EBC New Hampshire Program:

New Hampshire Clean Energy Overview
Welcome

Robert Varney

Chair, EBC New Hampshire Chapter

President, Normandeau Associates, Inc.
Program Introduction & Overview

Barry Needleman

Program Chair & Moderator

Director - Administrative Law Department
McLane Middleton
PUC/Legislative Update

Tom Getz

Of Counsel, McLane Middleton
Permitting and Policy Challenges Facing Developers

Ed Cherian

Senior Solar Program Manager, GE Solar
NH Challenges

- Uncertain policy environment
  - RPS
  - RECs
  - Alternative compliance payments
  - Incentives
  - Taxes

- Uncertain economic climate
  - Other energy sources
  - Solar market volatility (e.g. ITC)
Key Policy Issues – RPS

- Annual legislative attempts to repeal, reduce, replace, modify
- Creates uncertainty for developers, financiers, customers
- Puts NH solar market at disadvantage
  - States with more clear and consistent solar policies (MA, VT, NY, NJ)
Key Policy Issues – RECs

- New England REC market dominated by MA, CT
- Uncertainty on REC pool expansion (hydro)
- State RPS requirements drive RECs.
- Lack of stable SREC market in NH
Key Policy Issues – Net Metering

Net Metering (NEM) order June 2017

- Cap lifted
- Rate lowered (+/- 20% reduction)
- Existing projects grandfathered thru 2040
- Certain projects grandfathered at full retail
- Large systems (>100 kw) now NEM credited at default energy rate
- Eversource marginal cost of service study
- Time-of-use pilot programs (Eversource, Unitil)
Key Policy Issues – REF

- Alternative Compliance Payments fund (down to $3.6 MM: 50% reduction)

- New apps frozen 14 Jul 2017 for residential and C&I – over-subscribed by +/- $500k/$1MM respectively

- Future uncertain. Constrains developers, financing
Key Policy Issues – SB 129

- Increased Class II REC requirements (biomass)
- REF set asides for low/moderate income
- Repealed minor tax
Permitting Uncertainties

- SEC process
- Annual legislative proposals
- Lack of local solar ordinances
- Clarity of permitting process for GM, RT, CP solar
- Brownfields development
Project Types

- Net-metered
- Non net-metered (aka “behind the meter”)
- Off-grid
- Scale
  - Residential
  - Commercial
  - Municipality
  - Industrial
  - Utility-scale
Comparisons

- VT – all solar permits state managed. Local AHJs preempted
- MD – County level permitting
- NH (and most other states): local town, township, municipality, city has permitting authority
- NJ (PSE&G, JCP&L, etc.). SRECs.
Level of Review

➢ Groundmount systems

- Typically require full Planning Board (PB) site review
- May require additional info on lighting (if any), site survey, visuals, soil disturbance, stormwater, etc.
- Due diligence: geotech surveys, land survey
- Pile driven, screw pile, ballasted
- Utility scale >30 MW → SEC, ISO-NE

➢ Rooftop systems

- Generally “allowed by right” – review to confirm no need for Zoning Board of Adjustment (ZBA) look → apply for building/electrical permits
Level of Review

➢  Carports

- Towns/cities ordinances are silent on solar carports. New to NH. Depends on interpretation
- May be considered modified rooftop and allowed by right
- May be considered GM and require full PB review
- Varies even in states with many solar carports (MA)

➢  Example: Hooksett

- ZBA review (variance)
- PB site plan review (lighting, visual, etc.)
- Fire Dept
- CO
State and Federal Permit Triggers

- Typically no state permits required unless:
  - Wetlands impacts – DES Water Division (administers CWA)
  - 100,000+ sq ft footprint → AoT permit
  - Historic resources impacted? DHR consult
  - Potential T&E species/protected habitat impact
  - Shoreline Protection Act

- Federal – FAA screen
  - Proximity to airport, airport approach, military airspace
  - In/on airport? glare study may be required
Utility Approvals

- Utility acceptance in NH
- Interconnect application
- Requires utility study (= $)
- Facility study? - May require upgrades (= $$$)
- IA
- Witness test
- PTO (Permission to Operate)
Edward Cherian
GE Solar
(603) 440-3127
Edward.Cherian@ge.com
NH Site Evaluation Committee
Siting Challenges for Large Scale Renewables

Barry Needleman

Director
Administrative Law Department
McLane Middleton
RSA Chapter 162-H

- Maintain a balance among potential significant impacts and benefits in decisions about siting (RSA 162-H:1)

- “The legislature hereby establishes a procedure for the review, approval, monitoring and enforcement of compliance in the planning, siting, construction and operation of energy facilities” (RSA 162-H:1)
What Kinds of Projects?

- New generation over 30 MW (Biomass, gas, wind, solar, etc.)
- Certain electric transmission lines
- Certain gas transmission lines
- Large storage facilities (LNG, propane, etc.)
- “Sizeable additions”
Key SEC Elements

- One Stop Shopping
- Rotating Subcommittees
- Preemption
- Trial Process
  - Pleadings
  - Discovery
  - Witnesses
  - Cross Examination
Required Findings RSA 162-H:16

- Technical, managerial and financial capability to construct and operate
- Not unduly interfere with orderly regional development of the region
- No unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment and public health and safety
- Serves Public Interest
Key History

Old Process
- Large Committee
- 9 month review period (11 months)
- No Administrator
- Sporadic activity

New Process
- Subcommittees
- 12 month review period (15+ months)
- More public process
- Administrator
- Significant activity
What Has Happened Since 2014 Amendment?

- Comprehensive Rule Changes

- Projects
  - MVRP – complete
  - Antrim Wind – complete
  - Northern Pass – pending
  - Seacoast Reliability – pending

- Are we better off than 4 years ago?
Improvements (?)

- Administrator
- Reduced Committee Size
- Funding Clarity
- Expanded Rules (+/-)
Areas of Concern (?)

- Expanded Rules (+1-)
- Rotating Committee
- CFP
- Public Input
Conclusions

- Aspects of the process have certainly improved since 2014
- Not all the changes have resulted in a better process
- Based on recent experiences, there is more room for improvement
Energy Efficiency and NH’s New Resource Standard

Tom Rooney

Vice President, Programs, TRC

November 29, 2017

Tom Rooney, Vice President, Programs - TRC
National presence, local support

Energy | Environmental | Infrastructure

Our marketplace:

- Rigorous state & federal efficiency mandates
- Cities with climate/energy action plans and drive to serve citizens
- Utilities tasked with delivering cost-effective programs to their customers
- Businesses own/rent property – i.e., interest in improving bottom-line

Boston, MA
Energy Services Headquarters

120 offices
4,100 employees
Comprehensive, integrated energy services

360 degree perspective of EE in buildings includes:

- EM&V
- Codes & Standards
- Emerging Technologies
- Regulatory Awareness
- EE & DR Program Administration
- Microgrid Design & Development
Energy Efficiency is 1st “Fuel” in Mix

Source: Southern California Association of Governments.
http://sustain.scag.ca.gov/Pages/EnergyEfficiencyConservation.aspx
Clean energy loading order

Fundamentals
- Air Sealing
- Insulation
- Duct Sealing
- Lighting
- Appliances
- Moisture Control
- Water Conservation
- Plug Loads
- Behavior

Major Systems
- Heating
- Air Conditioning
- Ventilation
- Water Heating
- Windows

Renewables
- Solar PV
- Solar Thermal
- Wind
- Water Catchment

First Reduce, Then Produce
Building science principals
2030 Electric Savings from Major Measures

Total savings = 1,031 TWh;
21.5% of projected 2030 US electric use after adjusting to eliminate overlaps

Energy Efficiency and Solar PV Are Slowing Peak Demand Growth and Flattening Energy Use

Avg Cost of Saved Energy & Energy Savings as a % of Retail Sales for Major Utility Programs

ACEEE 2017 State Scorecard

http://aceee.org/research-report/u1710
NH Energy Efficiency Resource Standard

• NH Office of Energy & Planning 10-Year Energy Strategy recommended EERS concept in September 2014

• Approved by NH PUC in August 2016

• Defines long term energy savings targets and a framework for achieving them

• Significant state policy that raises importance of energy efficiency
NH EERS Summary

• By 2020, cumulative energy savings equal to 3.1 percent of 2014 electric sales and 2.25 percent of 2014 natural gas sales.
• 3.66 cents/kWh to save vs. 16.29 cents/kWh retail rate
• $0.336/therm lifetime saved vs. $.81/therm retail
• $570 million total ratepayer savings 2018-2020
NH EERS Summary

Annual Savings as Percentage of 2014 Delivery sales

- Electric energy savings goals:
  - 2017: 0.60%
  - 2018: 0.80%
  - 2019: 1.00%
  - 2020: 1.30%

- Natural gas energy savings goals:
  - 2017: 0.66%
  - 2018: 0.70%
  - 2019: 0.75%
  - 2020: 0.80%
NH EERS Summary

- Commission to hire an independent EM&V expert (MA approach)
- Developing a NH-specific Technical Reference manual (TRM)
- Non-energy benefits of energy efficiency – 10% adder to total benefits to account for additional benefits.
- Increasing efforts to serve income-limited customers
- Beginning to address Peak Demand Savings
NH EERS Funding Sources – Electric

(Millions)
NH EERS Funding Sources – Gas

(Local Delivery Adjustment Charge)

- 2017: $7.70
- 2018: $9.5
- 2019: $10.6
- 2020: $11.5

(Millions)
NH EERS Schedule

- Draft Plan submitted May 31, 2017
- EESE Board review and resolution at June & July Meetings
- Utility Filings submitted September 1, 2017
- Settlement due on November 30th
- Under review by NH PUC – Docket 17-136
  – Hearings on December 7th and 13th
NH Challenges with Energy Efficiency

• Lack of leadership at the State level
  – Office of Strategic Initiatives (no “energy”, previously OEP)

• PUC making progress but limited by legislature
  – HB 317 limits the PUC’s ability to increase SBC charge

• Annual legislative battle on RGGI
  – In 2013, RGGI funding for EE cut by 84% ($20M +)
Thank You!

Tom Rooney

trooney@trcsolutions.com
Panel Discussion

Panel Moderator: Barry Needleman, *McLane Middleton*

Panel Members:

- **Tom Getz**, McLane Middleton
- **Ed Cherian**, GE Solar
- **Tom Rooney**, TRC

Environmental Business Council of New England

*Energy  Environment  Economy*
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