do not know enough about energy audits to research and take advantage of his services.

Jennings sees both utilities and the state as having a role in making sure that people know about the availability of energy auditing services, and how these services can save homeowners money. Last year, FirstEnergy, an electricity distribution company serving much of northern and central Ohio, launched a public education campaign to increase the number of Ohio residents who get home energy audits. However, according to Jennings, the Web site the company created to provide information on energy audit specialists was difficult to navigate, and advertising was inadequate. Jennings believes that an aggressive and targeted campaign would be more effective in helping businesses like his to reach out to a greater number of Ohio residents.

Jennings also supports requiring energy audits to be performed on homes before they are placed on the market. This would give more information to potential buyers about the full value of the house, and it could also encourage sellers to make efficiency upgrades in order to attract a higher price. Jennings believes this policy, especially if it is coupled with more education, would significantly expand the reach of energy auditing services across the state.

during pre-construction, using software that analyzes the building's design. After construction is complete, additional tests can be run to determine the building's final energy efficiency level.<sup>18</sup>

In recent years, as energy prices rose and awareness of their services grew, energy auditors have been increasingly in demand in Ohio. Various government programs have also fueled the demand. Ohio's nationally recognized Electric Partnership Program, for example, helps low-income families reduce their energy usage by providing home audits, weatherization services and education. The program has been credited with reducing the energy consumption of customers by 13.4 percent, saving utility ratepayers approximately \$1.32 for every dollar spent.<sup>19</sup>

The contribution energy auditing businesses make to Ohio's economy is substantial. Home auditing businesses employ a variety of workers with differing educational levels, ranging from bookkeepers to maintenance workers to specialists. In 2006, home auditing specialists made an average salary of \$39,500. The contributions of these businesses to Ohio's economy are only expected to grow: the number of energy audit specialists within the state is projected to increase 18 percent between 2006 and 2016.<sup>20</sup> Thus, it is not surprising that *U.S. News and World Report* has named energy auditing one of the best small businesses to start.<sup>21</sup>

**See page 12 for a list of energy raters and auditors in Ohio.**

## Building Weatherization

As part of an energy audit, property owners are given a list of upgrades that would improve the building's energy efficiency. Most of these upgrades fall under the category of weatherization, which includes any improvements targeted at keeping heated or cooled air inside the home from

leaking out. At least 78 businesses and community organizations offer weatherization services to Ohio residents.

Weatherization can cut a home or business owner's utility bills substantially. The Ohio Consumer's Counsel estimates that simply replacing old windows with new, double-paned windows can save between 10 to 20 percent in energy costs, while improving insulation can result in savings of up to 30 percent.<sup>23</sup> More aggressive improvements are also possible—for example, repairing and sealing ductwork can reduce heating energy use in a typical home by 15 percent.<sup>24</sup>

Ohio offers free weatherization services to low-income families through its Home Weatherization Assistance Program (HWAP). HWAP, which is funded by the U.S. Department of Energy and has counterparts in states across the country, provides funding for non-profit community organizations and local governments to insulate attics, walls and floors; inspect, repair and install heating units; reduce air leakages; and help create personalized plans to manage energy consumption.<sup>25</sup> A recent evaluation of the program in 19 states found that the program reduced natural gas consumption for space heating in affected homes by approximately 32 percent.<sup>26</sup>

Since 1977, HWAP has weatherized more than 304,000 Ohio homes, creating 403 skilled jobs, and providing work for numerous other subcontractors and suppliers in the field.<sup>27</sup> The American Recovery and Reinvestment Act of 2009 (ARRA) increased funding for state weatherization assistance by five-fold for the next two years, including \$267 million for Ohio.<sup>28</sup>

The federal government now also provides weatherization assistance to families who don't qualify for the HWAP. The ARRA provides a tax credit to homeowners who improve the energy efficiency of their homes. This tax credit covers 30 percent of the costs of certain upgrades, up

*(text continues on page 15)*



**Table 1. Home Energy Raters and Auditors in Ohio**

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Echols Heating & A/C Inc	Home energy raters	Akron	Summit
The Energy Factor	Home energy raters	Akron	Summit
Hibbard Foundations	Home energy raters	Akron	Summit
Certified Energy Raters, LLC	Home energy raters	Akron, many other cities	Summit
Westland Heating & Air Conditioning	Home energy raters	Avon	Lorain
Design Air, Heating, & Cooling	Home energy raters	Brook Park	Cuyahoga
Affinity Consultants, Inc	Business consulting firm that helps clients maximize the value of environmental, health and safety systems	Canal Fulton	Stark
RC Kilgore Company, Inc	Home energy raters	Canton	Stark
Comprehensive Energy Management	Home energy raters	Cincinnati	Hamilton
Emotiv	Home energy raters	Cincinnati	Hamilton
A Closer Look, LLC	Home energy raters	Cincinnati	Hamilton
Bone Dry Roofing	Home energy raters	Cincinnati, Columbus	Hamilton, Franklin
EiC, Inc/Comfort Home Corporation	Home energy raters	Cincinnati, Dayton	Hamilton
Homes +, Inc	Home energy raters	Cincinnati, Dayton	Hamilton
Aviles Construction Co, Inc	Home energy raters	Cleveland	Cuyahoga
CEC Consultants Inc	Commercial energy audits	Cleveland	Cuyahoga
REpower SOLUTIONS	Home energy raters	Cleveland	Cuyahoga
Cornerstone Energy Conservation Services	Home energy raters	Columbus	Franklin
Go Sustainable Energy	Home energy raters	Columbus	Franklin
Renewable Concepts and Design	Home energy raters	Columbus	Franklin
Westoff Services	Home energy raters	Columbus	Franklin
Watt Works	Home energy raters	Columbus	Franklin
Green-4-Ever, Inc	Home energy raters	Columbus	Franklin
North Central Insulation Inc	Home energy raters	Columbus, Bellville, Newark, Wooster, Bowling Green, Solon	Franklin, Richland, Licking, Wayne, Wood, Cuyahoga

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Energy Saving Comfort Systems	Home energy raters	Cuyahoga Falls	Summit
Liberty Insulation Company, Inc	Home energy raters	Dayton	Montgomery
Yellow Springs Building Science	Home energy raters	Dayton, Mansfield	Montgomery, Richland
Insulation Systems	Home energy raters	Eastlake	Lake
EcoHouse	Home energy raters	Galloway	Franklin
Energy Designed Homes	Home energy raters	Granville, London	Licking, Madison
Home Energy Checkup, LLC	Home energy raters	Hamilton	Butler
Think Green - Midwest, LLC	Home energy raters	Hamilton	Butler
The Renaissance Group	Home energy raters	Kirtland	Lake
R Family Company, LLC	Home energy raters	Macedonia	Summit
Bay Controls, LLC	Provides energy efficiency solutions to commercial clients	Maumee	Lucas
Anderson Heating-Cooling	Home energy raters	Mentor	Lake
Affordable Energy Enterprises, LLC	Home energy raters	North Canton	Stark
Heatmiser Home Energy Consulting, LLC	Home energy raters	Painesville	Lake
Energy Pros of Ohio	Home energy raters	Richfield	Summit
Realtex Solutions, LLC	Home energy raters	Saint Marys	Auglaize
Energy Detectives	Home energy raters	Salem	Columbiana
The Green Building Pros, Ltd.	Home energy raters	Salem	Columbiana
Energy Conservation Services	Home energy raters	Shandon	Butler
Home Energy Rating Services, Inc	Home energy raters	Southwestern Ohio	Southwestern Ohio
Achieve IAQ	Home energy raters	Springfield	Clark
Weyant Window Service, LTD	Thermal energy evaluation	Stockport	Morgan
Energy Performance Partners, LLC	Home energy raters	Toledo	Lucas
Green Home Pros, LLC	Home energy raters	Toledo	Lucas
NHS of Toledo	Home energy raters	Toledo	Lucas
Home Energy MD	Home energy raters	Twinsburg	Summit
Lighting Services, Inc	Audits of industrial and commercial buildings, light management company	Twinsburg	Summit
Contracting Solutions, LLC	Home energy raters	Westerville	Delaware

## An Ohio Success Story: The Kno-Ho-Co-Ashland Community Action Commission

In Ohio, community action agencies are the primary providers of weatherization services, with 52 agencies distributed across the state, working to improve the efficiency of low-income homes.<sup>32</sup> Community action agencies were created through the Economic Opportunity Act of 1964, and they seek to alleviate poverty through various programs such as emergency assistance, senior centers and education, in addition to their weatherization services.<sup>33</sup>

One of these agencies is the Kno-Ho-Co-Ashland Community Action Commission, which serves the counties of Knox, Holmes, Coshocton and Ashland.<sup>34</sup> It has been providing services to these communities since 1966. The weatherization sector of the agency provides assistance to low-income families with high energy costs, and offers services such as the inspection and repair of heating units, a diagnostic inspection of the entire house, installation of insulation, and various other energy-saving procedures. The agency has 16 field staff performing weatherization services, with an additional three to four employees providing back-up support.

Ray Feikert, the head of the program, says that business is booming. Because the program is free to low-income families, they have nothing to lose and much to gain from the program. Until recently, when the program received a large grant from the economic recovery bill, the program had a four-year waiting list. Today, that is down to only six months, largely because Feikert has been able to double the size of his staff and buy new equipment.

Other agencies have experienced similar demand. Feikert says a colleague with a different agency, for example, placed an ad in the newspaper for weatherization services and received 900 applications within the first two weeks—which was simply too much to handle. Demand is so high that Feikert doesn't advertise his services, which allows him to help the neediest without getting overwhelmed by the number of applications. Ohio clearly has ample room for its weatherization businesses and agencies to expand, and for new weatherization businesses to start.

Under the federal economic recovery plan, Feikert's agency received enough funds to weatherize 900 homes by March 2011. In the next few months he plans to double the size of his staff once again, but that will only allow him to weatherize 426 homes in the allotted time period—more than twice as many as his agency usually handles. In order to fully use the funds, Feikert will need to increase his staff even further. Without continued funding beyond 2011, however, Feikert will be forced to revert back to his original staff size—despite the tremendous demand for weatherization services by Ohioans.

to \$1,500. The improvements that qualify include new insulation, storm windows, storm doors, water heaters, furnaces, and certain types of roofing. Additionally, the program covers 30 percent of all costs, with no cap, for the installation of solar heating or cooling, geothermal heat pumps, fuel cells or wind energy.<sup>29</sup>

These federal programs have fueled the demand for weatherization services in Ohio. One weatherization provider, for example, reported that he had a four-year waiting list for his services prior to receiving more federal funds.<sup>30</sup> The numbers of

insulation workers and HVAC technicians in Ohio—jobs integral to weatherization—are projected to increase 6 and 12 percent, respectively between 2006 and 2016.<sup>31</sup>

**See page 16 for a list of home weatherization companies and agencies in Ohio.**

## Manufacturers of Energy Efficient Products

Weatherizing old homes and constructing new, energy efficient buildings requires  
*(text continues on page 20)*

### Energy Star: Helping Consumers Find Energy Efficient Appliances and Homes

**E**nergy Star is run by the U.S. Environmental Protection Agency and the U.S. Department of Energy. The program's appliance certification is nationally recognized, but Energy Star also certifies homes and businesses that are especially efficient.

Because Energy Star appliances and buildings have been tested by an independent rater, consumers can be sure that they are getting the efficiency they are paying for. The ratings also provide a nationally recognized standard for highly efficient buildings and appliances, providing clear pathways for achieving efficiency as well as criteria that governments, financial institutions, and utilities can rely on.

Products eligible for Energy Star certification range from refrigerators to laptop computers to furnace fans, in 60 categories. Homeowners who install certified appliances such as dishwashers, televisions, or furnaces can be sure that their energy bills will be smaller as a result. Energy Star products can save up to 75 percent of the electricity used to run these products compared with standard models.<sup>35</sup>

Energy Star certifies homes that are at least 15 percent more efficient than a standard home.<sup>36</sup> People looking to build or purchase an efficient house can use the program to find a builder who partners with the Energy Star program—currently over 200 Ohio builders are listed on the Energy Star Web site.<sup>37</sup>

Energy Star also certifies commercial buildings and manufacturing plants. The program uses a 1-100 scale to rate buildings requesting the certification by comparing the building with other similar facilities, then awards the Energy Star label to buildings scoring 75 or higher. Building managers can use an online tool to estimate their score, then make efficiency improvements to reach the desired score before applying for certification.<sup>38</sup>

**Table 2. Home Weatherization Companies and Agencies in Ohio**

<b>SERVICE PROVIDER</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
East Akron Neighborhood Development Corp.	Weatherization	Akron	Summit
Greathouse Heating and Cooling	Installs heating and cooling systems	Akron	Summit
Lucas Insulation	Insulation	Akron	Summit
Stewart Heating and Cooling	HVAC	Akron	Summit
Summit County Department of Community and Economic Development	Weatherization	Akron	Summit
Unified Construction Systems, Ltd.	Weatherization	Akron	Summit
Ashtabula County Community Action Agency	Weatherization	Ashtabula	Ashtabula
Clermont County Community Services	Weatherization	Batavia	Clermont
Grabill Plumbing and Heating, Inc.	Heating, plumbing installation	Beach City	Stark
Tri-County Community Action Agency of Champaign-Logan-Shelby Counties	Weatherization	Bellefontaine	Logan
GMN Tri-County Community Action Committee	Weatherization	Caldwell	Noble
Stark County Community Action Agency	Weatherization	Canton	Stark
Community Action Program Committee of Meigs and Gallia Counties	Weatherization	Cheshire	Gallia
Ross County Community Action Commission	Weatherization	Chillicothe	Ross
Cincinnati-Hamilton Community Action Agency	Weatherization	Cincinnati	Hamilton
Industrial Thermal Systems	Helps manufacturers reduce combustion energy use	Cincinnati	Hamilton
Engineering Excellence	HVAC	Cincinnati, Dayton, Columbus, Lexington	Hamilton, Montgomery, Franklin, Richland
Pickaway County Community Action Organization	Weatherization	Circleville	Pickaway

<b>SERVICE PROVIDER</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
CH2M Hill	Greenhouse gas management through emission reduction and energy conservation	Cleveland	Cuyahoga
City of Cleveland	Weatherization	Cleveland	Cuyahoga
Cleveland Housing Network - Wards 1-21	Weatherization	Cleveland	Cuyahoga
Community Housing Solutions - Wards 1-21	Weatherization	Cleveland	Cuyahoga
Cudell Improvement - Wards 12-21	Weatherization	Cleveland	Cuyahoga
Cuyahoga County Dept of Development	Weatherization	Cleveland	Cuyahoga
Detroit Shoreway Community Development Organization - Wards 13-21	Weatherization	Cleveland	Cuyahoga
Fairfax Renaissance Development Corporation - Wards 1-6	Weatherization	Cleveland	Cuyahoga
Mt. Pleasant NOW Development Corporation - Wards 1-6	Weatherization	Cleveland	Cuyahoga
Sunray Window Films	Installs window films	Cleveland	Cuyahoga
Bill Spade Electric Heating and Cooling	Provider of geothermal and radiant heating and cooling	Cleves	Hamilton
Weissling Remodeling	Insulation, roofing	Clinton	Summit
GroundLevelSolutions, Inc. (GLS)	Weatherization	Columbus	Franklin
IMPACT CAA	Weatherization	Columbus	Franklin
MORPC	Weatherization	Columbus	Franklin
Save With Insulation	Insulation	Columbus, Brunswick, Hamilton, Mansfield, Northwood	Franklin, Medina, Butler, Richland, Wood
KnoHoCo Ashland Community Action Commission	Weatherization	Coshocton	Coshocton
Community Action Partnership of the Greater Dayton Area	Weatherization	Dayton	Montgomery
Liberty Insulation Company, Inc	Insulation	Dayton	Montgomery
Northwestern Ohio Community Action Commission	Weatherization	Defiance	Defiance

Table 2. continued

SERVICE PROVIDER	SERVICE	CITY	COUNTY
Harcatus Tri-County Community Action Organization	Weatherization	Dennison	Tuscarawas
Parkfield Insulation Services	Insulation	Dublin	Franklin
HHWP Community Action Commission	Weatherization	Findlay	Hancock
Professional Supply Inc	Energy savings performance contracting	Fremont	Sandusky
WSOS Community Action Commission	Weatherization	Fremont	Sandusky
Echouse	Weatherization	Galloway	Franklin
Highland County Community Action Organization	Weatherization	Hillsboro	Highland
Ironton-Lawrence County Area Community Action Organization	Weatherization	Ironton	Lawrence
Unified Construction	Building contractors	Kettering	Montgomery
Fairfield Heating and Cooling, Inc	Heating, cooling, refrigeration	Lancaster	Fairfield
Lancaster-Fairfield Community Action Program			
Commission	Weatherization	Lancaster	Fairfield
McCullough Heating and Cooling	HVAC	Lancaster	Fairfield
Warren County Community Services	Weatherization	Lebanon	Warren
Community Action Agency of Columbiana County	Weatherization	Lisbon	Columbiana
Lorain County Community Action Agency	Weatherization	Lorain	Lorain
Community Action Program Corporation of Washington-Morgan Counties	Weatherization	Marietta	Washington
Ohio Heartland Community Action Commission	Weatherization	Marion	Marion
Community Action Organization of Delaware/Madison/Union Counties	Weatherization	Marysville	Union
My Plumber Inc	Plumbing and general contractor	Mentor	Lake
Monroe Mechanical	HVAC and refrigeration	Monroe	Butler
Tri-County (Hocking-Athens-Perry) Community Action Agency	Weatherization	Nelsonville	Athens

<b>SERVICE PROVIDER</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
LEADS	Weatherization	Newark	Licking
Community Action Committee of Pike County	Weatherization	Pikeon	Pike
Community Action Organization of Scioto County	Weatherization	Portsmouth	Scioto
Community Action Council of Portage County	Weatherization	Ravenna	Portage
The Green Building Pros	Weatherization	Salem	Columbiana
Clinton County Community Action Program	Weatherization	Springfield	Clark
Community Action Commission of Belmont County	Weatherization	St. Clairsville	Belmont
Jefferson County Community Action Council	Weatherization	Steubenville	Jefferson
Ohio Insulating	Insulation	Tallmadge	Summit
Neighborhood Housing Services of Toledo	Weatherization	Toledo	Lucas
Miami County Community Action Council	Weatherization	Troy	Miami
Van Wert County Commissioners	Weatherization	Van Wert	Van Wert
Trumbull Community Action Program	Weatherization	Warren	Trumbull
Community Action Commission of Fayette County	Weatherization	Washington Court House	Fayette
Jackson-Vinton Counties Community Action	Weatherization	Wellston	Jackson
Adams-Brown Counties Economic Opportunities, Inc.	Weatherization	Winchester	Adams
Community Action-Wayne/Medina	Weatherization	Wooster	Wayne
Mahoning Youngstown Community Action Partnership	Weatherization	Youngstown	Mahoning
Muskingum Economic Opportunity Action Group	Weatherization	Zanesville	Muskingum



the use of specialized products, such as Energy Star-rated building materials and appliances. Numerous Ohio businesses manufacture Energy Star-rated furnaces, double-paned windows, and other energy efficient products. There are already at least 109 manufacturers of energy efficient products located in the state, and there is potential for much more growth over the next decade.

For years, Ohio has been suffering from a decline in manufacturing. In the past decade, the state has lost more than 280,000 manufacturing jobs.<sup>39</sup> While some of these workers have found other jobs, many remain unemployed or under-employed. The current economic crisis has only exacerbated these losses. In May 2009, nearly half the jobs lost in the United States

were in the manufacturing sector, and 70 percent of manufacturers predict they will have difficulties securing new credit to purchase raw materials and rehire workers once the economy improves.<sup>40</sup>

Manufacturers of energy efficient products, however, are a silver lining in this dark cloud. With 50 percent of all jobs in the energy efficiency industry located in the manufacturing sector, any increased demand from weatherization and other efficiency measures will result in new jobs manufacturing the required new doors, windows, heating equipment and insulation.<sup>41</sup>

While in many cases manufacturing energy efficient products may simply replace the manufacturing of lower-quality

## An Ohio Success Story: Owens Corning

Weatherizing Ohio's homes and businesses—as well as homes and businesses in other states—will require an increase in insulation production. As the home of Owens Corning, a leading international insulation and energy efficient building materials manufacturer, Ohio is well-positioned to reap the benefits of the increased demand. In addition to their headquarters in Toledo, Owens Corning has plants manufacturing insulation in Columbus, Mount Vernon, Newark and Tallmadge, as well as science and technology centers in Granville and Tallmadge.<sup>44</sup>

Founded in 1938, Owens Corning produces building materials, such as insulation and residential roofing materials, as well as composites, such as the fiberglass found in wind turbines. Owens Corning has enjoyed immense success in this field, and it has been ranked as a Fortune 500 company for more than 50 years. The company operates in more than 30 countries and has 16,500 employees, half of which are based in the United States. In 2008, the company boasted sales of \$6 billion.<sup>45</sup>

This multinational corporation got its start in Toledo, Ohio. Two companies formed a joint venture to sell glass fibers, and chose Toledo as the base of their operations because it was the “glass capital of the world.” Over the years, the company grew rapidly in size and began branching out to other products. To this day, however, Owens Corning's headquarters remains in Toledo, Ohio. The company's global headquarters for research and development is also located in Ohio—in Granville.

Promoting energy efficiency products is now a core business strategy of Owens Corning. By promoting insulation, Owens Corning sees an opportunity to both grow and help the states it works in increase their efficiency.

## An Ohio Success Story: Pella Window and Door Stores

The Pella Corporation is a leading manufacturer and distributor of energy efficient windows and doors. Pella sells its higher-end products exclusively at Pella Window Stores and Pella Windowscaping Centers throughout the United States, including many Ohio locations, while their less expensive products are distributed to major retail centers, such as Home Depot and Lowe's.<sup>48</sup>

Early in its history, the Pella Corporation established a network for the sale of its products, which now serves customers throughout the United States, Canada, and other select countries. These specialized Pella Window and Door Showrooms are designed to educate potential customers about the product and provide professional support after the sale.<sup>49</sup> There are seven Pella Window & Door showrooms in Ohio, serving the communities of Bedford Heights, Mentor, Westlake, Columbus, Canfield, Canton and Akron.<sup>50</sup>

In 1992, Pella entered the national retail market, and Pella products are now sold at the top retail centers in the United States and Canada. These retail stores tend to carry the Proline series from Pella, which is the more economical line of products. In 2001, Pella entered into an agreement with Lowe's to offer Pella Design Centers at Lowe's stores. These Design Centers are a "store-within-a-store" and are staffed by Lowe's associates who are trained to assist customers with their window and door needs.<sup>51</sup> There are 14 Lowe's locations in Ohio offering these design centers.<sup>52</sup>

As more Ohioans weatherize their homes, and as new homes are built more energy efficiently, stores like Pella that sell windows and doors designed to keep heated or air-conditioned air in a house will see a surge in business. The increased demand for weatherization and energy audits that professionals in those fields have experienced recently will also lead to an increased demand for the products that energy efficiency upgrades require. With their Ohio-based efficient door and window outlets, Pella is poised to capitalize on this coming trend, with benefits for the business and Ohio's economy alike.

products, an economy-wide push to increase energy efficiency means that consumers will be replacing doors, windows, furnaces, and other products that would otherwise have sat unchanged in a building for many years to come. This rush for new products, already instigated by Ohio's energy efficiency resource standard and federal energy efficiency funding, will lead to more manufacturing overall, at a time

when manufacturing sorely needs a boost.

Ohio is ideally positioned to take advantage of this growth. Given its large pool of highly skilled manufacturing workers, Ohio can easily recruit companies that offer high-paying and diversified jobs making energy efficient products.

Ohio recently received \$96 million from the U.S. Department of Energy to  
*(text continues page 27)*

**Table 3. Manufacturers of Energy Efficient Products in Ohio**

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Associated Materials	Windows	Akron	Summit
Rexorce Thermionics Inc.	Waste heat recovery system components	Akron	Summit
TCP	Lighting	Aurora	Portage
Babcock and Wilcox Company	Waste heat recovery system components	Barberton	Summit
Progressive Foam Technologies, Inc.	Insulation	Beach City	Stark
Tremco Inc	Roofing	Beachwood	Cuyahoga
Armstrong Air Conditioning, Inc.	Heating and cooling systems	Bellevue	Erie
Joyce Manufacturing Company	Windows	Berea	Cuyahoga
Joyce Windows	Windows	Boardman	Mahoning
Advanced Fiber Technologies	Insulation	Bucyrus	Crawford
Edgetech IG Inc.	Windows	Cambridge	Guernsey
Lauren Windows	Windows doors	Cambridge	Guernsey
Champion Window Manufacturers	Windows	Cincinnati	Hamilton
Gilkey Windows Company	Windows	Cincinnati	Hamilton
LSI Industries	Lighting	Cincinnati	Hamilton
Melink Corp	Commercial kitchen ventilation system; also provides consulting and engineering services	Cincinnati	Hamilton
Revelation Windows and Doors	Windows	Cincinnati	Hamilton
Tri-State Wholesale Building Supplies Inc	Windows	Cincinnati	Hamilton
Adams Manufacturing Company	Furnaces	Cleveland	Cuyahoga
Eaton	Energy efficient devices for trucks, APU systems	Cleveland	Cuyahoga
Energy Industries of Ohio, Casting Development Center	Develops, demonstrates and incubates technologies to improve energy efficiency	Cleveland	Cuyahoga
GMX Inc	Roofing	Cleveland	Cuyahoga

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Green Source Products	Wall and roof framing system	Cleveland	Cuyahoga
Hinkley Lighting	Lighting	Cleveland	Cuyahoga
Monarch Electric Service Co	Rewind, repair, and remanufacturing of motors and generators	Cleveland	Cuyahoga
Stanek Vinyl Windows	Windows	Cleveland	Cuyahoga
Tremco Inc.	Roofing and sealants	Cleveland	Cuyahoga
Truco Inc.	Fluid applied roofing materials	Cleveland	Cuyahoga
TruSeal Technologies	Windows	Cleveland	Cuyahoga
Uniflex	Roofing	Cleveland	Cuyahoga
Whirlpool Corporation	Appliances	Clyde	Sandusky
Lamit Industries	Structural insulated panels	Columbus	Franklin, Delaware, Fairfield
National Electric Coil	Generators for waste heat recycling and CHP systems	Columbus	Franklin, Delaware, Fairfield
Nexergy, Inc.	Advanced batteries	Columbus	Franklin, Delaware, Fairfield
Rosati Windows	Windows	Columbus	Franklin, Delaware, Fairfield
CW Ohio	Windows	Conneaut	Ashtabula
Contractor Window Supply Mfg., LLC	Windows	Coolville	Athens
MFM Building Products Corporation	Roofing	Coshocton	Coshocton
Revere Building Products	Windows	Cuyahoga Falls	Summit
Yale Industries Inc	Windows	Dayton, Cincinnati, Columbus	Montgomery, Hamilton, Franklin
Honeywell International	Window films, bio-fuels, building efficiency solutions, etc	Dublin	Franklin
Jarrett Inc	Windows	East Palestine	Columbiana
Teron Lighting Inc	Lighting	Fairfield	Butler
Custom Seal Inc	Roofing	Fremont	Sandusky

Table 3. Continued

COMPANY	PRIMARY PRODUCT	CITY	COUNTY
Dornback Furnace Division	Furnaces	Garfield Heights	Cuyahoga
BASF Corporation	Clear coats, resins, catalysts used in petrochemical and oleochemical processing	Greenville, Elyria, Whitehouse	Darke
Fabcon	Wall panels	Grove City	Franklin
Staber	Appliances	Groveport	Franklin
T Clear Corporation	Roofing	Hamilton	Butler
Vinylmax LLC	Windows	Hamilton	Butler
Vinyl Design Corp	Windows	Holland	Lucas
Kichler Lighting	Lighting	Independence	Cuyahoga
Atria Building Products	Windows	Johnstown	Licking
Patio Enclosures Inc	Roofing, windows	Macedonia	Summit
Therma-Tru Doors	Door systems	Maumee	Lucas
3M	Protective window films	Medina	Medina
Republic Powdered Metals Inc	Roofing, walls	Medina	Medina
Holdfast Technologies, LLC	Insulated concrete forms	Medway	Clark
Eye Lighting International	Lighting	Mentor	Lake
Brewer Company	Roofing	Milford	Clermont
Vinyl Kraft Windows	Windows	New Boston	Scioto
Ludowici Roof Tile Inc	Roofing	New Lexington	Perry
Sherwin Williams	Paints and coatings	North Canton, multiple OH stores	Stark
Weatherking Heating and Air Conditioning	Heating and cooling systems	Northfield	Summit
Greenway Home Products Inc	Appliances	Northwood	Wood
Fomo Products Inc	Insulation	Norton, Akron	Summit

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Bio-Gas Technologies, LTD	Designer and operator of gas-to-energy cogeneration systems	Norwalk	Huron
EXTOL of Ohio	Insulation	Norwalk	Huron
American Weather Seal	Windows	Orrville	Wayne
Heat Exchange Applied Technology Inc	Waste heat recovery system components	Orrville	Wayne
WC Wood Company Inc	Appliances	Ottawa	Putnam
Jancor	Vinyl building products, windows	Perrysburg	Wood
Classic Metal Roofing Systems	Roofing	Piqua	Miami
Dimensional Metals Inc	Roofing	Reynoldsburg	Franklin, Fairfield, Licking
Unilock	Permeable pavers	Rittman	Wayne
Lumination Technologies LLC	Lighting	Rocky River	Cuyahoga
ThorWorks Industries Inc	Roofing	Sandusky	Erie
Sheffield Metals International	Roofing	Sheffield Village	Lorain
CGI/Silvercote Inc	Insulation	Solon	Cuyahoga
Environmental Wall Systems, LTD	High quality sustainable wall systems	Solon	Cuyahoga
WP Hickman Systems Inc	Roofing	Solon	Cuyahoga
Gardiner Trane	Heating and cooling systems	Solon, Uniontown	Cuyahoga, Stark
Cobasys	Energy storage systems for hybrid electric vehicles	Springboro	Montgomery
64 Metals	Post-frame building kit provider	St. Louisville, McConnellsville	Licking, Morgan
Aside	Exterior building products	Statewide	Statewide
Oberfields	Concrete block, masonry	Statewide	Statewide
Pilkington	Windows	Statewide	Statewide
Soft-Lite Windows	Windows	Streetsboro	Portage
Venture Lighting	Lighting	Streetsboro	Portage
Spero Electric Corporation	Lighting	Streetsboro, Cleveland	Portage, Cuyahoga
ProVia Door Inc	Doors, windows	Sugarcreek	Tuscarawas

Table 3. Continued

COMPANY	PRIMARY PRODUCT	CITY	COUNTY
Comfort Line Windows	Windows	Toledo	Lucas
Owens Corning	Insulation, roofing	Toledo	Lucas
Hobart Corporation	Appliances	Troy	Miami
Enterprise Corp	Heating and cooling systems	Twinsburg	Summit
GED Integrated Solutions Inc	Windows, insulation	Twinsburg	Summit
KST Coatings Manufacturing Inc	Roofing	Twinsburg	Summit
Technoform	Windows	Twinsburg	Summit
GE Lumination	Lighting	Valley View	Cuyahoga
Hylod Inc	Roofing	Wadsworth	Medina
Soprema Inc	Roofing	Wadsworth	Medina
Great Lakes Window	Windows	Walbridge	Wood
Vista Window Company	Windows	Warren	Trumbull
AirTite Home Products	Windows	West Chester, North Royalton	Butler, Cuyahoga
Johnson Controls	Systems for efficient buildings - HVAC, under floor air systems, etc	Westerville	Franklin
Bosch Roxroth Corporation	Hydraulic hybrid truck components	Wooster	Wayne
Seaman Corporation	Roofing	Wooster	Wayne
Polaris Technologies	Windows	Youngstown	Mahoning
Vynlume Products Inc	Windows	Youngstown	Mahoning

invest in “green” manufacturing, and Senator Sherrod Brown has proposed a bill to provide \$30 billion in funding to help manufacturers and auto suppliers transition to the clean energy sector.<sup>42</sup> These investments will help Ohio to become more competitive in the green manufacturing sector and position the state to capitalize on the increased popularity of energy efficient products.

New manufacturing jobs have a ripple effect across the economy. The Economic Policy Institute estimates that each job in manufacturing supports an additional 2.9 indirect jobs in other sectors 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.<sup>43</sup> Thus, growing the manufacturing sector will provide benefits to other businesses across the state.

**See page 22 for a list of manufacturers of energy efficient products in Ohio.**

## Distribution and Sales

There are at least 680 stores in Ohio that now sell energy efficient products and appliances. The stores offering these appliances range from large retail centers offering a wide array of products, such as Radio Shack, to smaller and more specialized stores, such as those owned by the Air Tight Corporation, which specializes in window products.

These businesses provide jobs to thousands of people who work as sales clerks, managers, technological specialists, janitorial staff, and in other supportive positions. They also create numerous indirect jobs, ranging from transporters to financial advisers.

Demand for Energy Star-rated products and appliances is increasing. In 2007, the last year for which data are available, more than 77 percent of all dishwashers sold were Energy Star-qualified as were 50 percent of the air conditioners.<sup>46</sup> If increased energy consciousness or government

## 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 go beyond basic 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.<sup>58</sup>

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.<sup>59</sup>

The goal of LEED certification sets a high standard for builders and clients who want their buildings to be leaders in efficiency and other environmentally beneficial features. The U.S. Green Building Council's Web site lists over 90 commercial buildings and over 80 homes in Ohio that have been LEED certified.<sup>60</sup>



## An Ohio Success Story: Doty & Miller Architects

Doty & Miller Architects is an Ohio architectural firm dedicated to building sustainable buildings, based in Cleveland.<sup>61</sup> William Doty and Chuck Miller, who founded the firm in 1977, strongly believe that architects “have an opportunity to make a significant contribution in shaping the character, functions and style of the built environment and in creating stronger communities and preserving natural resources.”<sup>62</sup> To satisfy this vision, they selectively choose projects that will educate the public about sustainability or move the marketplace forward, such as building the first “green” church in the area.

The project William Doty is most proud of, however, is the firm’s new office building. The office was built in a historic post office that has been adapted for reuse. The new building is LEED certified, and employs efficiency features such as ample daylight that replaces electric lighting much of the day, and sensors that track and adjust temperature, carbon dioxide levels, humidity, and indoor-light levels, in addition to a solar-paneled awning. Doty explains that the project was important to him because it can serve as a blueprint for other buildings in the area. There are numerous old buildings throughout the state of Ohio which many people believe should simply be torn down. But as Doty points out, these buildings can be preserved and restored in a sustainable manner, both preserving historic buildings and saving the energy that would be used in demolition and reconstruction.

In spite of the downturn in the housing market, Doty and Miller’s vision continues to appeal to a wide range of customers—2007 and 2008 were the firm’s best years in the history of their business. The firm currently has 13 employees and is projecting growth in future years. Doty believes that their continued success is due to a growing awareness of environmental issues in the country. Doty focuses on finding projects that will have the greatest impact and move the market towards more sustainability, and his business has grown as a result. Doty refers to himself as a Green Capitalist, and believes that his company can help motivate businesses to understand and embrace sustainability measures.

Doty sees policy as having an important role to play in encouraging businesses like his that place a priority on efficiency. The Ohio Department of Development provides funding for architects designing energy efficient homes, financed through Ohio’s Advanced Energy Fund, set to expire in 2010. Doty says this has been a deciding factor in his pursuit of certain projects, and believes the state should renew and expand the grant program. If more money were available, more energy efficient projects could be built.

programs lead more consumers to replace existing products, retailers can benefit from an increase in sales. The United States may soon see this sort of surge in replacements, driving up business at all

stores that sell energy efficient products. The federal government is introducing a new “cash-for-appliances” program, which, like the similar “cash-for-clunkers” program, will result in many people

replacing their appliances who otherwise would not have bought new appliances at all. This program will distribute \$300 million in economic recovery funds in order to encourage people to upgrade their appliances to Energy Star-qualified products. The program will offer consumers \$50 to \$200 to buy new Energy Star-rated refrigerators, dishwashers and washing machines, which consume the most amount of energy. Retailers are anticipating a dramatic spike in sales as a result of the program.<sup>47</sup>

**See Table A-1 in the appendix for a list of retailers and distributors of energy-efficient products in Ohio.**

## Building Design and Construction

Many architects and homebuilders in Ohio already make it a priority to build new homes that are energy efficient. There are at least 215 builders and architects in Ohio that construct Energy Star and other energy-efficient homes, and 10 of these businesses are dedicated solely to building energy-efficient homes. In fact, more than 20 percent of the homes constructed in Ohio in 2008 were Energy Star-qualified, showing that the market is strong for efficient houses but that there is also ample room for growth.<sup>53</sup>

New buildings can be built to take advantage of a number of opportunities for energy efficiency that existing buildings cannot. Although the potential to save energy through cost-effective retrofits of existing buildings is large, it is even easier and cheaper to construct a new building to be efficient in the first place.

New homes meeting federal Energy

Star energy efficiency standards provide energy savings of at least 15 percent, and are typically 20-30 percent more efficient than standard homes, with an incremental cost of only 2 to 3 percent.<sup>54</sup> The incremental cost of energy efficiency in new buildings is automatically folded into the building's mortgage, meaning that owners realize the net savings on their energy bills immediately.

New buildings can also take advantage of advanced design techniques that save even more energy. For example, homes have been built that use almost no energy for heating or cooling over the course of the year, while still being perfectly comfortable for residents.<sup>55</sup>

Federal money coming from the economic recovery package will encourage the development of the efficient home market. 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.<sup>56</sup> These incentives help builders meet the demand for Energy Star and other efficient homes, which has remained relatively high even during the housing crisis.<sup>57</sup>

In addition, certain programs at the state level bolstering the market for energy efficient homes. The Ohio Department of Development, for example, offers grants to builders of Energy Star homes, and the George Gund Foundation will only award capital grants to green projects. By linking funding to energy efficiency, these projects will further increase demand for these specialized homes in the future.

**See Table A-2 in the appendix for a list of designers and builders of energy-efficient buildings in Ohio.**

# Ohio Can Increase its Energy Efficiency

Through energy efficiency, Ohio could reduce its use of coal and natural gas while supporting state businesses and saving consumers money. Although the state has made some progress on energy efficiency in recent years, there is still a long way to go to realize the state's energy efficiency potential. Ohio should make it a priority to increase the energy efficiency of its buildings, appliances, and manufacturing.

Ohio's efficiency remains largely untapped, despite the benefits to consumers, businesses and the state, due to a number of barriers. Even when the payback time for efficiency improvements to a building is as short as three years, paying the equivalent of a year of energy bills all at once can be prohibitive to many home and business owners. Often, the people making the decision about the energy efficiency of a building or appliance will not be paying the energy bills—homebuilders may perceive little incentive to pay the extra money to improve the energy efficiency of their buildings, while landlords not responsible for paying utility bills might face a similar lack of incentive. In addition, many consumers simply do not have the information or time to maximize

their energy savings, despite the benefits for themselves and for Ohio.

There are a number of policies that would help overcome these barriers and build Ohio's energy efficiency industry. National global warming and energy legislation would spur Ohio's energy efficiency industry by encouraging technologies and techniques that reduce global warming emissions. By requiring new buildings to meet minimum standards for efficiency, Ohio can ensure that the next generation of buildings will waste far less energy. And, setting a goal for all new buildings to be zero net energy by 2030 will set Ohio on the path to maximize its energy efficiency over time.

It is worth it for Ohio—and for the federal government—to help consumers and businesses overcome barriers to efficiency and ensure that our state's energy efficiency continually increases. Beyond the environmental and financial benefits, increased energy efficiency strengthens Ohio's economy, helping businesses thrive and grow, creating jobs, and increasing consumer spending. Ohio should enact and implement policies that encourage energy efficiency.

## Adopt National Global Warming and Energy Policies

The United States should adopt national global warming and energy policies that set high standards and encourage energy efficiency. In addition to raising the bar for energy efficiency in Ohio, national standards would increase demand for products and services that Ohio is well poised to supply to consumers or markets both inside and outside the state.

### Cap Global Warming Emissions

A mandatory, economy-wide cap on global warming emissions would spur energy efficiency, since efficiency is the cheapest, fastest way to reduce emissions. Requiring emissions reductions would help Ohio's energy efficiency businesses and encourage the deployment of energy efficiency to reduce Ohio's use of coal and natural gas.

The cap should be set at levels consistent with what science tells us is necessary to prevent the worst impacts of global warming. At minimum, total U.S. emissions should be reduced by 35 percent below 2005 levels by 2020 and by 80 percent below 2005 levels by 2050. To use our resources most effectively, any emission trading program used to comply with a global warming emission cap should auction, rather than give away, emission allowances and use the proceeds of that auction to accelerate the transition to a clean energy economy and reduce the cost of the program to consumers. Energy efficiency improvements and technology would likely be among the critical clean energy programs that could receive funding through auction revenues.

### Establish a National Energy Efficiency Resource Standard

The United States should adopt a national energy efficiency resource standard

(EERS) like the one Ohio adopted in 2008. Such a standard would set a concrete goal for improved energy efficiency and unleash the resources needed to achieve those goals, bringing new investment to businesses such as those in Ohio that manufacture, sell and install energy efficient products. A federal EERS should seek to reduce electricity demand by 15 percent by 2020 and natural gas demand by 10 percent, with more ambitious goals in later years.

### Adopt Strong Building Energy Codes

The building codes that establish minimum standards for energy efficiency in homes and businesses are effectively voluntary—many states do not adopt or enforce these codes, leading to thousands of new buildings built without energy efficiency measures that are standard in other states. These buildings are a lost opportunity to reduce the pollution that results from burning fossil fuels, and a lost opportunity for the economy. The United States should adopt building energy codes that reduce energy consumption in new homes and commercial buildings by 50 percent by 2015 and by 75 percent by 2030.

### Improve State Building Energy Codes

Building energy codes are one of the most powerful tools Ohio has to improve energy efficiency. Ohio's residential building energy codes are currently out of date; the state should adopt the most recent building energy codes to ensure that all new buildings use energy efficiently, rather than wasting energy and money.

New buildings must comply with building codes, which are developed nationally and adopted individually by states. Just as there are fire and other safety standards

that buildings must meet, the codes also include minimum standards for energy efficiency, to ensure that home and business owners aren't sold buildings with substandard insulation, duct work, or other features that a layperson wouldn't recognize until the winter heating bill came.

Building codes are developed nationally, with different standards for each U.S. climate, and updated every three years. Although states are not required to adopt the national residential model code, developed by the International Energy Code Council (IECC), it is strongly encouraged. Adoption of the most recent codes is also a requirement tied to stimulus funding that Ohio has received.<sup>63</sup>

Ohio's residential building energy codes have been up-to-date, but today they are not only falling behind—they are actively being weakened.

The most recent residential code is the 2009 IECC. This updated standard is a big improvement over the previous code, IECC 2006. The U.S. Department of Energy estimates that homes built to the code will be at least 15 percent more energy efficient than the previous code, and up to 20 percent more efficient depending on the climate zone and compliance path used.<sup>64</sup>

The new code achieves this large increase in efficiency through fairly common-sense methods, such as requiring ducts to be tested and checked for leaks, more efficient lighting, and raising the standard for window quality.<sup>65</sup>

In 2008, instead of moving to adopt the more efficient standard under development as soon as it was released, as a number of other states did, Ohio's building code board moved to weaken the state's residential codes. By January 1, 2009, Ohio's standard was a weakened version of the 2006 IECC. The Ohio adaptation of the standard allows

houses to be constructed with lower standards for insulation and air sealing, in exchange for installing efficient furnaces and other types of equipment that are already in wide use, reducing new homes' efficiency by as much as 18 percent.<sup>66</sup>

If Ohio adopts the 2009 IECC, owners of new homes built to the standard will save \$221 in annual energy bills, adding up to \$98 million in statewide energy savings by 2020, and \$186 million by 2030—assuming energy prices stay steady at 2006 levels.<sup>67</sup>

These energy savings would reduce Ohio's carbon dioxide emissions by 1.5 million metric tons by 2030—the equivalent of taking about 275,000 cars off the road.<sup>68</sup> The provisions in the 2009 IECC also have stricter technology requirements that would increase business for Ohio's energy efficiency industry, especially within the HVAC industry.<sup>69</sup>

The IECC is developed by experts in the industry, and has different requirements for different climate zones to maximize energy efficiency in every state. There is no need for Ohio to make state-specific adjustments to the code unless the state wants to raise the minimum energy efficiency it requires.

Ohio should adopt the 2009 IECC to realize these large potential savings for consumers, businesses and the state's environment, and to bring business to the state's energy efficiency industry.

The state is working towards adopting ASHRAE 90.1-2007, the latest code for commercial buildings and a requirement for accepting \$96 million in funding from the American Recovery and Reinvestment Act of 2009. Ohio should see this process through to the end, and adopt the next version of the commercial code when it is released for additional efficiency improvements.

## Eliminate the Bias in Ohio's Building Code Adoption Process

Although the Board of Building Standards (BBS) is the state's official code-adoption agency, since 2005 it has been restricted to adopting residential codes recommended by the Residential Construction Advisory Committee (RCAC). Half of the RCAC members are builders and contractors, with no representation by consumer or environmental advocates or energy experts, eliminating most other voices from the process by which Ohio decides the energy use of its new buildings—such as voices concerned with the state's energy use.<sup>70</sup>

Recently, new seats were added to the BBS for energy efficiency experts. These changes are a good start, but Ohio should go farther and eliminate the RCAC.

## Implement the Energy Efficiency Standard

After more than a year of work and debate by Ohio's state legislators from both parties, on May 1, 2008, Governor Strickland signed Senate Bill 221 into law. The legislation creates a strong energy efficiency resource standard (EERS) that requires each major electric utility to invest in energy efficiency. This means that Ohio joins the ranks of 16 other states that have made this type of commitment to energy efficiency.<sup>71</sup>

The energy efficiency standard requires Ohio's electric utilities to invest enough money in effective programs in 2009 to save 0.3 percent of the electricity they would otherwise have sold, increasing to 2 percent by 2019.

This electric efficiency requirement means that total electricity consumption in Ohio could decline by 12 percent in

coming years, instead of increasing by 8 percent from 2007 to 2025 as is currently projected.<sup>72</sup> The resulting 32 MWh of annual energy savings is enough to power 3.3 million Ohio homes at today's consumption levels and equal to the output of four 1,000-megawatt coal fired power plants.<sup>73</sup>

Ohio's EERS will help the state take advantage of many of the currently untapped opportunities for energy efficiency—but only if it is implemented and enforced. Ohio must ensure that utilities are investing enough money in energy efficiency programs and choosing effective programs so that they can meet the established targets. The Public Utilities Commission of Ohio should also ensure that these programs are distributed across all sectors, so that the program is benefiting utility bill payers across Ohio as well as bringing business to Ohio's energy efficiency industry to boost the state's economy and create jobs.

## Set a Goal of Zero Net Energy Buildings by 2030

Ohio's buildings today use about two-thirds of the state's electricity and natural gas. However, buildings exist that are extremely efficient and produce as much energy as they use, meaning that Ohio has the potential to eliminate energy demand from its new buildings through "zero net energy" buildings.<sup>74</sup> Ohio should set a goal for all new buildings to be zero net energy buildings by 2030.

The most recent building codes raise the bar for standard building energy efficiency, but still only cover part of what's possible for increasing the efficiency of new buildings. As efficiency technology is developed and today's cutting edge insulation, windows and water heaters become standard, Ohio's minimum efficiency

requirements should be periodically updated to reflect new improvements.

Renewable energy has seen similar development. New solar technology can be incorporated into house shingles, and the price of solar panels is continually dropping. Small wind power is increasingly standardized, and other technologies such as geothermal energy are increasingly common.

Over the course of the next 20 years, there is no reason that zero energy homes—today an advanced building technique—can't become as common as today's hybrid car. If Ohio sets its eye on this goal and provides the right requirements and incentives, the state's energy efficiency and renewable power industries will step up to the challenge.

# Appendix

Ohio businesses that would benefit from increases in energy efficiency are listed in this appendix. Any company, organization or other entity within these categories that would see business noticeably increase from local energy efficiency boosts was included. For example, businesses with more than one branch were listed once, but each branch was

counted separately for the total number of Ohio businesses.

These lists show the minimum size and scope of the energy efficiency industry in Ohio, but there may be additional businesses and organizations that would benefit from energy efficiency improvements in Ohio that are not captured in these lists.



**Table A-1. Distributors and Retailers of Energy Efficient Products in Ohio**

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Keith's Hardware Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Ada	Hardin
East Side Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Akron	Summit
Window World--Akron	Window components, windows, doors & skylights	Akron	Summit
Alliance Appliance Center Inc.	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Alliance	Stark
Valley Bldg. Ctr. of Andover, Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Andover, Geneva	Ashtabula
Arcanum Hardware, Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Arcanum	Darke
Stotzer's Do it center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Archbold	Fulton
Home Hardware, Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Ashland	Ashland
Thiel's Replacement System	Window components, windows, doors & skylights	Ashland	Ashland
Morning Star Windows & Doors Inc	Window components, windows, doors & skylights	Aurora	Portage
The Lloyd Company	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Bainbridge	Geauga
Air Tight Corporation	Window components, windows, doors & skylights	Beachwood	Cuyahoga
Hudson Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Beallsville	Monroe
Daytona Mills, Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Beavercreek	Greene
Factory Lighting Center	Light fixtures, CFL bulbs, ceiling fans	Beavercreek	Greene
Oakwood Village Hardware & Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Bedford	Cuyahoga
Sun Home Services, Inc.	Window components, windows, doors & skylights	Bedford	Cuyahoga
B&B Appliance Co	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners, televisions	Bedford Heights, Euclid, Middleburg Heights	Cuyahoga
Beckley Plumbing & Htg., Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Bellevue	Erie, Huron, Seneca and Sandusky
Berea Window & Door	Window components, windows, doors & skylights	Berea	Cuyahoga
Kandel's Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Berlin	Holmes
Community Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Bluffton	Allen, Hancock
Farragher Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Boardman	Mahoning
Mid-Wood True Value Bowling Green	CFL bulbs	Bowling Green	Wood
J & M Home Improvement	Window components, windows, doors & skylights	Brecksville	Cuyahoga
Carroll-Ames True Value Hardware	CFL bulbs	Bryan	Williams
Town & Country Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Bryan	Williams
Burton Window & Door	Window components, windows, doors & skylights	Burton	Geauga

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Caledonia Village Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Caledonia	Marion
Orme Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cambridge, New Concord	Guernsey, Muskingum
Camden Hardware Company	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Camden	Preble
C&T Remodeling	Window components, windows, doors & skylights	Campbell	Mahoning
Fulton Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Canal Fulton	Stark
Coventry Lighting, Inc.	Exit signs, light fixtures, CFL bulbs, ceiling fans	Canfield	Mahoning
Beiden Village Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Canton	Stark
Crystal Park Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Canton	Stark
Furbay Electric Supply Company	Light fixtures, CFL bulbs, ceiling fans	Canton	Stark
Marshall Appliance Co.	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Canton	Stark
Houk Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Carey	Wyandot
The Light House	Light fixtures, CFL bulbs, ceiling fans	Carrollton	Carroll
Cedarville Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cedarville	Greene
Agape Enterprises Inc.	Window components, windows, doors & skylights	Celina	Mercer
Total Electric Service, Inc.	Light fixtures, CFL bulbs, ceiling fans	Celina	Mercer
Centerburg Ace	CFL bulbs	Centerburg	Knox
Renuvate, LLC	Window components, windows, doors & skylights	Centerville	Montgomery
Morris Home Furnishings	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Centerville, Dayton	Montgomery
Chagrin Hardware & Supply Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Chagrin Falls	Cuyahoga
Weather Tech Corp.	Window components, windows, doors & skylights	Chardon	Geauga
Chatfield Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Chatfield	Crawford
Spoltman Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Chickasaw	Mercer
Central Center Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Chillicothe	Ross
D.A.N.S. Home Supply Center	Window components, windows, doors & skylights	Chillicothe	Ross
C & J Maytag Home Appliance Center	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Chillicothe, Jackson, Waverly	Ross, Jackson, Pike
Ace Hardware & Electric	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cincinnati	Hamilton
Beck Paint & Hardware Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cincinnati	Hamilton
Champion Window & Patio Room Co.	Window components, windows, doors & skylights	Cincinnati	Hamilton
Dan's Fan City	Ceiling fans	Cincinnati	Hamilton
Factory Direct Remodeling	Window components, windows, doors & skylights	Cincinnati	Hamilton
Hartke Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cincinnati	Hamilton

Table A-1. Continued

COMPANY	SERVICE	CITY	COUNTY
Havco Lighting & Supply	Exit signs, light fixtures, CFL bulbs	Cincinnati	Hamilton
Meyer's Do It Best Hardware & Rental	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cincinnati	Hamilton
Century Maintenance Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cincinnati, Cleveland, Columbus	Hamilton, Franklin, Cuyahoga
John A. Becker Co.	Light fixtures, ceiling fans	Cincinnati, Dayton	Hamilton, Montgomery
Alexanders Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
Altra Thermal of Cleveland	Window components, windows, doors & skylights	Cleveland	Cuyahoga
American Home Improvement	Window components, windows, doors & skylights	Cleveland	Cuyahoga
Custom Built Windows	Window components, windows, doors & skylights	Cleveland	Cuyahoga
Greenes Hardware & Ind. Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
Kredo Industrial Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
Nottingham Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
Real Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
Shannon & Messer	Window components, windows, doors & skylights	Cleveland	Cuyahoga
Silverman Bros Store #8	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
Tesco Builder Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
Value Products Inc.	Window components, windows, doors & skylights	Cleveland	Cuyahoga
Van Aken Hardware, Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland	Cuyahoga
West Side Glass Block	Window components, windows, doors & skylights	Cleveland	Cuyahoga
Seitz-Agin Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Cleveland Heights	Cuyahoga
West Side Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Cleveland, Fairview Park, Fairlawn	Cuyahoga, Summit
Affordable Windows & Siding	Window components, windows, doors & skylights	Columbus	Franklin
APCO Home Improvement Division	Window components, windows, doors & skylights	Columbus	Franklin
Apex Columbus	Window components, windows, doors & skylights	Columbus	Franklin
Beechwood Ace Hardware	CFL bulbs	Columbus	Franklin
Buckeye Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Columbus	Franklin
Champion of Columbus	Window components, windows, doors & skylights	Columbus	Franklin
Grandview Ace Hardware	CFL bulbs	Columbus	Franklin
Home Town Improvement	Window components, windows, doors & skylights	Columbus	Franklin

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Loeb Electric	Exit signs, CFL bulbs	Columbus	Franklin
Multi Family Lighting Solutions	Exit Signs, light fixtures, CFL bulbs, ceiling fans	Columbus	Franklin
Schreiner Ace	CFL bulbs	Columbus	Franklin
Scott Collins & Associates Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Columbus	Franklin
TAC Home Center	Window components, windows, doors & skylights	Columbus	Franklin
Watt Works	Light fixtures, LED lighting, programmable thermostats, window components	Columbus	Franklin
Carl's Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Columbus Grove	Putnam
Holcker Do It Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Crestline	Crawford, Richland
Chuck Sheaves Constr.	Window components, windows, doors & skylights	Cuyahoga Falls	Summit
All-Seal Home Improvement	Window components, windows, doors & skylights	Dayton	Montgomery
Gilkey Window Company	Window components, windows, doors & skylights	Dayton	Montgomery
Greive Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Dayton	Montgomery
Kettering Home Aluminum	Window components, windows, doors & skylights	Dayton	Montgomery
Arps Hardware, Lawn & Garden	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Defiance	Defiance
Zeller's Super Warehouse	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Defiance	Defiance
Ace Hardware	CFL bulbs	Delaware	Delaware
ABC Seamless	Window components, windows, doors & skylights	Delaware, Fredericksburg	Delaware, Wayne
Empire Window Co.	Window components, windows, doors & skylights	Delaware, Gates Mills, Glenwillow	Delaware, Cuyahoga
Tri County Do it Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Delphos	Allen, Van Wert
Bonifay Home Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Dennison	Tuscarawas
Deshler Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Deshler	Henry
D&K Supply & Equipment Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	East Canton	Stark
Sherer TV and Appliance Inc.	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	East Canton	Stark
Silverman Bros Store #2	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	East Cleveland	Cuyahoga
Able Siding & Home Improvement	Window components, windows, doors & skylights	Eastlake	Lake
Nye Do It Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Edgerton	Williams
Holbrook/Smith Maytag Home Appliance Center	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Elyria, Lorain	Lorain

Table A-1. Continued

COMPANY	SERVICE	CITY	COUNTY
Fairfield Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Fairfield	Butler
Foreman Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Farmersville	Montgomery
D & R Fayette Do It Best	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Fayette	Fulton
Harry's Home Improvement	Window components, windows, doors & skylights	Findlay	Hancock
MacDonald Supply Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Findlay, Bellefontaine, Defiance, Lima	Hancock, Logan, Defiance Allen
Overhead Door Co. of Findlay	Window components, windows, doors & skylights	Findlay	Hancock
Frankfort Hardware Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Frankfort	Ross
Big Sandy Superstore	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Franklin Furnace	Scioto
Associated Buyers True Value	CFL bulbs	Fremont	Sandusky
Borer Mirror & Glass	Window components, windows, doors & skylights	Fremont	Sandusky
Swint Reineck Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Fremont	Sandusky
Central Supply Company	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Gallipolis	Gallia
French City Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Gallipolis	Gallia
Thomas Do it Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Gallipolis	Gallia
Garrettsville Hardware Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Garrettsville	Portage
Paul's Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Garrettsville, Middlefield, Ravenna	Portage, Geauga
Griffith's Home and Auto	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Geneva	Ashtabula
Gray's Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Georgetown	Brown
Girard Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Girard	Trumbull
House Doctors Wdhw & Door Co.	Window components, windows, doors & skylights	Girard	Trumbull
Village Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Gnadenhuttten	Tuscarawas
Stevens Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Greenfield	Highland, Fayette, Ross
Stevens Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Greenfield	Highland, Fayette, Ross
Dickman Supply, Inc.	Light fixtures	Greenville	Darke

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Bucks Auto & Hardware Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Greenwich	Huron
Fawns Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Hamilton	Butler
Trimmer Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Hamilton	Butler
Hamler True Value Hardware	CFL bulbs	Hamler	Henry
Hartville Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Hartville	Stark
Strait & Lamp Lumber Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Hebron	Licking
Holthouse Furniture	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Hillsboro	Highland
Huron Cement Products Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Huron	Erie
Central Hardware Furniture Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Ironton	Lawrence
Callahan Do It Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Jackson	Jackson
Jackson Building Material	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Jackson	Jackson
Shulls Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Johnstown	Licking
Clarks Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Junction City	Perry
Champion of Akron/Canton	Window components, windows, doors & skylights	Kent	Portage
Lehman Hardware & Appl., Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Kidron, Mt. Hope	Wayne,
			Holmes
Kinsman Supply & Rental	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Kinsman	Trumbull
Lagrange Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lagrange	Lorain
Lakeview Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lakeview	Logan
Calandra Industrial Supply Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lancaster	Fairfield
Lancaster Hardware & Supply, Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lancaster	Fairfield
Slaters Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lancaster	Fairfield
The Window Man of Lancaster	Window components, windows, doors & skylights	Lancaster	Fairfield
Trio TV & Appliance, Inc	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Lancaster	Fairfield
Lebanon Electric Supply, Inc.	Light fixtures, CFL bulbs, ceiling fans	Lebanon	Warren
Village Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Leipsic	Putnam
Miller Hardware Do It Best	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lewisburg	Champaign
Sash & Storm, Inc.	Window components, windows, doors & skylights	Lima	Allen
Saving Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Logan	Hocking
Dwyer Bros., Inc	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	London	Madison
Willow Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lorain	Lorain
Modern Home Supply Incorporated	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Loudonville	Ashland,
			Holmes
Dunn Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Lyndhurst	Cuyahoga

Table A-1. Continued

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Joseph Home Improvement	Window components, windows, doors & skylights	Lyndhurst	Cuyahoga
Integrity Windows, Inc.	Window components, windows, doors & skylights	Macedonia	Summit
Norandex Building Materials Distribution	Window components, windows, doors & skylights	Macedonia	Summit
Western Reserve Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Madison	Lake
Elson, A.R. Company	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Magnolia	Carroll, Stark
Robertson's Building Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Malvern	Carroll
Boliantz Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Mansfield	Richland
Direct Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Mansfield, Middletown, Ontario	Richland, Butler, Warren
Marengo Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Marengo	Morrow
Gagel's Do It Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Maria Stein	Mercer
Contractors Building Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Marietta	Washington
Crescent & Sprague Supply Co	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Marietta	Washington
Campbell Supply, Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Marion	Marion
Ferry Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Martins Ferry	Belmont
McCabe Do it center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Marysville	Union
Home Appliance Company	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners, televisions	Massillon	Stark
Appliance Center of Toledo	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners, televisions	Maumee	Lucas
Hansons Windows and Siding	Window components, windows, doors & skylights	Maumee, Columbus	Lucas, Franklin
House of Lights Inc.	Exit signs, light fixtures, CFL bulbs, ceiling fans	Mayfield Heights	Cuyahoga
Tom's Roofing	Window components, windows, doors & skylights	Mayfield Heights	Cuyahoga
Goldcrest Home Impr., Inc	Window components, windows, doors & skylights	Medina	Medina
Medina Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Medina	Medina
Vinyl Masters Remodeling & Floor Co., Inc.	Window components, windows, doors & skylights	Medina	Medina
Daycoa, Inc.	Exit signs, light fixtures, CFL bulbs	Medway	Clark
Affordable Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Mentor	Lake
Mentor TV	Audio and DVD products, TV/DVD combination units, home audio, televisions	Mentor	Lake

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Sanders & Associates	Light fixtures, CFL bulbs, ceiling fans	Mentor	Lake
Champion of Cleveland	Window components, windows, doors & skylights	Middleburg Heights	Cuyahoga
Western Reserve Farm Co-Op Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Middlefield	Geauga
Halsey-Myers Home Supplies	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Middletown	Butler, Warren
Better Home Products	Window components, windows, doors & skylights	Milford	Clermont
Millersport Do It Best	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Millersport	Fairfield
Frowine Hardware, Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Minford	Scioto
Montpelier Do It Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Montpelier	Williams
Champion of Dayton	Window components, windows, doors & skylights	Moraine	Montgomery
G. R. Smith Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Mount Vernon	Knox
Mt. Pleasant Building Products	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Mt Pleasant	Jefferson
Mt. Eaton Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Mt. Eaton	Wayne
Herald's Appliances & Electronics	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Mt. Vernon	Knox
Saving Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Nelsonville	Athens
Metzger Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	New Richmond	Clermont
Main Hardware & Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Newark	Licking
Eureka Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Newcomerstown	Tuscarawas
North Canton TV and Appliance, Inc.	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	North Canton	Stark
Benedict Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	North Lewisburg	Champaign
Home Exteriors	Window components, windows, doors & skylights	Northfield Center	Summit
Oak Harbor Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Oak Harbor	Ottawa
Obetz Hardware Do it Best	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Obetz	Franklin
Furbay's Light Shop	Light fixtures, CFL bulbs, ceiling fans	Ontario	Richland
Gladieux Do It Best Home Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Oregon	Lucas
Bennet's Appliance	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners, televisions	Orrville	Wayne
Northwest Building Resources	Window components, windows, doors & skylights	Ostrander	Delaware
Ottawa Feed & Grain			
True Value Hardware	CFL bulbs	Ottawa	Putnam
Ottoville Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Ottoville	Putnam
Owensville Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Owensville	Clermont
Shumard Hardware & Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Owensville	Clermont



**Table A-1. Continued**

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Crile Road Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Painesville	Lake
Joughin Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Painesville	Lake
D&D Custom Windows	Window components, windows, doors & skylights	Parma	Cuyahoga
Thermal-Tilt Windows	Window components, windows, doors & skylights	Parma	Cuyahoga
Thomas J. Hearn Building Co.	Window components, windows, doors & skylights	Parma	Cuyahoga
Window Systems, Inc.	Window components, windows, doors & skylights	Parma	Cuyahoga
Metropolitan Windows	Window components, windows, doors & skylights	Parma Heights	Cuyahoga
Hometown Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Pioneer	Williams
Plymouth Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Plymouth	Huron, Richland
Bassett's Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Port Clinton	Ottawa
Portsmouth Building Supply Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Portsmouth	Scioto
Star Supply Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Racine	Meigs
Thermal-Gard of Central Ohio	Window components, windows, doors & skylights	Reynoldsburg	Fairfield
Fatica Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Richmond Heights	Cuyahoga
Ripley Builders Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Ripley	Brown
Ross Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Ross	Butler
Cleveland Remodelers, Inc.	Window components, windows, doors & skylights	Russell Township	Geauga
Lincoln Rental & Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Salem	Columbiana
Barnhill's Our Own Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Seaman	Adams
Kader's Appliance & Mower	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Seven Hills	Cuyahoga
Seville Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Seville	Medina
Home Appliance	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Shelby	Richland
Shelby Hardware Do-it Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Shelby	Richland
Lochard Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Sidney	Shelby
Hallmark Home Solutions	Window components, windows, doors & skylights	Smithville	Wayne
One Woman's Window Co.	Window components, windows, doors & skylights	Solon	Cuyahoga
Sedlak Interiors	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners, televisions	Solon	Cuyahoga
Solon Hardware Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Solon	Cuyahoga
Bolton's Do it Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Somerset	Perry

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Maysville Do it Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	South Zanesville	Muskingum
Springboro Do It Best	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Springboro	Warren, Montgomery
The Great Indoors	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Springdale, Columbus	Franklin
Carmichael Appliance	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Springfield	Clark
Downing's Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Springfield	Clark
Buschur's Refrigeration	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	St. Henry	Mercer
St. Marys Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	St. Marys	Auglaize
Alside Supply Center	Window components, windows, doors & skylights	Statewide	Statewide
H.H. Gregg	Audio and DVD products, clothes washers, TV/DVD combination units, home audio, dishwashers, refrigerators & freezers, room air conditioners, televisions	Statewide	Statewide
Handyman Ace Hardware	CFL bulbs	Statewide	Statewide
Mars Lighting Center	Light fixtures, CFL bulbs, ceiling fans	Statewide	Statewide
Pella Window & Door Selection Center	Window components, windows, doors & skylights	Statewide	Statewide
Radio Shack	Audio and DVD products, phones and answering machines, TV/DVD combination units, home audio, televisions	Statewide	Statewide
Renewal by Andersen	Window components, windows, doors & skylights	Statewide	Statewide
Small's Do It Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Statewide	Statewide
Zettler Ace Hardware	CFL bulbs	Statewide	Statewide
Cardello Electric Supply	Exit signs, light fixtures, CFL bulbs	Steubenville	Jefferson
Myers Appliance Service and Sales Inc.	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Stow	Summit
Semach's Northside TV and Appliance	Clothes washers, CFL bulbs, dishwashers, refrigerators & freezers, room air conditioners, televisions	Struthers	Mahoning
Shorts Do It Best	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Stryker	Williams
Affiliated Cash & Carry	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Swanton	Fulton
The Henry Bierce Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Tallmadge	Summit, Portage
Jones Bluegrass Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Tarleton	Fairfield
Buckeye Do It Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Tiffin	Seneca
Roberts Window & Door	Window components, windows, doors & skylights	Tiffin	Seneca
Ralph's Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Tiffin, Fremont	Sandusky, Seneca
Fritz's Main Street Construction Inc.	Window components, windows, doors & skylights	Tipp City	Miami

Table A-1. Continued

COMPANY	SERVICE	CITY	COUNTY
Leveck Lighting Products Inc.	Exit signs, light fixtures, CFL bulbs	Tipp City, Dayton	Miami, Montgomery
Beverly Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Toledo	Lucas
Champion of Toledo	Window components, windows, doors & skylights	Toledo	Lucas
Colony Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Toledo	Lucas
Erie Construction Midwest	Window components, windows, doors & skylights	Toledo	Lucas
Galaxie Construction	Window components, windows, doors & skylights	Toledo	Lucas
Gross Electric	Light fixtures	Toledo	Lucas
Spencer's Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Toledo	Lucas
Toledo Automatic Door Co.	Window components, windows, doors & skylights	Toledo	Lucas
North Coast Energy, Inc	Window components, windows, doors & skylights	Twinsburg	Summit
Regency Windows & Siding	Window components, windows, doors & skylights	Twinsburg	Summit
Uniontown Builders Supply Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Uniontown	Stark
Wagler's Home Store	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Uniontown	Stark
Pfeifer Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Upper Sandusky	Wyandot
Larmco Windows, Inc.	Window components, windows, doors & skylights	Valley View, Columbus	Cuyahoga, Franklin
Didier Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Versailles	Darke
Geig's Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Wadsworth	Medina
Holmesbrook, Inc.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wadsworth	Medina
Wakeman Hardware & Supply Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wakeman	Huron
Wapakoneta Do it Best Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wapakoneta	Auglaize
Wauseon Woodworking Co.	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wauseon	Fulton
Pike Supply	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Waverly	Pike
Farm & Home Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wellington	Lorain
Jerry's Do-it Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wellston	Jackson
Wellston Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wellston	Jackson
Apex Energy Solutions of Cincinnati	Window components, windows, doors & skylights	West Chester	Butler
West Jefferson Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	West Jefferson	Madison
Liberty General Store	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	West Liberty	Logan
Roush Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Westerville, Dublin	Franklin, Delaware, Union

<b>COMPANY</b>	<b>SERVICE</b>	<b>CITY</b>	<b>COUNTY</b>
Ingersoll Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Westlake, Rocky River	Cuyahoga
Whitehouse True Value Hardware & Auto	CFL bulbs	Whitehouse	Lucas
Modern Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Woodfield	Monroe
Jones Building Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Wooster	Wayne
Dependable Maytag HAC	Clothes washers, dishwashers, refrigerators & freezers, room air conditioners	Wooster, Parma, North Royalton	Wayne, Cuyahoga
Deaton Hardware	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Yellow Springs	Greene
Linden Lighting & Supply Co.	Light Fixtures, CFL bulbs, ceiling fans	Zanesville	Muskingum
Sunrise Do it Center	Light fixtures, programmable thermostats, CFL bulbs, ceiling fans	Zanesville	Muskingum

**Table A-2. Designers and Builders of Energy-Efficient Buildings in Ohio**

COMPANY	PRIMARY PRODUCT	CITY	COUNTY
Domokur Robinson Edwards Architects	Corporate green architectural firm	Akron	Summit
Modern Homes Concepts LLC	Site-built homes	Akron	Summit
Schumacher Homes	Site-built homes	Akron	Summit
Wayne Homes	Site-built homes	Akron/Medina, Ashland, Bowling Green, Delaware, Newark, Ravenna, Sandusky	Summit, Ashland, Wood, Delaware, Licking, Portage, Erie
All Seasons Builders, Inc	Specializes in Energy Star homes	Amherst	Lorain
Shreves Construction Co.	Site-built homes	Anna	Shelby
HBS Group, LLC	Site-built homes	Athens	Athens
Panich + Noel Architects	Architectural planning and interior design	Athens	Athens
Classic Homes of Aurora, Inc	Site-built homes	Aurora	Portage
Prestige Homes	Site-built homes	Aurora, Bainbridge, Bath, Broadview Hts, Copley & Fairlawn, Hudson, Medina, Richfield, Solon	Portage, Geauga, Summit, Cuyahoga, Medina
Muffet Builders	Site-built homes	Barnesville	Belmont
Kascade Designer Homes, LLC	Site-built homes	Based in Indiana	Butler, Warren
Beaver-Vu Construction	Site-built homes	Beavercreek	Greene
Custom Concepts Construction Company	Site-built homes	Beavercreek	Greene
Shriner Building Company, Inc	Site-built homes	Beavercreek	Greene
Doty & Miller Architects	Architectural design and planning	Bedford	Cuyahoga
North Clayton Development, LLC	Site-built homes	Bellbrook	Greene
Raines' Quality Homes	Site-built homes	Bluffton	Hancock
Maple Bluff Builders	Site-built homes	Bowling Green	Wood
Rick Metz, Developer	Site-built homes	Bowling Green	Wood
Drees Company - KY	Site-built homes	Brecksville	Cuyahoga
TesCon, Inc.	Site-built homes	Brookville	Montgomery
Zaring Premier Homes	Specializes in Energy Star homes	Brookville	Cuyahoga
Taras Construction & Consulting	Site-built homes	Brunswick	Medina
Manufactured Housing Enterprises	Manufactured homes	Bryan	Williams
DiCioccio Construction, Ltd	Site-built homes	Canfield	Mahoning
Habitat for Humanity of Greater Stark & Carroll Counties	Specializes in Energy Star homes	Canton	Stark
Renaissance Classic Homes, Inc	Site-built homes	Canton	Stark
Schumacher Homes	Site-built homes	Canton	Stark

**Table A-2. Continued**

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Brentwood Builders, Inc	Site-built homes	Cedarville	Greene
E.J. Wynn Construction, Inc	Site-built homes	Celina	Mercer
RCS Construction	Site-built homes	Celina	Mercer
Grey Fox Homes	Site-built homes	Centerville	Greene
Sisson Design Builders	Site-built homes	Centerville	Montgomery
Greentech Consultants	Green consulting, design, construction	Central Ohio	Franklin
Bravo Homes, LLC	Site-built homes	Chagrin Falls	Cuyahoga
Otero Signature Homes	Site-built homes	Chagrin Falls	Cuyahoga
Geauga County Habitat for Humanity	Site-built homes	Chesterland	Geauga
Black Diamond Construction Co.	Site-built homes	Cincinnati	Hamilton
CFS Homes, LLC	Site-built homes	Cincinnati	Hamilton
Camery Hensley Construction, LTD	Site-built homes	Cincinnati	Hamilton
Cincinnati Habitat for Humanity	Site-built homes	Cincinnati	Hamilton
Environmental Quality Management, Inc	Full-service environmental consulting, engineering, remediation and construction management firm	Cincinnati	Hamilton
Garry Brasch Custom Homes, Inc.	Site-built homes	Cincinnati	Hamilton
Great Tradition Homes, LLC	Site-built homes	Cincinnati	Hamilton
Green City EcoStruction	Site-built homes	Cincinnati	Hamilton
Homes by Gerbus	Site-built homes	Cincinnati	Hamilton
Homewood Development LLC	Site-built homes	Cincinnati	Hamilton
Inverness Group	Site-built homes	Cincinnati	Hamilton
Jasper Homes	Site-built homes	Cincinnati	Hamilton
John Henry Homes	Site-built homes	Cincinnati	Hamilton
John Hueber Homes	Site-built homes	Cincinnati	Hamilton
Keystone Construction & Management, Inc	Specializes in Energy Star homes	Cincinnati	Hamilton
Klotter Builders, Inc	Site-built homes	Cincinnati	Hamilton
Lifestyle Communities by Miller-Valentine Group	Site-built homes	Cincinnati	Hamilton
M/I Homes of Cincinnati, LLC	Specializes in Energy Star homes	Cincinnati	Hamilton
Marino Homes, Inc	Site-built homes	Cincinnati	Hamilton
Norb Boh Construction Co	Site-built homes	Cincinnati	Hamilton
RLT Design/Chrisman Communities	Site-built homes	Cincinnati	Hamilton
Robert Fritzsch Custom Builder	Site-built homes	Cincinnati	Hamilton
Robert Lucke Homes	Site-built homes	Cincinnati	Hamilton
Schmidt Builders, Inc	Site-built homes	Cincinnati	Hamilton
Sexton Fine Homes, LLC	Site-built homes	Cincinnati	Hamilton
Stewart & Jervis, Inc	Site-built homes	Cincinnati	Hamilton
Stonehenge Building Group/Stonehenge Interests LLC	Site-built homes	Cincinnati	Hamilton
The Model Group, Inc	Site-built homes	Cincinnati	Hamilton
Thurman Homebuilding Co., LLC	Site-built homes	Cincinnati	Hamilton
TriState Habitat for Humanity	Site-built homes	Cincinnati	Hamilton

**Table A-2. Continued**

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Zicka Walker Homes	Site-built homes	Cincinnati	Hamilton
Clayton Homes Inc (Plant 940)	Manufactured homes	Cincinnati-Middletown	Hamilton
Metze Construction, LLC	Site-built homes (based in IN)	Cincinnati-Middletown	Hamilton
Atlas Architectural Services	Owner's representative, consultant	Cleveland	Cuyahoga
Burt, Hill	Architecture, engineering, interior design	Cleveland	Cuyahoga
D-A-S Construction Co	Commercial construction	Cleveland	Cuyahoga
Great Lakes Design Collaborative	Corporate green design firm	Cleveland	Cuyahoga
Habitat for Humanity, Greater Cleveland	Specializes in Energy Star homes	Cleveland	Cuyahoga
NRP Contractors	Site-built homes	Cleveland	Cuyahoga
Premier Custom Builders	Site-built homes	Cleveland	Cuyahoga
Richard L. Bowen + Associates	Architectural, engineering and construction services	Cleveland	Cuyahoga
Sutton 5th Street LLC (A Sutton Builders Affiliate)	Site-built homes	Cleveland	Cuyahoga
The Coral Company	Site-built homes	Cleveland	Cuyahoga
The Gio Development Group	Site-built homes	Cleveland	Cuyahoga
American Heritage Homes Corp	Site-built homes	Columbus	Franklin
Braun & Steidl Architects	Full spectrum architectural firm	Columbus	Franklin
Design Group	Architectural planning and interior design	Columbus	Franklin
Habitat for Humanity - Greater Columbus	Site-built homes	Columbus	Franklin
Kinzelman, Kline, Gossman	Architectural design and planning	Columbus	Franklin
M/I Homes of Central Ohio, LLC	Specializes in Energy Star homes	Columbus	Franklin
O S Homes, Inc	Site-built homes	Columbus	Franklin
Rankin Homes, Inc	Site-built homes	Columbus	Franklin
Schottenstein Real Estate Group	Site-built homes	Columbus	Franklin
Sovereign Homes	Site-built homes	Columbus	Franklin
Triad Architects	Architectural planning and interior design	Columbus	Franklin
Trinity Home Builders	Site-built homes	Columbus	Franklin
Villa Communities, LLC	Site-built homes	Columbus, Dayton	Franklin, Montgomery
Weisenburger Builders, Inc	Site-built homes	Continental	Putnam
Bayer Builders, Inc	Site-built homes	Covington	Miami
Testa Builders	Site-built homes	Cuyahoga Falls	Summit
Schumacher Homes	Site-built homes	Cygnets	Wood
Raber & Sons Custom Homes	Site-built homes	Dalton	Wayne
T H Construction, Inc	Site-built homes	Dalton	Wayne
Habitat for Humanity--Dayton	Site-built homes	Dayton	Montgomery
Hausmann Homes, LLC	Site-built homes	Dayton	Montgomery
Improved Solutions for Urban Systems, Inc	Site-built homes	Dayton	Montgomery

**Table A-2. Continued**

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Litehouse Development Group, LLC	Site-built homes	Dayton	Montgomery
Zengel Construction Co	Site-built homes	Dayton	Montgomery
John Duerk Custom Builders	Specializes in Energy Star homes	Defiance	Defiance
P&D Builders Limited	Site-built homes	Delaware	Delaware
Valley View Homes, Inc	Site-built homes	Dover	Tuscarawas
Galehouse Construction Co. Inc.	Site-built homes	Doylestown	Wayne
Bevilacqua Builders	Site-built homes	Dublin	Franklin
Dominion Homes	Site-built homes	Dublin	Franklin
Epcon Communities, Inc	Site-built homes	Dublin	Franklin
Meacham & Apel Architects	Architectural planning and project management	Dublin	Franklin
Pepper Construction	General contracting and construction management	Dublin	Franklin
Dallis Designer Homes, LLC	Site-built homes	Fairfield	Butler
Jack H. Wieland Builders, Inc	Site-built homes	Fairfield	Butler
Couchot Homes, Inc	Site-built homes	Findlay	Hancock
Vorst Builders, Inc	Site-built homes	Findlay	Hancock
Cleary Building Corporation	Site-built homes	Findlay, Heath, Troy	Hancock, Licking, Miami
Schottenstein Homes	Site-built homes	Gahanna	Franklin
3 Pillar Homes	Site-built homes	Galena	Delaware
Ghiloni Custom Builders	Site-built homes	Granville	Licking
Jeb Contractors	Site-built homes	Hamilton	Butler
Diamond G Solutions	Site-built homes	Heath	Licking
Cumberland Meadows	Site-built homes	Hebron	Licking
Keller Builders LLC	Site-built homes	Holland	Lucas
HCH Construction Services, Inc.	Site-built homes	Hubbard	Trumbull
Palm Harbor Homes	Manufactured homes	Jeffersonville	Fayette
Schumacher Homes	Site-built homes	Jeromesville	Ashland
Lillibridge Homes, Inc	Site-built homes	Kent	Portage
JCB Homes	Site-built homes	Kings Mills	Warren
Norris Builders	Site-built homes	Lagrange	Lorain
Bob Webb Builders, Inc	Site-built homes	Lewis Center	Delaware
Schumacher Homes	Site-built homes	Lewis Center	Delaware
Schumacher Homes	Site-built homes	Lockbourne	Pickaway
R. John Construction	Site-built homes	Loveland	Clermont
Coblentz Homes, Inc	Site-built homes	Macedonia	Summit
Pendragon Homes	Site-built homes	Maineville	Warren
Ohio River Development Co., LLC	Site-built homes	Marietta	Washington
Kurlemann Custom Building Group	Specializes in Energy Star homes	Mason	Warren
Perry Bush Custom Homes & Design, Inc.	Site-built homes	Mason	Warren
Ben Grisez Homes, Inc	Site-built homes	Massillon	Stark
Scott McCue Homes, Inc	Site-built homes	Massillon	Stark
Coast to Coast Cabins	Site-built homes	Massillon, Canton	Stark



**Table A-2. Continued**

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Forrester Wehrle Homes, Inc	Site-built homes	Maumee	Lucas
Watermark Construction, Ltd	Site-built homes	Maumee	Lucas
Panzica Construction	Construction manager	Mayfield Village	Cuyahoga
ProBuilt Homes, Inc	Site-built homes	Mentor	Lake
Shamrock Construction Corp	Site-built homes	Mentor	Lake
Gold Key Homes	Site-built homes	Miamisburg	Montgomery
Charleston Signature Homes/Potterhill Homes	Site-built homes	Milford	Clermont
Endeavor Construction Company	Site-built homes	Milford	Clermont
Park Homes	Site-built homes	Milford	Clermont
Mitchell Brothers Builders, LLC	Site-built homes	Milford Center	Union
Greystone Country Homes	Site-built homes	Mt. Orab	Brown
Master Plan Builders Inc	Site-built homes	N. Lima	Mahoning
Colony Factory Crafted Homes	Manufactured homes	Nationwide	Nationwide
The Commodore Corporation	Manufactured homes	Nationwide	Nationwide
Centurion Development Group	Site-built homes	New Albany	Franklin
MG Custom Homes, Inc	Site-built homes	New Richmond	Clermont
Concept Homes, Ltd.	Site-built homes	North Canton	Stark
Knoch Corporation	General contractor, construction management	North Canton	Stark
Ream Builders	Site-built homes	North Olmsted	Cuyahoga
Grande Maison Construction Co., LLC	Site-built homes	Norwalk	Huron
Habitat for Humanity of Lake County	Site-built homes	Painesville	Lake
Schoen Builders	Site-built homes	Perrysburg	Wood
Slaske Building Company, LLC	Site-built homes	Perrysburg	Wood
Craycon Homes, Inc	Site-built homes	Piqua	Miami
Scioto County Habitat for Humanity	Site-built homes	Portsmouth	Scioto
Manor Homes	Site-built homes	Powell	Delaware
Newbury Builders	Site-built homes	Powell	Delaware
Newbury Homes	Site-built homes	Powell	Delaware
Virginia Homes	Site-built homes	Powell	Delaware
Schumacher Homes	Site-built homes	Ravenna	Portage
Diyanni Homes	Site-built homes	Reynoldsburg	Franklin
Thirion Homes (BMT, Inc.)	Site-built homes	Rome	Ashtabula
Daybreak Resources	Green building consulting	Sagamore Hills	Summit
Green Space Homes	Site-built homes	Salem	Columbiana
AJ Jutzi Homes	Site-built homes	Serves Cincinnati-Middletown (based in IN)	Hamilton
Perry Homes Inc	Site-built homes	Seven Hills	Cuyahoga
Lapos Construction, Inc	Site-built homes	Sheffield Village	Lorain
Ratermann Custom Home Builders, Inc	Site-built homes	Sidney	Shelby
Zollinger Builders	Site-built homes	Smithville	Wayne
Fortress Homes	Site-built homes	Springboro	Warren
Clark County Community Habitat for Humanity	Site-built homes	Springfield	Clark
Parkview Homes	Site-built homes	Strongsville	Cuyahoga

**Table A-2. Continued**

<b>COMPANY</b>	<b>PRIMARY PRODUCT</b>	<b>CITY</b>	<b>COUNTY</b>
Skyline Homes	Manufactured homes	Sugarcreek	Tuscarawas
Romanko Development Co., Ltd	Site-built homes	Sycamore	Wyandot
James E. Moline Builders, Inc	Site-built homes	Sylvania	Lucas
JNB Home Construction, LLC	Site-built homes	Tipp City	Miami
Decker Homes	Site-built homes	Toledo	Lucas
Duket Architects Planners	Architectural planning and interior design	Toledo	Lucas
Eagle Creek Builders & Developers	Site-built homes	Toledo	Lucas
Hafner Crafted Homes	Site-built homes	Toledo	Lucas
Michael Development	Site-built homes	Toledo	Lucas
Reynolds Construction, LLC	Site-built homes	Toledo	Lucas
Saba Custom Homes, LLC	Site-built homes	Toledo	Lucas
Squires Development Company, Ltd.	Site-built homes	Toledo	Lucas
Denlinger & Sons Builders, Inc	Site-built homes	Troy	Miami
Hadley & Associates	Site-built homes	Waterville	Lucas
Blueprint Homes	Site-built homes	West Chester	Butler
Carnevale Homes, LLC	Site-built homes	West Chester	Butler
Ford Homes, Inc.	Site-built homes	West Chester	Butler
K Homes	Site-built homes	West Chester	Butler
Todd Homes, LLC	Site-built homes	West Chester	Butler
Arnold & Morse Homes, LLC	Site-built homes	Westerville	Franklin
RH Village Communities Ltd	Specializes in Energy Star homes	Westerville	Franklin
Romanelli & Hughes Building Co	Site-built homes	Westerville	Franklin
Truberry Group, Inc	Site-built homes	Westerville	Franklin
Carl Finley Builders, Inc	Site-built homes	Wooster	Wayne
Weaver Custom Homes, Inc	Site-built homes	Wooster	Wayne
Turner Construction Company	Consulting, management, design, construction	Worthington, Cincinnati, Cleveland	Franklin
Hirschmann Construction Services, Inc.	Site-built homes	Youngstown	Mahoning
Schumacher Homes	Site-built homes	Zanesville	Muskingum

# Notes

1 This figure includes businesses in the sectors of the energy efficiency industry examined in this report. Stores with more than one branch were listed once in the lists of businesses in this report, but each branch was counted separately for total number of Ohio businesses. There are likely to be additional businesses and organizations that would benefit from energy efficiency improvements in Ohio, including newer businesses, that are not captured in these lists.

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