

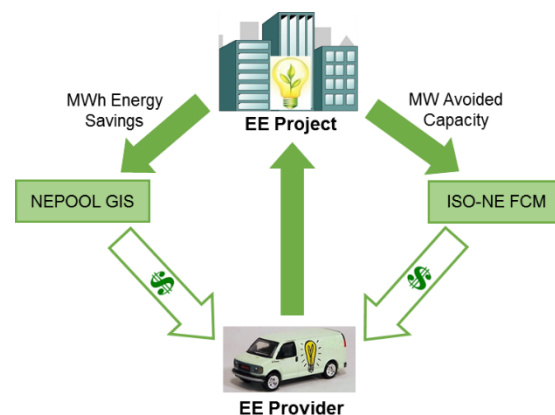
## One EE Project: Two Compliance Markets

*An EE Provider is profiting by delivering compliance value into two markets: The Connecticut Renewable Portfolio Standard (CT RPS) and the Independent System Operator of New England (ISO-NE) Forward Capacity Market (FCM).*

### The Project

A national ESCO (EE Provider) providing commercial lighting upgrades in CT negotiates with site owners for the transfer of ownership rights, as part of contract pricing, to the compliance value associated with the project's energy savings. As part of approved EM&V plans, an Accredited Independent Verifier (AIV), hired by the EE Provider, documents "before and after" conditions for each installation and prepares periodic reports verifying both avoided capacity (MW) and energy savings (MWh). The EE Provider aggregates both the MWh savings and the MW avoided capacity value created by these installations and then sells the associated

compliance values into two separate markets: the CT RPS and the ISO FCM.



### The Market for MWh Energy Savings

The CT RPS requires electricity providers to procure a minimum percentage of their electric load from renewable energy. Electricity providers demonstrate compliance with CT RPS through the purchase and retirement of Renewable Energy Credits (RECs) that are managed in the regional renewables registry, the New England Power Pool Generation Information System (NEPOOL GIS). A REC is a tradable instrument that allows for easy transfer of ownership of the compliance value from a project owner to the electricity providers who need to comply with the RPS.

The CT RPS has required electricity providers to comply with specific purchase requirements for different types of resources since 1998.<sup>1</sup> CT "Class III" REC for EE sources, first used in 2010, is defined as the electricity output from combined heat and power systems with an operating efficiency level of at least 50%, waste heat recovery systems, or conservation and load management programs.<sup>2</sup> As of 2016, state policy requires electricity providers to obtain 4% of their electricity from Class III sources through 2020.<sup>3</sup>

In 2010 the EE Provider's lighting aggregation qualified as a CT Class III resource from the Connecticut Public Utilities Regulatory Authority and began selling CT Class III RECs into the market in Q1 of 2010.<sup>4</sup> The EE Provider files quarterly savings reports over the life of the measure that must be validated by an AIV and reported to the NEPOOL GIS before CT Class III RECs are created

<sup>1</sup>Connecticut Department of Energy and Environmental Protection. (2013, April 26). *Restructuring Connecticut's Renewable Portfolio Standard*. Retrieved August 9, 2016, from [www.ct.gov/deep/lib/deep/energy/rps/rps\\_final.pdf](http://www.ct.gov/deep/lib/deep/energy/rps/rps_final.pdf), 1.

<sup>2</sup>Conn. Gen. Stat. §16-1(a)(38).

<sup>3</sup>State of Connecticut Public Utilities Regulatory Authority. (2015, April). Retrieved August 9, 2016, from [www.ct.gov/pura/cwp/view.asp?a=3354](http://www.ct.gov/pura/cwp/view.asp?a=3354).

<sup>4</sup>[www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/b93e71f5edc999af85257c1600491450/\\$FILE/Ameresco%20CT-DSM%20Quarterly%20Energy%20Savings%20Report\\_09-09-06\\_Q110.pdf](http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/b93e71f5edc999af85257c1600491450/$FILE/Ameresco%20CT-DSM%20Quarterly%20Energy%20Savings%20Report_09-09-06_Q110.pdf)

in the registry.<sup>5</sup> The CT Class III RECs earned by the EE Provider are then sold to electricity providers. Because REC sales in CT are bi-lateral agreements between buyer and seller, sale prices are confidential.

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## The Market for MW Avoided Capacity

In 2006, the Independent System Operator of New England (ISO-NE) adopted a Forward Capacity Market (FCM)<sup>6</sup> that allows EE Projects to participate on an equal footing with traditional central station electricity generators. The price paid to capacity providers is determined by periodic auctions held by ISO-NE and payments are based on actual capacity delivered. In most cases the FCM revenues accrue to the utility but within CT Class III the privately-funded capacity savings benefit the vendor.

Based on a contract with the CT utility, the EE Provider is committed to maintain a minimum of 5MW of avoided capacity through 2020. The EE Provider's 5 MWh aggregation of commercial lighting projects qualified as an EE capacity asset in the ISO-NE FCM in 2010; independently verified performance is reported to ISO-NE monthly (see case studies "Harnessing the Power of Tradable Credit Markets for Energy Efficiency" and "Why the NEER is Different"). The EE Provider began collecting payments for capacity delivered in July 2009, with an approximate annual revenue of \$198,000 for the EE Provider's 5MW of capacity delivered in 2015. Unlike the REC market, FCM prices are publicly available. For example, the payment per MW of capacity provided for a resource in CT was \$3,300/MW-Month for the first several years, but is expected to double for resources that will be provided in 2017.<sup>7</sup>

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## What Can the NEER\* Learn from Connecticut's Example?

This EE Provider's energy efficiency project is an example of a private sector entity registering an aggregation of EE measures and selling both the related MWh energy savings and the MW electric capacity. The two commodities are documented in two different tracking systems due to the evolution of public policy; however, the opportunity provided to EE Providers by similarly diverse markets could be tracked via a single system in other states.

would provide a system for tracking MWh energy savings as one Asset Output. However, in recognition of the broad range of benefits associated with EE projects, the draft includes placeholders to expand NEER to provide future tracking for MW of electric capacity, MBTU of onsite fossil fuel combustion reduction, and gallons of water saved. Expansion of the operating rules to accommodate these categories will be determined by request from state or federal agencies.

The National Energy Efficiency Registry (NEER) operating rules as drafted in mid-2016

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\*Disclaimer: This case study has been prepared by and is the sole responsibility of E4TheFuture. E4TheFuture is not a National Energy Efficiency Registry (NEER) project partner and does not represent the U.S. DOE, the six states, and/or partners The Climate Registry (TCR) and NASEO. As such, the views expressed in this document are strictly those of E4TheFuture and may not coincide precisely with information provided by the above-referenced project, participating states, or project partners. Pat Stanton, E4TheFuture Director of National Policy serves as a consultant to TCR and as a member of the Steering/Advisory Committee for the NEER project; this case study is not paid for under the DOE award.

<sup>5</sup>Application of Ameresco, 7-9.; Restructuring Connecticut's Renewable Portfolio Standard, 4.

<sup>6</sup>ISO New England, *Our History*, Retrieved August 25, 2016, from, [www.iso-ne.com/about/what-we-do/history](http://www.iso-ne.com/about/what-we-do/history).

<sup>7</sup>ISO New England, *Markets*, Retrieved September 5, 2016, from, [www.iso-ne.com/about/key-stats/markets#fcareresults](http://www.iso-ne.com/about/key-stats/markets#fcareresults).