



CONNECTICUT RENEWABLE PORTFOLIO STANDARD SUMMARY

A. SUMMARY: The renewable portfolio standard (RPS) was first enacted in Connecticut as part of a 1998 electricity utility restructuring law. The original RPS law exempted from the requirements electricity sales from standard offer (non-switching) customers, which effectively rendered the RPS meaningless. Since that time, Connecticut has undertaken several rounds of RPS amendments, which closed this loophole, adjusted the targets, added new technologies to Class I eligibility, modified geographic eligibility, and modified on more than one occasion the definition of eligible biomass resources. The RPS requires that 4 percent of electricity be generated from renewable sources (1 percent for Class I, 3 percent for Class II) in 2004, with the percentage increasing to a total of 20 percent (17 percent for Class I, 3 percent for Class II) in 2020, and thereafter. A system of tradable renewable energy credits is used to track and verify compliance.

B. AUTHORIZING LEGISLATION/REGULATION

- 1. Legislative/Regulatory Intent:** Not explicitly stated in the legislation or regulations.
- 2. Part of a Broader Package:** Yes. Connecticut has undertaken several rounds of RPS legislation. The first occurred in 1998 as part of a utility restructuring effort (Public Act No. 98-28). Subsequent efforts followed.
- 3. Applicable Legislation/Regulation**
 - 6/03 – [Sub. S. 733 \(Public Act 03-135\)](#), An Act Concerning Revisions To The Electric Restructuring Legislation
 - 7/03 – [H. 6428 \(Public Act 03-221\)](#), An Act Concerning Technical Revisions To The Utility Statutes And Telecommunications Towers On Agricultural Land (minor modifications to RPS)
 - 7/05 – [H. 7501 \(Public Act 05-1\)](#), An Act Concerning Energy Independence
 - 5/06 – [S. 212 \(Public Act 06-74\)](#), An Act Concerning Biomass
 - 6/07 – [H. 8006 \(Public Act 07-5\)](#), An Act Concerning Minor and Technical Changes to Certain Special Session and Regular Session Public Acts
 - 6/07 – [H. 1501 \(Public Act 07-6\)](#), An Act Authorizing and Adjusting Bonds of the State for Capital Improvements and for Transportation Infrastructure Improvements and Concerning State Contracting Reform

9/07 – [H.7432 \(Public Act 07-242\)](#), An Act Concerning Electricity and Energy Efficiency

Previous RPS Legislation

4/98 – [H. 5005 \(Public Act 98-28\)](#), An Act Concerning Electric Restructuring

6/99 – [H. 6621 \(Public Act 99-225\)](#), An Act Concerning Revisions to Certain Programs and Operations of the Department of Environmental Protection (revised 1998 RPS law)

4. Date Enacted: April 1998

5. Date Effective: 1/1/2000

C. RULEMAKING

1. Implementing/rulemaking Authority: The Connecticut Department of Public Utility Control (DPUC) is the RPS rulemaking authority.

2. Rulemaking Completed to Date:

12/98 – [DPUC order \(Docket # 98-06-15\)](#) issues licensing regulations involving RPS

6/04 – [DPUC \(Docket #03-10-19, but previously Docket #02-04-14\)](#)
Promulgation of Regulations for Licensing of Electric Suppliers and Administration of Renewable Portfolio Standard (RPS) Requirements

9/04 – [DPUC issues a decision for Docket #04-02-07](#), Declaratory Ruling Concerning “Run-of-the-River” Hydropower

6/05 – [DPUC issues a decision for Docket #05-04-16](#)

11/05 – [DPUC issues a decision for Docket #04-01-13](#), Review of RPS Standards and Trading Programs in NY, PA, NJ, MD and DE

06/06 – [DPUC issues a decision for Docket #05-07-19](#), DPUC Proceeding to Develop a new Distributed Resources Portfolio Standard (Class III)

11/06 – [DPUC issues a decision for Docket #04-01-12RE01](#), Request of UPC Wind Partners, LLC for a Declaratory Ruling on Eligibility for Class I Renewable Energy Status – Public Act 06-74 Amendments

8/07 – [DPUC issues a decision for Docket #07-06-07](#), Application of Ormat for a Declaratory Ruling that the Ormat Energy Converter would qualify as a Class 1 Renewable Energy Resource

10/07 – [DPUC issues a decision for Docket #03-12-10RE01](#), Request of Magellan Envirogas Partners, LLC for a Declaratory Ruling for Renewable Portfolio Standard Class 1 Certification – Public Act 06-74 Amendments

11/07 – [DPUC issues a decision for Docket #05-04-16RE01](#), Application of Boralex Stratton Energy Inc for Qualification as a Class I Renewable Energy Source – Reopening

04/08 – [DPUC issues a decision for Docket #07-08-11](#), Declaratory Ruling Regarding Loring Bioenergy LLC Request for Qualification of Loring CHP as a Class I Renewable Energy Source

D. TARGETS AND TIMETABLES

1. **Brief Overview:** Public Act 03-135 made changes to the annual renewable energy requirements, and Public Act 05-01 created a separate Class III requirement for combined heat and power and energy efficiency resources. The Class I renewable energy obligation begins in 2004 with 1 percent of the total output or services from all electric suppliers and electric distribution companies derived from renewable resources, and gradually grows to 17 percent by 2020. The Class II renewable obligation begins at 3 percent in 2004, and is maintained at that level. The Class III obligation begins at 1 percent of total output in 2007, and increases to 4 percent by 2010. The percent requirements in 2020 (2010 for Class III) are maintained each year thereafter for all classes.

2. **Schedule:**

Year	Total Percent Renewable (Class I and II)	Class I	Class II	Class III
2004	4.0%	1.0%	3.0%	NA
2005	4.5%	1.5%	3.0%	NA
2006	5.0%	2.0%	3.0%	NA
2007	6.5%	3.5%	3.0%	1%
2008	8.0%	5.0%	3.0%	2%
2009	9.0%	6.0%	3.0%	3%
2010	10.0%	7.0%	3.0%	4%
2011	11.0%	8.0%	3.0%	4%
2012	12.0%	9.0%	3.0%	4%
2013	13.0%	10.0%	3.0%	4%
2014	14.0%	11.0%	3.0%	4%
2015	15.5%	12.5%	3.0%	4%
2016	17.0%	14.0%	3.0%	4%
2017	18.5%	15.5%	3.0%	4%
2018	20.0%	17.0%	3.0%	4%
2019	21.5%	18.5%	3.0%	4%
2020, and thereafter	23.0 %	20.0%	3.0%	4%

3. **Treatment of Existing Capacity:** Existing renewable resources are allowed to meet either Class I or II obligations, with the exception of the requirement that hydroelectric generators must have begun commercial operations after July 1, 2003 to be eligible for Class I. Class III CHP or energy efficiency resources must be developed on or after January 1, 2006.
4. **Sunset Clause:** None

E. ELIGIBLE RESOURCES AND TECHNOLOGIES

1. **Eligible Resources:** Connecticut relies on a three-tiered RPS system, with Class I and II focused on renewable energy technologies, and Class III focused on CHP and energy efficiency technologies.

Class I renewable energy sources include:

- Solar electric (photovoltaic and solar thermal) power
- Wind power
- Fuel cells
- Methane gas from landfills
- Sustainable biomass facility with an average emission rate of equal to or less than .075 pounds of nitrogen oxides per million BTU of heat input for the previous calendar quarter. "Sustainable biomass" means biomass that is cultivated and harvested in a sustainable manner. "Sustainable biomass" does not mean construction and demolition waste, as defined in section 22a-208x, finished biomass products from sawmills, paper mills or stud mills, organic refuse fuel derived separately from municipal solid waste, or biomass from old growth timber stands, except where (A) such biomass is used in a biomass gasification plant that received funding prior to May 1, 2006, from the Renewable Energy Investment Fund established pursuant to section 16-245n, or (B) the energy derived from such biomass is subject to a long-term power purchase contract pursuant to subdivision (2) of subsection (j) of section 16-244c entered into prior to May 1, 2006, or (C) such biomass is used in a renewable energy facility that, as of June 2007, is certified as a Class I renewable energy source by the DPUC or, as of June 2007, is certified as a Class II renewable energy source by the DPUC, which facility has an application before the DPUC for a Class I renewable energy certificate, to the extent that such facility produces renewable energy from such biomass derived from Connecticut sources pursuant to a long-term biomass supply contract entered into before November 1, 2007, and was supplying such biomass on or before June 1, 2007, until such time as the DPUC certifies that any biomass gasification plant, as defined in this subsection, is operational and accepting such biomass. Sustainable biomass of less than 500 kW that began construction prior to July 1, 2003 is also eligible

In an April 2008 decision ([Docket #07-08-11](#)), the DPUC determined that

biodiesel qualifies as sustainable biomass, and that a generator would be Class 1 eligible in any quarter in which it has exclusively used biodiesel (or any other eligible fuel) and would not be eligible in any quarter in which both eligible and ineligible fuels were used. In the case of blended biodiesel (< B-100), the Department will only allow such a facility to earn compliance credits on that portion of the biodiesel that is biofuel.

- Ocean thermal power
- Wave or tidal power
- Run-of-the-river hydropower of 5 MW or less which began operation after July 1, 2003 and which meets the low-impact standards of the [Low Impact Hydropower Institute](#). For a declaratory ruling on the run-of-the river element of this definition, see DPUC decision for [Docket #04-02-07](#).
- Low emission advanced renewable energy conversion technologies
- Distributed generation (end-user sited) from any Class I resource

Class II renewable energy sources include:

- Trash-to-energy
- Biomass that began operation before July 1, 1998, provided the average emission rate for such facility is equal to or less than 0.2 pounds of nitrogen oxides per million BTU of heat input for the previous calendar quarter
- Run-of-the-river hydropower of 5 MW or less which began operation prior to July 1, 2003. For a declaratory ruling on the run-of-the river element of this definition, see DPUC decision for [Docket #04-02-07](#).

Class III renewable energy sources include:

- Combined heat and power systems with an operating efficiency level of no less than 50 percent that are part of customer-side distributed resources developed at commercial and industrial facilities in CT on or after 1/1/06
- Electricity savings created at commercial and industrial facilities in CT from conservation and load management programs begun on or after 1/1/06.
- A waste heat recovery system installed on or after April 1, 2007, that produces electrical or thermal energy by capturing preexisting waste heat or pressure from industrial or commercial processes. [CLICK HERE](#) for more information.

- 2. Special Incentives:** None specified
- 3. Exclusions:** Under certain conditions, sustainable biomass excludes construction and demolition waste, finished biomass products from sawmills, paper mills or stud mills, organic refuse fuel derived separately from municipal solid waste, and biomass from old growth timber stands.
- 4. Self-generation:** Distributed generation (end-user sited) from any Class I resource is eligible to meet the RPS. Customer-side distributed CHP resources developed at commercial and industrial facilities are eligible to meet the Class III requirements. Public Act 05-01 defines “customer-side distributed resources” as (A) the generation of electricity from a unit with a rating of not more than 65 MW

on the premises of a retail end user within the transmission and distribution system including, but not limited to, fuel cells, photovoltaic systems or small wind turbines, or (B) a reduction in the demand for electricity on the premises of a retail end user in the distribution system through methods of conservation and load management, including, but not limited to, peak reduction systems and demand response systems.

5. **Location of Generating Facilities:** Public Act 06-74 revised the provision for the location of eligible resources, which was previously revised by Public Act 05-01, and Public Act 03-135 (see below). The current provision states that an electric supplier or electric distribution company may satisfy the RPS requirements by (1) purchasing certificates issued by the New England Power Pool Generation Information System (NEPOOL-GIS), provided the certificates are for (A) energy produced by a generating unit using Class I or Class II renewable energy sources and the generating unit is located in the jurisdiction of the ISO-NE or (B) energy imported into the ISO-NE control area pursuant to NEPOOL-GIS rules, as in effect on January 1, 2006; or (2) for those RECs under contract to serve end-use customers in CT on or before October 1, 2006, by participating in a REC trading program within the jurisdictions approved by the DPUC.

In addition, the DPUC issued a decision ([Docket #03-12-10RE01](#)) in October 2007 declaring that the allowable location for both the generation of electricity using landfill methane gas and the procurement of landfill methane gas for pipeline transportation to produce Class I renewable energy includes jurisdictions able to import electricity into ISO-NE.

Public Act 03-135 had permitted the DPUC to determine whether NY, PA, NJ, MD, and DE had a comparable RPS, thereby permitting renewable energy resources in those jurisdictions to be eligible to meet the CT requirements. Public Act 05-01 postponed eligibility from these jurisdictions until on or after January 1, 2010. Public Act 06-74 has stricken all reference to RPS eligibility from the 5 states.

6. **Eligibility of Green Pricing Programs:** Renewable energy sold under Green Pricing programs is eligible under the RPS rules. However, the Alternative Transition Standard Offer's green options—known as the [Connecticut Clean Energy Options Program](#)—must use renewable energy resources above and beyond that required by RPS ([DPUC Docket 03-07-16 Interim Decision](#)).

F. COVERED UTILITIES

1. **Classes of Retailers Covered:** Public Act 03-135 substantially broadened the applicability of Connecticut's RPS program. The RPS now requires that an electric distribution company providing transitional standard offer service, standard service, supplier of last resort service or back-up electric generation service shall contract with its wholesale suppliers to comply with the renewable

portfolio standards. Municipal utilities must develop their own RPS. In addition, any supplier who provides electric generation services solely from a Class II renewable resource shall not be required to comply with the RPS.

2. **Share of State Sales/Capacity/Delivered power Covered by Program?** ~ 93 percent of state electricity sales in 2006 are covered by the RPS. The remaining sales are covered by RPS programs that municipal utilities must develop on their own.
3. **Apportionment of Obligation among retailers:** Obligations are apportioned to each utility separately based on total retail sales.
4. **Provisions for Leaving/Joining covered group:** None
5. **Exemptions by Customer Class:** None

G. COST PROVISIONS

1. **Cost Cap for Retailers:** A legislated penalty payment (5.5 cents/kWh) serves as a de facto cost cap. Renewable energy projects receiving support from the Project 150 long-term contract program are similarly capped at 5.5 cents/kWh on the sale of NEPOOL GIS certificates to Connecticut utilities. The pricing for energy and capacity resources purchased under Project 150 are subject to the terms of one of seven pricing options.
2. **Cost Cap for Customers:** None
3. **Cost Recovery Mechanism:** For regulated electric distribution companies, rates are determined by the DPUC. At a minimum, these electric distribution companies will recover the costs from facilities developed as part of the Project 150 program as long as they have secured long-term (minimum 10 years) contracts.
4. **Supply Contract Requirements:** Per Public Act 03-135, utilities must file with the DPUC long-term contracts (not less than 10 yrs.) totaling at least 100 MW of Class I renewable energy that receive funding from the state Renewable Energy Investment Fund. Public Act 05-01 moved the deadline for entering into the long-term contracts from July 1, 2007 to July 1, 2008, and required that the projects be located in Connecticut. Public Act 07-242 (codified in C.G.S. § 16-244c(j)(2)) expanded the program to no less than 150 MW and extended the deadline to October 1, 2008. In addition, owners of any Connecticut fuel cell projects participating in this program shall be allocated all available air emissions credits and tax credits attributable to the project, and no less than 50 percent of the Class I RECs attributable to the project. For more information, visit the [Connecticut Clean Energy Fund](#) website.

- 5. Special Funds:** In addition to creating the RPS, Connecticut's 1998 electric-industry restructuring legislation created separate funds to support energy efficiency and renewable energy. The renewable energy fund is known as the [Connecticut Clean Energy Fund](#) (CCEF). It is supported by a surcharge on ratepayers' utility bills. The CCEF is administered by Connecticut Innovations, a quasi-governmental investment organization.

Furthermore, any monies collected through the RPS non-compliance penalty mechanisms are to be deposited by the retail distributor in a Renewable Energy Investment Fund (REIF) to support the development of Class I renewable energy technologies.

H. COMPLIANCE AND ENFORCEMENT

- 1. Certification, Tracking and Trading:** The [New England Generation Information System \(NEPOOL-GIS\)](#), which includes a generation information database and certificate system, operated by the New England Power Pool (NEPOOL), accounts for generation attributes of electrical energy consumed within New England, including Connecticut. Generation attributes tracked by the NEPOOL-GIS are used to verify RPS compliance in each New England state. While the NEPOOL-GIS system is used to collect generation information, create certificates, transfer certificates between user accounts, and verify RPS compliance, the NEPOOL GIS is not a trading platform. No price bids or offers are made within the NEPOOL GIS, although account holders may post notices about the availability of RECs. Rather, RECs are transacted and traded either on the basis of privately negotiated bilateral contracts or through market-priced, bid-based exchanges and auctions operated by independent brokers. Eligible renewable resources must have Certificates issued by the NE-GIS. Electric suppliers or electric distribution companies must demonstrate RPS compliance by acquiring the appropriate number of NEPOOL-GIS Certificates that meet the renewable generation obligation. RECs may not be double counted.

DPUC [Docket #03-10-19](#) states that any electric supplier that demonstrates RPS compliance by participating in a REC trading program shall have exclusive ownership of all renewable energy and environmental attributes from such trading program that are associated with its renewable energy sources.

- 2. Flexibility Mechanisms:** The legislation does not allow for REC banking. However, it does allow a supplier or an electric distribution company may make up any deficiency within its renewable energy portfolio within the first three months of the succeeding calendar year to meet the generation source requirements of the RPS for the previous year.

3. **Penalties:** Electric distribution companies' wholesale suppliers that fail to comply during a year must pay 5.5 cents for each kilowatt-hour of RPS obligation deficiency. Payments are to be deposited in the REIF to support the development of Class I renewable technologies. If a retail supplier is in violation of the RPS, the Commission can require a 3-year compliance plan and can refer the retailer to the Department of Telecommunication and Energy Licensure, which can take further action, including license revocation.
4. **Treatment of Emissions Allowances or Reduction Credits:** The owner of any fuel cell projects participating in the Project 150 program shall be allocated all available air emissions credits and tax credits attributable to the project.
5. **Escape Clauses:** Public Act 99-225 allows the DPUC to delay the RPS requirements by up to two years if it finds that the requirements cannot be reasonably met.

I. ADMINISTRATION

1. **Administering Entities and Contact Information:** The Connecticut DPUC administers the program.
Connecticut Department of Public Utility Control
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-1553
Web site: <http://www.state.ct.us/dpuc>
2. **Source of Administrative Funding:** Not specified

J. REPORTING REQUIREMENTS and PROGRAM STATUS

1. **Retailer Reporting Requirements:** Not later than October 15 of each year, electric suppliers shall submit to the DPUC documentation demonstrating that the electric supplier complied with the RPS in the previous twelve months. A condition of licensure is that electric suppliers provide any and all information requested by the DPUC for the purpose of compiling quarterly disclosure reports.
2. **Administrative Reporting Requirements:** The DPUC is responsible for an on-going program assessment. The DPUC posts data from utility quarterly reports in their electric supplier licensing filing system, which allows consumers to compare generation information under public choice mandates. The assessment contact is:

Cathie Bussolatta
Connecticut Department of Public Utility Control
Ten Franklin Square
New Britain, CT 06051
(860) 827-1553 (main office)
(860) 827-2674 (direct)

<http://www.state.ct.us/DPUC/>
E-mail: cathie.bussolotta@po.state.ct.us

- 3. Cost Information:** No comprehensive study on the actual costs of the RPS has been completed to date. However, both Evolution Markets and ICAP United track the average price of RECs being transferred in the market. Recent data show that RECs have been trading in the \$50 per MWh range throughout 2007 and early 2008. For more information, see <http://www.evomarkets.com/> or <http://www.icapenergy.com/>.