

Energy Efficiency Credits: RPS Programs

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Clean Energy Markets

Energy Efficiency Certificates (EECs)

- Same concept as RECs
- Sold “unbundled” from the actual electricity saved
- Provide a buyer the contract right to “green” attributes
- Make it possible for anyone, anywhere to acquire clean, energy efficiency
- Create additional income stream for project owners
- Aka
 - Alternate Energy Certificates (AECs)
 - Tier II or Tier III RECs
 - White Tags



Generation Sources for EECs

- **Cogeneration / Trigeneration / Combined Heat & Power (CHP)**
 - Distributed Generation
 - Waste Heat Recovery
- **Technology Replacements**
 - HVAC systems (Chillers)
 - Lighting Retrofits
 - Variable Speed Drives (VSD)
 - Insulation
- **Operational Changes (ECMs)**
 - Temperature Set Points
 - Building Automation/Energy Management Systems
 - Remote controls and sensors

Key State Compliance Markets

■ **Pennsylvania**

- Alternative Energy Portfolio Standards Act of 2004
- Regulated by PA PUC
- Tier II resources Include Energy Efficiency + Waste Coal
- Vastly Oversubscribed from Waste Coal resources
- First CHP, Duquesne University, 5 MW, 2008, Nexant CEM

■ **Connecticut**

- 2006 DPUC promulgates rules for Class III Credits (EECs)
- CHP, Waste Heat Recovery, CLM are eligible resources
- CHP must be > 50% efficiency >20% thermal > 20% Electrical
- Revenue quality metering
- Require formal (Docket) M&V submission + P.E. review
- 2007 – 1%, 08' – 2%, 09' – 3% & 10' - 4%
- ACP 31 \$/MWh

Key State Compliance Markets

■ **Massachusetts**

- Alternative Portfolio Standards / Green Communities Act of 2008
- Rules Promulgated in 2009 & Regulated by DOER
- Primary focus - Environmental Emissions Reduction
- CO₂ rate < 890 Lbs/MWh from total fuel process cycle
- Alternative Energy Credits (AECs)
- Eligible technologies are CHP, Flywheel, Efficient Steam
- In service date on or after January 1, 2008
- Revenue Quality metering required all energy flows
- M&V conducted by independent third party metering verifier
- First CHP approved, Titleist, 2 MW – 2009 – Nexant CEM

Prospective National Market

■ **National Renewable Electric Standard (RES)**

- Senate Energy & Natural Resources Committee revised RES from S.1462, Sept 2010
- Generation Sources are RE + EE
- CHP is classified as Energy Efficiency (EEC)
- Not to supersede State RPS programs
- EECs may account for 26.67% of total RES requirements
- Pre-compliance markets developing in advance
- ACP for nonattainment 21 \$/MWh, paid directly to the State
- RES Requirements
 - 2012 ~ 2013 ----- 3.0% of retail sales
 - 2014 ~ 2016 ----- 6.0% of retail sales
 - 2017 ~ 2018 ----- 9.0% of retail sales
 - 2019 ~ 2020 -----12.0% of retail sales
 - 2021 ~ 2039 -----15.0% of retail sales

Conclusion

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