

Renewable Energy in Connecticut

Summary

An aggressive 27% renewable portfolio standard and state policies, such as tax incentives, grants, loans, and the nation's first-ever Green Bank, have led to an increase in Connecticut's renewable energy installations in recent years, particularly distributed solar generation. Additionally, the state lifted its three-year moratorium on large-scale wind energy projects in April 2014, providing an opportunity for the state to reach its full renewable energy generation potential.

Installed Renewable Energy Capacity, 2013			
Wind Power	0 MW	Marine Power	0 MW
Solar Photovoltaic	79 MW	Biomass & Waste	259 MW
Solar Thermal Electric	0 MW	Ethanol	0 mGy
Geothermal Power	0 MW	Biodiesel	13 mGy
Hydropower	119 MW	Totals	457 MW; 13 mGy

Sources: See User's Guide for details

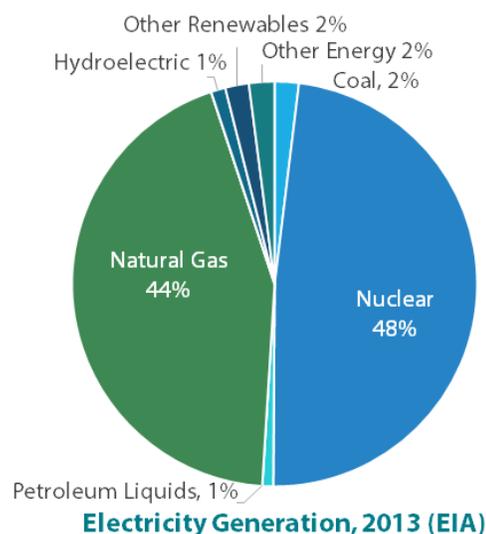
Market Spotlight

- ▶ A \$225 million, 37.5 MW biomass project entered into commercial operation in December 2013 in Plainfield. The plant, which uses recycled wood waste to produce energy, is sited on 27 acres of former brownfield land. It is the largest wood energy facility in the state, powering the equivalent of 37,000 homes.
- ▶ A 5 MWac solar module system began commercial operations at the Somers Solar Center in Somers in November 2013. The system, the state's first utility-scale project, will produce enough electricity to power about 5,000 homes.
- ▶ The towns of Manchester and Canton recently expressed interest in developing their hydropower resources. Manchester approved a bid waiver in January 2014 allowing New England Hydropower Company to perform a feasibility study of an Archimedes Screw hydropower project at Union Pond Dam. In March 2014, Canton announced that it is seeking to redevelop two previously licensed small hydro facilities.
- ▶ In December 2013, what could be the first wind farm in the state qualified for the federal production tax credit.⁵ The Coye Hill Wind Farm, located in the Union, would be a four turbine, 20 MW project, slated to be commissioned by 2015.

Economic Development

Employment	2011	
Green Goods & Services Jobs	43,722	
Investment (Grossed-up)	2012	2013
Asset Finance	\$228m	\$17.4m
Venture Capital & Private Equity	\$0.2m	\$0.6m

Sources: Bureau of Labor Statistics (BLS); Bloomberg New Energy Finance (BNEF). See User's Guide for details.



⁵ Bloomberg New Energy Finance Desktop

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State Policy

Renewable Portfolio Standard	<ul style="list-style-type: none"> ▶ 27% by 2020 <ul style="list-style-type: none"> ○ Class I (20% by 2020): Solar, wind, fuel cells, geothermal, biogas, ocean, certain biomass, certain hydro, low-emission renewable energy conversion devices ○ Class II (3% by 2010, Class I may also be used to meet requirement): Trash-to-energy, certain biomass, older run-of-river hydro ○ Class III (4% by 2010): Certain combined heat and power (CHP), energy efficiency, waste heat ▶ All electric suppliers and electric distribution company wholesale suppliers ▶ Renewables in some neighboring states are also eligible ▶ The Clean Energy Finance and Investment Authority must develop a residential solar incentive program that will result in at least 30 MW before 2023 ▶ Utilities must enter into long-term contracts for renewable energy credits (RECs) from zero-emission Class I facilities up to 1 MW and low-emission Class I facilities up to 2 MW
Net Metering	<ul style="list-style-type: none"> ▶ Investor-owned utilities (IOUs) ▶ System capacity limit of 2 MW for standard net metering (Class I resources only), or 3 MW for virtual net metering (Class I or Class III resources) ▶ Net excess generation carried over to next bill as a kWh credit; paid to customer at end of 12 months at the avoided cost of wholesale power ▶ Customer owns RECs
Interconnection Standards Tax Incentives	<ul style="list-style-type: none"> ▶ IOUs; system capacity limit of 20 MW ▶ External disconnect switch required; insurance requirements vary by system size/type <p>Sales and Use Tax Exemptions:</p> <ul style="list-style-type: none"> ▶ For the equipment and labor to install solar energy and geothermal resource systems ▶ For the equipment, machinery, and fuels used to manufacture solar electric, solar thermal, wind power, or geothermal systems <p>Property Tax Exemption: For Class I systems and certain hydropower facilities that serve farms and residences limited to four units</p>
Other Financial Incentives	<p>Residential Solar PV:</p> <ul style="list-style-type: none"> ▶ Expected Performance-Based Buydown: Lump-sum payment based on design characteristics of customer-owned systems 10 kW and under (max. incentive: \$7,500) ▶ Performance-Based Incentive: Payment for actual performance of a third-party owned system over six years, paid to system owner <p>Solar Hot Water:</p> <ul style="list-style-type: none"> ▶ Grants and loans for customers of Connecticut Light & Power or The United Illuminating Company who install residential or commercial solar hot water systems ▶ For residential, incentives cover approximately 30% of an average system's cost <p>CT Solar Lease: Allows homeowners to lease solar systems on their homes with a fixed or escalated monthly payment; no down payment required if the total system cost is less than or equal to \$4.50 a watt</p> <p>CHP and Anaerobic Digestion (AD) Incentives: Grants, loans, or power purchases for CHP projects 5 MW and less or for AD projects up to 3 MW</p> <p>Biofuels Research Grants: For higher education or agricultural research institutions for biofuel production from agricultural products, algae, and waste grease and testing</p>
More Info	<ul style="list-style-type: none"> ▶ DSIRE Database: www.dsireusa.org/incentives/index.cfm?state=CT ▶ Clean Energy Finance and Investment Authority (Green Bank): www.ctcleanenergy.com ▶ Energize Connecticut: www.energizect.com ▶ Public Utilities Regulatory Authority (RPS): www.ct.gov/pura/cwp/view.asp?a=3354&q=415186