New Hampshire State Energy Perspectives

By

Jonathan S Osgood
Utility Analyst
NH Public Utilities Commission

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PUC: Who We Are

- A statutory agency est. under RSA 363
- The 3 person Commission regulates public utilities
- Responsibility to balance the interests
- Other duties as assigned
PUC: Energy Activities

- Regulate non-municipal electric and gas (natural and LP) utilities
- Approve and monitor utility construction programs (Site Evaluation Comm.)
- Approve and monitor utility conservation programs
- Approve and monitor utility environmental programs
- Administer NH’s Energy Conservation Code
Electric Utility Energy Efficiency Programs

- Core Energy Efficiency programs
  - Common among 4 utilities
    - PSNH
    - Unitil
    - Granite State (National Grid)
    - NH Electric Cooperative
Core Energy Efficiency Programs

Residential Programs

- Energy Star Homes
- Energy Star Lighting
- Energy Star Appliance
- Home Energy Solutions
- Home Energy Assistance
- Utility specific programs
Core Energy Efficiency Programs

Energy Star Homes

- Incentives to Decision-Makers
- Homes use 20% less energy than code
- 2008 Program
  - 545 Homes
  - $1.4 Million

LEARN MORE AT energystar.gov
Core Energy Efficiency Programs

Energy Star Lighting

- Rebates on efficient lighting products
- 2008 Program
  - 325K Items
  - $1.4 Million

LEARN MORE AT energystar.gov
Core Energy Efficiency Programs

Energy Star Appliance

- Rebates on efficient appliances
  - $50 Clothes Washers
  - $20 A/C Units

- 2008 Program
  - 13K Items
  - $0.9 Million

LEARN MORE AT energystar.gov
Core Energy Efficiency Programs

Home Energy Solutions

- Single or Multi Family
- Electric heat (usually)
- Audits and grants (match requirements)
- 2008 Program
  - 1.5K homes
  - $2 Million (less $0.5 to Weatherization)
Core Energy Efficiency Programs

Home Energy Assistance

- Weatherization for Income Eligible
- Single or Multi Family
- Audits and product installation
- 2008 Program
  - 1300 homes
  - $2.4 Million + $0.86 Million
Core Energy Efficiency Programs

Utility Specific programs

- Commercial Auditors Courses
- Beyond Energy Code seminars
- School programs
- 2008 Program
  - $0.6 Million
Core Energy Efficiency Programs

Commercial/Industrial programs

- New Equipment & Construction
- Large C&I Retrofit
- Small Business Energy Solutions
Core Energy Efficiency Programs

New Equipment & Construction

- 100kW consumers doing new construction or major renovation
- Rebates down to 1 year payback or 75% incremental cost to cap
- 197 customers
- $2.8 million
Core Energy Efficiency Programs

2007 C&I New Equip. & Const. Rebate Dollars

- HVAC, $189,837, 10%
- Lighting, $723,017, 39%
- Motors, $19,110, 1%
- Custom Projects, $475,972, 26%
- Chillers, $59,536, 3%
- Air Compressors, $104,135, 6%
- VFDs, $254,938, 14%
- Transformers, $20,780, 1%
Core Energy Efficiency Programs

Large C&I Retrofit

- 100kW consumers needing replacement of old inefficient equipment
- Rebates down to 1 year payback or 35% of cost to cap
- 195 customers
- $3.2 million
Core Energy Efficiency Programs

2007 C&I Retrofit Rebate Dollars

- Lighting, $1,361,255, 71%
- Motors, $19,570, 1%
- Custom Projects, $209,884, 11%
- Air Compressors, $157,154, 8%
- VFDs, $126,563, 7%
- EMS, $47,405, 2%
Core Energy Efficiency Programs

Small Business Energy Solutions

- <100kW consumers needing energy efficiency improvements
- Incentives up to 50% of installed costs to cap
- 612 customers
- $3.2 million
Core Energy Efficiency Programs

Exit Sign Costs (annual energy usage per sign)

- Inc: $31.54
- CFL: $15.77
- LED: $3.15
Regional Greenhouse Gas Initiative

- **CO2 Cap & Trade Mechanism**
- **Uses Auction to sell Emission Credits**
  - $3.07/ton on Sept 29
  - NH
  - Participates Dec 17
  - 8.6 million allowances
Regional Greenhouse Gas Initiative

Revenues

- To energy efficiency projects
  - Maybe along Core lines?
    - 10%+ to Weatherization
- To Renewable Energy Fund
  - $3/Watt max $6k or 50%
  - Funds no sooner than July 09
Regional Greenhouse Gas Initiative

Revenues Created

- For certified renewable generators
  - From sale of RECs
  - From auction of RECs
- For efficiency programs
  - Payments due to insufficient RECs or failure to meet portfolio stds
Regional Greenhouse Gas Initiative

Federal Initiative

- Sens John Dingell & Rick Boucher
  - House Energy & Commerce Committee
  - Introduced Federal Climate Change Bill
  - Cap & Trade covers 88% of emissions
  - FERC with carbon mkt. oversight
Renewable Portfolio Standard

- Utilities must generate from renewable sources RSA 362-F:1
- %s based on generator class and year
  - From purchase of REC
  - PSNH Generation or purchase
Renewable Portfolio Standard

Class (RSA 362-F:4)

- 1 Wind, Geothermal, Hydrogen, Ocean, Methane, Eligible Biomass, Solar Thermal
- 2 Solar
- 3 Existing Biomass <25mW
- 4 Existing Small Hydro <5mW
Renewable Portfolio Standard

Contact PUC to register your renewable energy producing facility
Renewable Portfolio Standard

Purchased Power Agreements

- Utilities may purchase
  - PSNH (for example)
  - Lempster Wind (12 mW)
Renewable Portfolio Standard

Purchased Power Agreements

- Utilities may purchase
  - PSNH (for example)
  - Laidlaw Berlin Biomass (66mW 20yrs)
Renewable Portfolio Standard

Purchased Power Agreements

- Utilities may purchase
  - PSNH (for example)
  - Pinetree Tamworth & Bethlehem
    (35mW 3 yrs)
Renewable Portfolio Standard

Northern New England Transmission

- Insufficient Transmission Capacity
  - Designed to carry energy north
  - Now wanted to bring renewable energy production south
Energy Efficiency Building Code

1st State-wide building code in NH

- Adopted by General Court
  - 1979
  - RSA 155-D
  - 2007
    - IECC 2006
    - RSA 155-A
    - Zone 6
Energy Efficiency Building Code

Commercial State Energy Code Status
As of October 2008

Source:
Building Codes Assistance Project
www.bcap-energy.org
Energy Efficiency Building Code

Residential Standards

- Prescriptive
  - Windows / Doors U-.35
  - Ceilings R-49
  - Walls R-19
  - Floor R-30
  - Basement R-13
Energy Efficiency Building Code

Residential Standards

- Compliance Paths
  - EC-1 Form
    - 2 Page Pledge
    - No Plans
  - REScheck Software
    - Calculations
    - Plans
Energy Efficiency Building Code

Commercial Standards

- Compliance Paths
  - EC-1 Form (under 4000 sq ft)
  - COMcheck Software
    - Calculations
    - Plans
  - Self-certification
Municipalities
- All buildings must comply
- Contractor shall notify fire marshal (except 1-2 family)
- Contractor is responsible
- Fire marshal may enforce where there is no inspector
Energy Efficiency Building Code

Trainings

- Commercial
- Residential
Jonathan Osgood
Energy Conservation Coordinator

NH Public Utilities Commission
21 South Fruit Street Ste 10
Concord NH 03301
603-271-6306
jon.osgood@puc.nh.gov

www.puc.nh.gov