







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

*Florida's rapidly growing biofuel and solar industries have announced more than 3,000 jobs in the state since September 2011.*

*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

Businesses in Florida have announced over 6,300 clean energy jobs, including:

-  50 in Wind Energy
-  45 in Solar Energy
-  125 in Appliance Efficiency
-  45 in Building Efficiency

### OTHER CLEAN JOB RESOURCES

- Brookings provides a two page fact sheet detailing clean job growth and wages in Florida: [Sizing the Clean Economy in Florida](#)

## **GENERATION**

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

The American Council for an Energy-Efficient Economy (ACEEE) estimates Florida's investments in energy efficiency in 2011 saved the state 583,171 megawatt hours (MWh) – the equivalent of meeting the annual electricity needs of more than 42,000 Florida households.<sup>1</sup> At the average price of electricity \$105 per MWh, Florida saved more than \$61,349,589 through energy efficiency programs.<sup>2</sup>

### **Existing Renewable Generation: What does Florida have today?**

U.S. Department of Energy: Annual Renewable Generation (MWh)<sup>3</sup>

	<b>2010</b>	<b>2011</b>	<b>2012</b>
Wind	0	0	0
Solar	80,000	126,000	221,000
Geothermal	N/A	N/A	N/A
Biomass	2,387,000	2,335,000	2,366,000
Total:	2,467,000	2,461,000	<b>2,587,000*</b>
<i>All Energy Sectors:</i>	229,096,000	221,895,000	221,096,000

*\*In 2012, Florida generated enough renewable energy to power over 190,000 homes.*

### **Planned Renewable Generation: What projects are in development in Florida?**

SNL Financial: Current Renewable Energy Projects in Place (MW)<sup>4</sup>

	Announced	Under Development	Under Construction	Total Projects in Place
Wind	13.8	200	-	213.8
Solar	113.37	1049	-	1162.37
Biomass	-	498	203.2	701.2
Total Renewables	127.17	1747	203.2	2077.37

<sup>1</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>2</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>3</sup> Energy Information Administration "Electricity Data Browser" August 2013. Online. Accessible: <http://www.eia.gov/electricity/data/browser/>

<sup>4</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 Florida 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 Florida (MWh)<sup>5</sup>

Onshore Wind	1,000
Offshore Wind	34,684,000
Utility Scale Photovoltaic	5,210,134,000
Rooftop Photovoltaic	63,987,000
Concentrated Solar Power	359,000
Geothermal	374,161,000
Biopower (Solid and Gas)	13,358,000
<b>Total</b>	<b>5,696,684,000*</b>

\*The net technical potential of clean, renewable energy can meet **25 times** Florida'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 Florida, including a map of resource potential, and energy projects and infrastructure, categorized by county and congressional district, please visit the Energy Information Administration: [Florida State Profile](#)



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<sup>5</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

- 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>	34 <sup>th</sup>	<a href="#">ACEEE: Energy Efficiency Scorecard Ranking</a>	16 <sup>th</sup>
<a href="#">Ernst and Young: State Energy Attractiveness</a>	16 <sup>th</sup>	<a href="#">Freeing the Grid</a>	B (Net Metering) D (Interconnection Standards)
<a href="#">Energy Efficiency Resource Standard</a>	Goal: 7,842 GWh cumulative reductions from 2010-2019 (statewide goal); 3,024 MW cumulative summer peak demand reduction from 2010-2019, 1,937 MW, cumulative winter peak demand reduction from 2010-2019 (statewide goal).	<a href="#">Renewable Energy Standard</a>	None

- 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 Florida.

### FEDERAL POLICY AND INVESTMENT

Energy Type	2009 Federal Stimulus [Sec.1603]	USDA Grants	Loan Guarantees	Federal R&D Funding	Small Business Innovation Research
Wind	-	-	-	\$1,951,850	-
Solar	-	\$129,216	-	\$3,838,054	\$224,738

Geothermal	-	-	-	\$250,000	-
Biomass	\$19,905,755	\$230,867,023	-	N/A	\$149,982
Fuels	-	-	-	-	-
Energy Efficiency	-	\$9,301,815	-	-	\$999,909

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**

#### [The Clean Energy research Center \(CERC\) at the University of South Florida](#)

*The Clean Energy research Center (CERC) at the University of South Florida pursues research and development of new/environmentally clean energy systems, such as photovoltaics (PV), concentrating solar power (CSP), energy storage (thermal storage, batteries, supercapacitors), photocatalytic detoxification/disinfection technologies, hydrogen production and solid state storage, new efficient thermodynamic cycles, solar energy conversion/rectifying antenna (rectenna), and biomass conversion/biofuels.*

#### [Eco-USA: List of Florida's Environmental Organizations](#)

*Eco-USA is a database of state environmental organizations.*

### [Florida Alliance for Renewable Energy \(RARE\)](#)

*The Florida Alliance for Renewable Energy “FARE” is a coalition of concerned individuals, businesses, manufacturers, communities, agricultural stakeholders, associations, policy makers, non-profits, and renewable energy producers.*

### [Florida Renewable Energy Association](#)

*The Florida Renewable Energy Association is dedicated to expanding the use of clean, renewable energy technologies through public awareness, political advocacy, and individual initiative.*

### [Florida Solar Energy Center at the University of Central Florida](#)

*Florida Solar Energy Center’s mission is to research and develop energy technologies that enhance Florida’s and the nation’s economy and environment and to educate the public, students and practitioners on the results of the research.*

### [The Sunshine State Clean Energy Coalition](#)

*More than twenty business, faith, labor, consumer, public health and environmental groups have formed the new Sunshine State Clean Energy Coalition to advocate for Florida’s largest utility companies to invest in clean, local solar energy. They are calling on Duke Energy to invest in solar power to boost Florida’s economy, keep energy dollars in state, and bring clean air to communities.*

## **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: Florida Fact Sheet](#)

*ACORE summarizes Florida’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 Florida.*

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

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