

# Cape Light Compact Green Municipal Aggregation

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Presentation to Mid-Cape Energy Committees

**Cape Light  
Compact**



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*Working Together Toward A Smarter Energy Future*

# Agenda



- Renewable Electricity
  - What is it?
  - Terminology
  - Overview of Renewable Portfolio Standard (RPS)
  - Overview of Renewable Energy Certificates (RECs)
  - How RECs work
  - The issue of additionality
- Green Municipal Aggregation
  - CLC Board's Green Aggregation Discussion
- Questions and discussion

# Renewable Electricity



- Renewable energy: Energy from sources that are replenished on a relatively short timescale
  - E.g., solar, wind, tidal, etc.
- Renewable electricity: Electricity from renewable energy resources
  - The problem: tracing source of electricity received from the power grid is impossible
  - The solution: Renewable Energy Certificates (RECs)
  - The result: The standard for defining renewable electricity is electricity usage that is matched with a REC

# Terminology



- RPS – Renewable Portfolio Standard: “...a statutory obligation that suppliers [...] obtain a percentage of electricity from qualifying Units for their retail customers.” <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/rps-and-aps-program-summaries.html>
- REC – Renewable Energy Certificate: a non-tangible commodity that represents the environmental characteristics of 1 MWh (1,000 kWh) of electricity generated by a qualified renewable energy source.

# Setting: Why have a RPS?



- Many states have public policy goals related to supporting and expanding renewable energy resources
- Most electric generators are privately developed and owned. However, states retain the authority to regulate the distribution and sale of electricity.
- All else being equal (without RPS or additional incentives), private energy developers tend to develop traditional thermal energy/fossil fuel resources because they typically have lower costs and are dispatchable
  - The “missing money” problem
- RPS helps solve the missing money problem by creating a separate renewable market that enables and incentivizes private entities to invest development capital (in renewable energy) in order to meet public policy goals.

# Setting: Why do we have RECs?



- Electricity is different than most other commodities in that the product (electrons) coming from the power grid can almost never be traced back to a specific source.
- To capture the characteristics (including environmental) of the electricity being produced (where, when, how it was produced, associated emissions, etc.), certificates are created for every MWh a generator produces. These are traded separately from the electricity itself, and have a separate value. When a certificate is produced from a renewable resource (as qualified by appropriate state agency), it is called a REC.

# The Basics: Renewable Energy Certificates



- There are many different types of RECs, which can be differentiated by:
  - Type of generation resource (e.g., solar, wind, hydro)
  - When resource was constructed
  - State/jurisdiction resource is located in
  - Voluntary vs. Mandatory qualification, etc...
- RECs are defined and “minted” at the state level according to RPS laws & regulations
- Different types of RECs have different economic value and impact on renewable energy generation
- Each REC has a unique identifier (serial number)

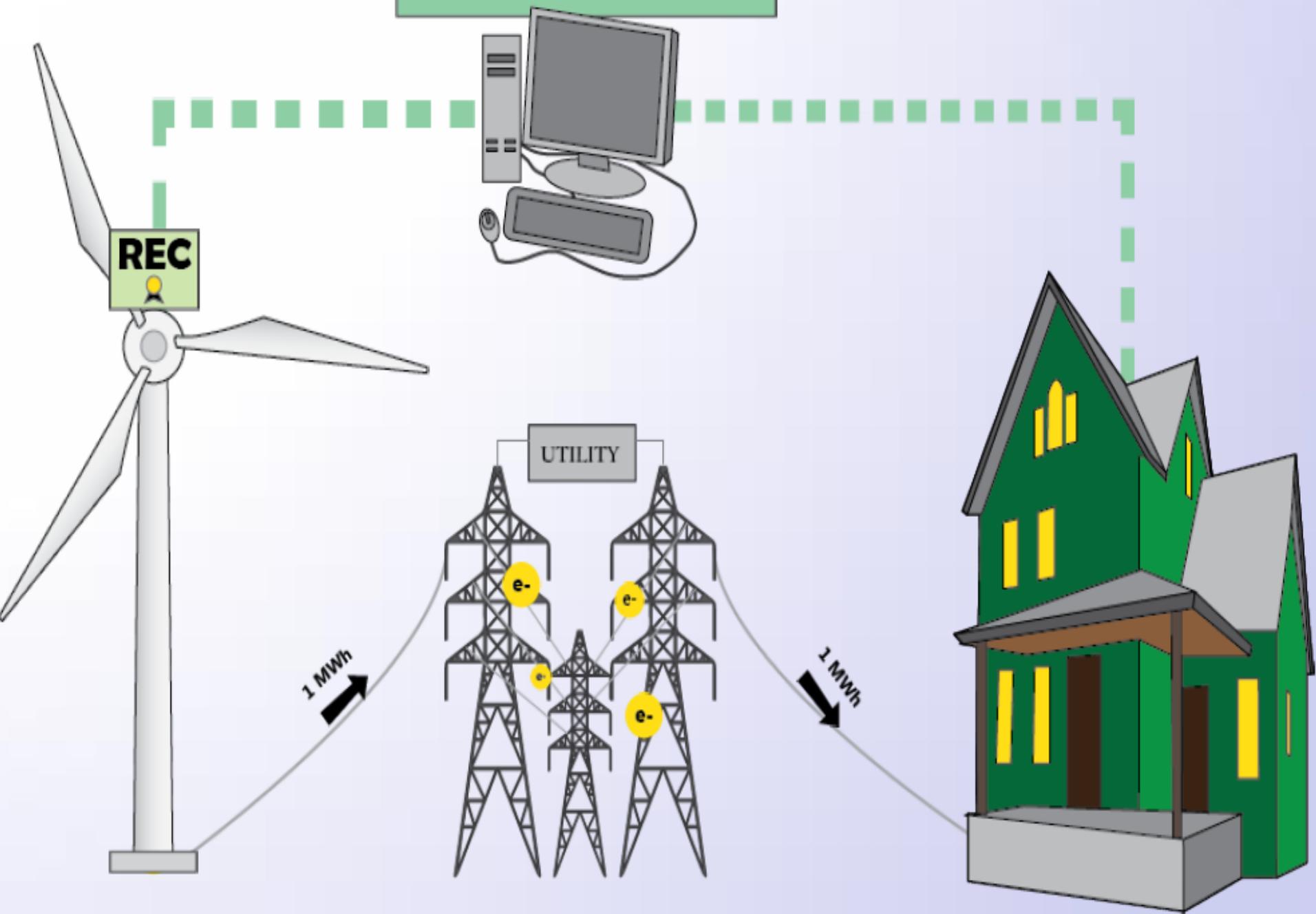
# REC Types



- Class 1 – “New”
  - Built post-1997
  - Solar PV, solar thermal, wind, small hydro, landfill methane, anaerobic digester gas, marine/hydrokinetic, geothermal, biomass fuel
- Class 2/Other – “Existing”
  - Built pre-1998
  - Solar PV, solar thermal, wind, small hydro, landfill methane, anaerobic digester gas, marine/hydrokinetic, geothermal, biomass fuel, waste energy
- Can be located in other states, but electricity must be deliverable to ISO-NE grid (except SREC systems, which must be in MA)
- Non-qualified - Voluntary RECs may be RPS-qualified in other states, but not in MA

# ISO New England REC Database

Image courtesy of MassEnergy



# Additionality



- Additionality: The concept of increasing demand for renewable energy through buying renewable electricity
  - Rather simply supporting resources that already exist
  - Additionality through REC purchases
    - MA Class 1 RECs
    - RECs from states with RPS requirements and a marginal market
  - Additionality through other means

# Green Municipal Aggregation



- Municipal aggregation presents a unique opportunity to support renewable energy
  - Ability to leverage aggregated purchasing power to acquire Renewable Energy Certificates (RECs) above the MA Renewable Portfolio Standard (RPS) requirements, and contribute to expanding renewable energy production
- Other MA aggregators have “gone green”
  - 2016: Town of Dedham and City of Melrose
  - 7 other MA communities are planning green aggregations

# CLC Board Discussion on Green Aggregation



- Cape Light Compact Governing Board has been discussing “Green Aggregation” for the past several months
- Currently, Compact’s default power supply product complies with the MA Renewable Portfolio Standard (RPS)
  - 2016 MA RPS regulations require ~22% of Compact load to be met with RPS/APS-qualified RECs/AECs
  - 2017 MA RPS regulations requires ~23% of Compact load to be met with RPS/APS-qualified RECs/AECs
  - Compact’s competitive electric supplier meets this requirement through the purchase of Renewable Energy Certificates (RECs & AECs)
- **The Compact Board voted on 11/9/16 to become a green aggregation**

# Thank you



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or

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