






## Iowa's Clean Energy Economy: Key Facts and Resources

*Iowa continues to expand its clean energy economy, with strong wind and clean vehicle manufacturing sectors. These sectors are adding clean energy jobs across the state.*

*E2's state profile demonstrates how energy efficiency, renewable electricity and clean fuels are creating jobs and spurring economic growth. We also provide a list of local government resources and contacts working to grow the state's clean economy.*

### EMPLOYMENT

In 2012, businesses in Iowa announced nearly 1,400 clean energy jobs, including:

-  1048 in Wind Energy
-  320 in Solar Energy
-  30 in other clean energy sectors<sup>1</sup>

### OTHER CLEAN JOB RESOURCES

- The Iowa Workforce Development Agency offers a [Green Professional Strategies](#) portal with a state green jobs listing, green labor white-papers, career skills training resources, and other clean technology education materials
- Brookings provides a two page fact sheet detailing clean job growth and wages in Iowa: [Sizing the Clean Economy in Iowa](#)

---

<sup>1</sup> From E2's Clean Energy Jobs Announced database, available at [www.cleanenergyworksforus.org](http://www.cleanenergyworksforus.org). E2 collects information on job announcements by tracking a wide variety of national, state and local media.

## GENERATION

### The Cheapest, Cleanest Form of Energy: None at All

The American Council for an Energy-Efficient Economy (ACEEE) estimates Iowa's investments in energy efficiency in 2011 saved the state 475,964 megawatt hours (MWh) – the equivalent of meeting the annual electricity needs of over 44,000 Iowa households.<sup>2</sup> At the average price of electricity \$77.30 per MWh, Iowa saved more than \$44,000,000 through energy efficiency programs.<sup>3</sup>

### Existing Renewable Generation: What does Iowa have today?

U.S. Department of Energy: Annual Renewable Generation (MWh)<sup>4</sup>

	2010	2011	2012
Wind	9,170,000	10,709,000	13,945,000
Solar	0	0	0
Geothermal	0	0	0
Biomass	190,000	161,000	162,000
Total:	9,360,000	10,870,000	<b>*14,107,000</b>
<i>All Energy Sectors:</i>	57,509,000	56,372,000	56,675,000

*\*In 2012, Iowa generated enough renewable energy to power over 1,300,000 homes.*

### Planned Renewable Generation: What projects are in development in Iowa?

SNL Financial: Current Renewable Energy Projects in Place (MW)<sup>5</sup>

	Announced	Under Development	Under Construction	Total Projects in Place
Wind	1,264.3	2.3	0	1,266.6
Solar	0	0	0	0
Biomass	64.1	0	0	64.1
Total Renewables	1,328.4	2.3	0	1,330.7

<sup>2</sup>American Council for an Energy-Efficiency Economy "The 2013 State Energy Efficiency Scorecard" November 2013. Online. Accessible: <http://aceee.org/research-report/e13k>

<sup>3</sup>Energy Information Administration "How Much Electricity Does an American Home Use?" March 2013. Online. Accessible: <http://www.eia.gov/tools/faqs/faq.cfm?id=97&t=3>

<sup>4</sup>Energy Information Administration "Electricity Data Browser" August 2013. Online. Accessible: <http://www.eia.gov/electricity/data/browser/>

<sup>5</sup>SNL Financial provides business intelligence services such as data, analysis, and news. This information was sourced from a private subscription to SNL's Energy Unlimited Package.

### Technical Potential: What could Iowa generate in the future?

The National Renewable Energy Laboratory (NREL) examined each state's geographic and agricultural resources to determine the maximum amount of renewable energy each state could feasibly produce.

NREL: Technical Renewable Potential in Iowa (MWh)<sup>6</sup>

Onshore Wind	1,723,588,000
Offshore Wind	N.A.
Utility Scale Photovoltaic	7,021,251,000
Rooftop Photovoltaic	8,646,000
Concentrated Solar Power	0
Geothermal	606,390,000
Biopower (Solid and Gas)	28,928,00093
<b>Total</b>	<b>9,388,803,000*</b>

\*The net technical potential of clean, renewable energy can meet over **165 times** Iowa's current electricity needs.

For more information on existing and planned renewable energy projects, visit NRDC's [renewable energy map](#), which shows specific developments and resource potential in each state.

For a full assessment of the energy sector in Iowa, including a map of resource potential, and energy projects and infrastructure, categorized by county and congressional district, please visit the Energy Information Administration: [Iowa State Profile](#)



---

<sup>6</sup> National Renewable Energy Laboratory, "U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis" July 2012. Online. Accessible: <http://www.nrel.gov/docs/fy12osti/51946.pdf>

## ECONOMY

### **CLEAN MANUFACTURING CAPACITY**

- The Department of Energy office of Energy Efficiency and Renewable Energy [counts over 30,000 Clean Energy jobs in Iowa](#)
- Collaborative Economics/EDF's [Report on Iowa's Wind Energy Sector](#) describes how Iowa's manufacturing expertise has compelled wind OEMs to relocate to the state
- The American Wind Industries Association shares an [Iowa Wind Energy Fact Sheet](#) featuring a map of 15 wind component manufacturers in the state, accounting for 3,000 jobs
- The Environmental Law and Policy Center [Iowa Wind Energy Supply Chain Report](#) provides information on 80 businesses across the wind energy supply chain responsible for over 2,300 jobs for Iowans
- The EPLC [Report on the Midwest High-Speed Rail Supply Chain](#) details rail manufacturing in seven Midwest states, with a focus on 7 HSR OEMs in Iowa
- GLWN, a network of industry manufactures, provides a national map of suppliers in the wind industry: [Wind Industry Supply Chain Map](#)

### **STATE POLICY AND INVESTMENT**

<a href="#">CleanEdge Ranking</a>	18 <sup>th</sup>	<a href="#">ACEEE: Energy Efficiency Scorecard Ranking</a>	12 <sup>th</sup>
Ernst and Young: State Energy Attractiveness	13 <sup>th</sup>	<a href="#">Freeing the Grid</a>	B (Net Metering) B (Interconnection Standards)
<a href="#">Energy Efficiency Resource Standard</a>	Yes	<a href="#">Renewable Energy Standard</a>	105 MW Capacity

- The Database of State Renewable Incentives for Renewable Energy, DSIRE, details all state and municipal renewable energy policies for all fifty states: [DSIRE: Renewable Electricity and Energy Efficiency Incentives and Policies](#)
- The U.S. Department of Energy lists state policy supporting alternative fuels and energy efficient transportation: [DOE: Clean Fuel Incentives and Regulatory Policy](#)
- The Advanced Energy Economy Institute's [Public Utility Commission Portal](#) provides a helpful overview and links to the key regional and state energy and utility policymaking institutions in Iowa.

## FEDERAL POLICY AND INVESTMENT

Energy Type	2009 Federal Stimulus [Sec.1603]	USDA Grants	Loan Guarantees	Federal R&D Funding	Small Business Innovation Research
Wind	\$561,126,301	\$24,736,913	-	-	-
Solar	\$950,208	\$115,801	-	-	-
Geothermal	\$202,303	\$1,143,654	-	\$82,500,000	-
Biomass	-	\$73,370,659	-	-	-
Fuels	-	-	-	-	-
Energy Efficiency	-	\$34,412,721	-	-	-

Section 1603 of the 2009 American Recovery and Reinvestment Act (ARRA- commonly known as the Stimulus) offered payments in lieu of tax credits for the installation or construction of renewable energy systems. For the full list of projects awarded payments, click [here](#).

With the goal of effectively using agricultural resources to generate energy, the U.S. Department of Agriculture issues grants to American farmers to install renewable energy systems and efficient technology. For a list of grants, ranging from anaerobic digester facilities to photovoltaic systems, please click [here](#).

The Department of Energy's Loan Programs Office provides loan guarantees to select businesses to accelerate the deployment of advanced clean energy technology. For a detailed list of loan guarantees recipients, please click [here](#).

To learn more about the federal government funds clean energy research, please visit of the [Office of Energy Efficiency and Renewable Technology](#)

For further information on Small Business Innovation Research Grant awardees, please visit the [Department of Energy's Office of Science](#).



## **RESOURCES AND ADVOCACY**

### **State Organizations**

#### **[Iowa Alliance for Wind Innovation and Novel Development \(IAWIND\)](#)**

IAWIND engages at every level of the innovation cycle for the wind industry, with R&D activities, testing facilities for technology demonstration, and policy advocacy to support deployment

#### **[Iowa EDGE \(Economic Development by Gaining Efficiency\)](#)**

The EDGE program engages Iowa manufacturers to pursue energy and resource efficiency goals

#### **[Iowa Energy Bank Revolving Loan Fund](#)**

A public-private partnership, the Iowa Energy Bank offers loans to businesses and industry for efficiency improvement, renewable energy, and energy management program

#### **[Iowa Energy Center](#)**

Administered by Iowa State University, the Iowa Energy Center provides technology education and project financial incentive information for Iowa citizens and businesses

#### **[Iowa Wind Energy Association \(IWEA\)](#)**

IWEA unites 150 member businesses to educate the public on wind power and engage state and federal legislators to promote the industry

#### **[Office of Energy Independence, Iowa Economic Development Authority](#)**

The Iowa EDA Office of Energy Independence tracks state clean energy performance, with information on efficiency programs and clean energy project finance, as well as Des Moines participation in the DOE Clean Cities Program

## National and Federal Organizations

### [EERE – Clean Energy in My State](#)

*Users can explore the Department of Energy's statistics and policy information related to renewables and energy efficiency.*

### [National Governor's Association: Profile of Your State's Green Economy](#)

*NGA seeks to provide a detailed, empirical account of each state's existing assets across multiple green sectors and serve as a foundation for identifying future growth areas and related needs.*

### [Advanced Energy by State \(AEE\)](#)

*AEE is a national association of businesses and business leaders who are making the global energy system more secure, clean, and affordable.*

### [American Council on Renewable Energy: Iowa Fact Sheet](#)

*ACORE summarizes Iowa's solar and wind irradiance, as well as its current policies in place to promote renewable energy.*

### [American Wind Energy Association: Wind Energy in Your State](#)

*The American Wind Energy Association's summary of jobs directly supported by the wind industry in Iowa.*

### [Solar Energy Industry Association: Policy in Your State](#)

*SEIA compares Iowa's solar capacity and potential to other states, and details the impact of solar energy throughout the state.*

### [Office of Energy Efficiency and Renewable Energy, Department of Energy: Iowa State Summary](#)

*The DOE EERE offers a state clean economy overview for Iowa, complete with jobs data, deployment and investment program overviews, and project snapshots*

