

New Hampshire Independent Study of Energy Policy Issues

“SB 323 Study”





Presentation for the NH EESE Board

Key Findings and Recommendations

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Agenda

1. Purpose & Format Today - **Christine** (5 min)
2. Key Energy Policy Findings & Recommendations - **Christine** (20 min)
3. Key Planning and Municipal Engagement Findings & Recommendations – **Jeff** (10 min)
4. Key Energy Finance Findings & Recommendations **Todd** (20 min)
5. Wrap Up & Next Steps – **Christine** (5 min)

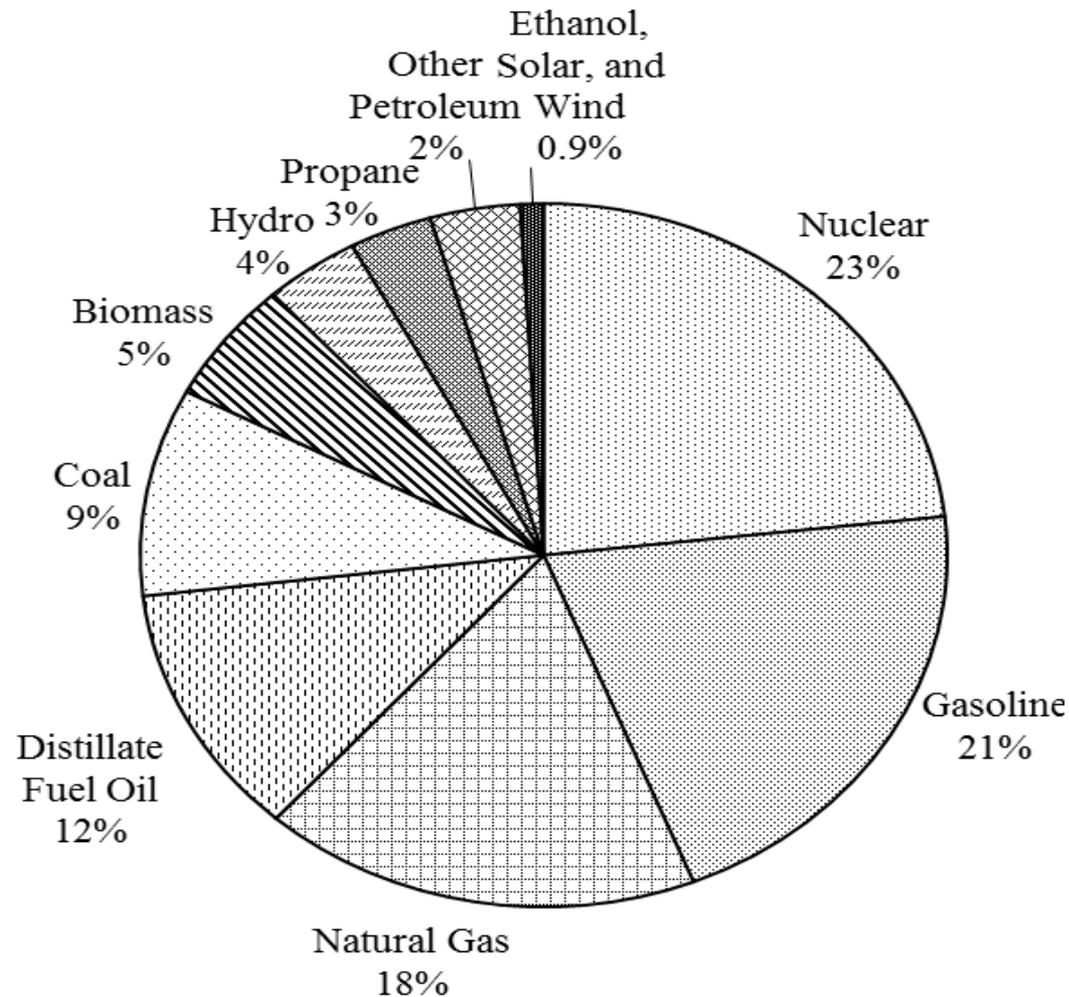
1. Policy-Level Findings & Recommendations



Context in NH

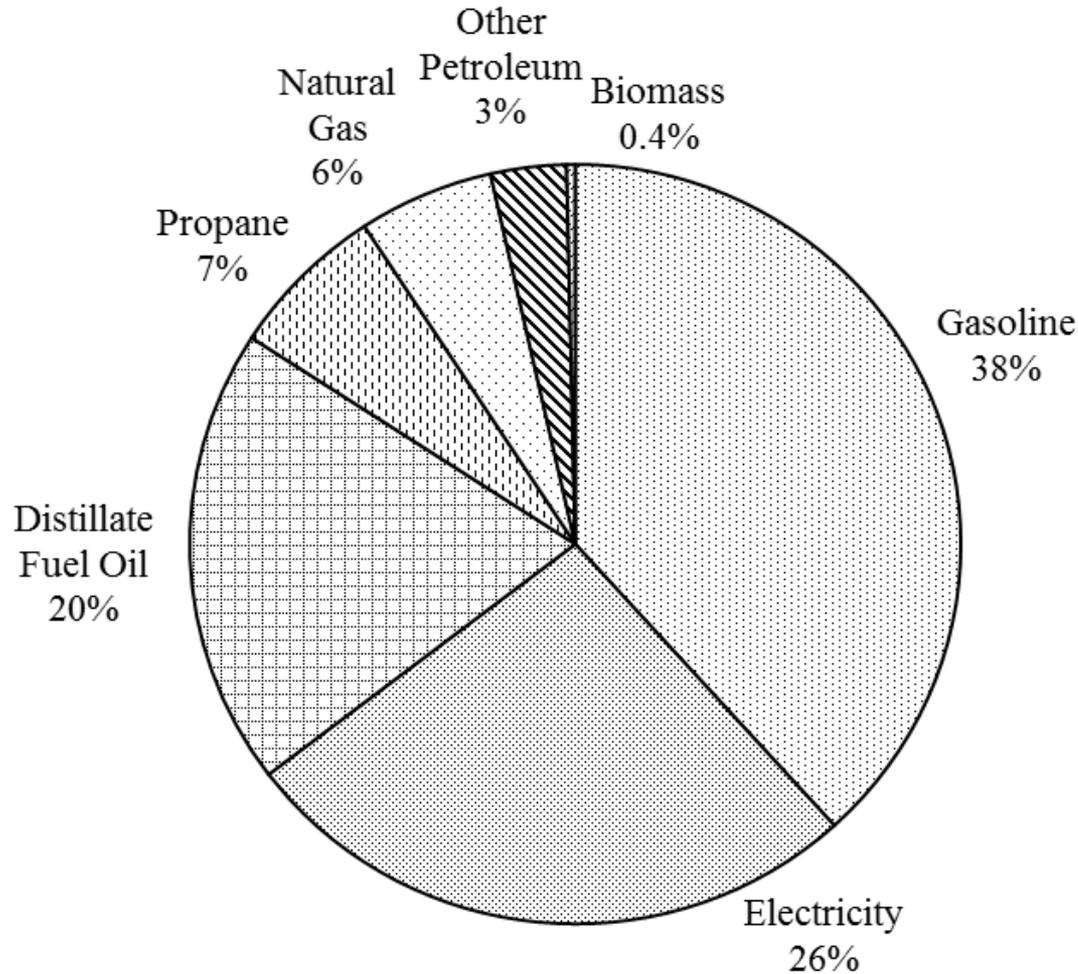
- Energy is **lifeblood of economy**
- As northern NE state, **heating, cooling, electricity, & transportation** are all essential
- Reliable, affordable energy **critical** to citizens
- NH households spend **10-50% of income** on energy
- **Low & fixed income** choose between food, housing, heat, medical care, and transportation
- Business and industry say **energy costs** factor into location and expansion decisions

NH Primary Energy Use



90% of primary energy use from nuclear and fossil fuels imported from other states (and countries)

NH Energy Expenditures



2008 Energy Bill = \$ 6 Billion

Transportation = 38%, Electricity = 26% Buildings = @ 36%

Economic Impacts

- 2008 NH Energy Bill - \$6 Billion
- \$4.1 Billion (78%) for imported energy
- Energy \$ leave the state (or country) quickly
- Economic drain = 7% of NH GDP

Choices

- **Energy conservation –**

Doing the same or more with no energy

(e.g. clothes line, biking to school or work, etc.)

- **Energy efficiency (EE) –**

Doing the same or more with less energy

(e.g. CFL, net zero homes, etc.)

- **Using local, indigenous resources –**

Unlike oil or gas states, in NH these include:

Solar, wind, hydro, geothermal, or biomass

(Wood, farm and wastewater treatment plant methane, landfill gas, etc.)

All of NH's indigenous energy resources happen to be clean, sustainable energy (SE)

EE and SE Potential

US Department of Energy, others

- Nationwide, cost effective to increase energy efficiency by 20-30%

GDS NH EE “Potentials” Study

- Residential cost effective EE = \$309 M/yr savings
- C&I cost effective EE = \$220 M/yr savings
- Total cost = \$2 B (@ 4 years of savings)

NH 25 by '25 Goal

- 25% of all energy from EE and SE by 2025
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NH Been Hard at Work since 1990's

- **Energy Policy Act** – least cost IRP
- **Electric Utility Restructuring Act** – competitive marketplace, SBC funding for EE
- **Renewable Portfolio Standard** – 24% of electric supply from renewables by 2025
- **Net Metering Statute** – standard tariffs & interconnection rules
- **Distributed Resources Statute** – stimulate DG investments
- **Smart Growth Statute** – key principles for land use planning
- **Energy Commissions Statute** – inspiring local energy action
- **And more ...**

EE, SE Resources

- Electric SBC and Gas EE Charge
- RGGI \$ 31 M (2009 - 2010 combined)
- REF (from ACP payments) \$ 1-4 M (varies each year)
- Federal ARRA \$ 72 M (2010 - 2012 combined)
- Federal WAP \$ 1-2 M (varies each year)
- Private Investment \$?

NH SBC Funded EE Results

- About 10 years of utility administered EE programs
- About \$17-18 M/yr in investment (SBC portion)
- @70,000 MWh/yr in savings
- Saving 0.7 to 0.8% of retail electric sales (depending on year)
- \$90 M/yr in total benefits (per utility filings):
 - Customer savings
 - Avoided generation
 - Reduced T&D, etc.

NH Natural Gas EE Charge Results

- Most recent utility administered programs since 2003
- About \$2.5-\$6Myr in investment (going up over time)
- Saving 0.5 to 0.7% of retail gas sales (depending on year)

NH SE Results

- Hydro and biomass = 16% of electricity
 - Solar, wind, methane = 1% of electricity
 - Expanding portfolio of PV, SDHW, commercial-scale wind, farm methane, and other successful SE projects
 - Nationally leading biomass programs
 - Long history of power generation from local wood fuels
 - One of the longest lived wood fired district heating systems in the nation
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NH EE and SE Employment Impacts

- 13,000 “clean” jobs in NH in 2010 (2% of all jobs)
- Grew by 5.3% annually from 2003 to 2010
- NH growth in clean jobs faster than in nation overall
- 5,000 of clean jobs are EE and SE (<1% of all jobs)
- \$40,773 median wage higher than for other jobs

Plus Broader Impacts

- EE and SE market in NH that is really beginning to take shape
- EE and SE is not about ideology, it is about being exercising sound business practices
- Key business interests aligned around and benefitting from the markets
- Utilities and other businesses are making money on EE
- There are waiting lists for various EE and SE programs
- The regional electric grid is paying \$ for demand resources/EE
- Etc.

Challenge

- **How leverage the solid foundation in place now for increased EE and SE in the future?**
- **How does NH hold onto the momentum in market development ARRA is bringing to the state?**

Next Steps to Increased EE and SE

- 7 most important next steps/actions
- With significant and lasting impacts
- Are high-level policy recommendations for:
 - Legislature
 - Executive Branch
 - State Planners and Regulators
 - Engaged citizens and stakeholders
- Additional program-level recommendations directed at program administrators/managers

The 7 Next Steps

1. Refocus, clarify state energy policy direction

- Single comprehensive policy

2. Develop clearer regulatory guidance *“Efficiency First”*

- Energy Efficiency Resource Standard
- Least Cost Procurement Requirement
- Systems Benefit Charge Increase, Unregulated Fuels Charge
- Renewable Portfolio Standard Update

The 7 Next Steps (con't)

3. **Improve regulatory process and modify performance incentives**

“Collaborate don't Litigate”

- Aggressive goals
- Collaborative process in non-adjudicative setting
- Strengthen performance based approach, ensure proper incentives
- More independent EM&V
- Standard and consistent report metrics

The 7 Next Steps (con't)

4. Increase program coordination and further streamline administration

- Increased consistency
- Streamline administration
- Trusted, single source of contact/"portal" for programs

5. Coordinate & scale finance programs to attract & leverage private investment

Next Steps (con't)

6. Create a home for EE & SE implementation & oversight within State Government

- ❑ Designate single entity responsible for follow-through on state energy policies & goals
- ❑ Coordinate with other state agencies
- ❑ Planning role and role in regulatory processes
- ❑ Collaborate on CORE programs and other EE/SE
- ❑ Support local EE/SE initiatives
- ❑ Done well, could streamline management and administration thru consolidation of dispersed efforts

Next Steps (con't)

7. State and Local Government Continue to Lead by Example

- ❑ Good work under way
- ❑ Use government purchasing power to move market
- ❑ Demonstrate benefits (reduce taxpayer costs)
- ❑ Increase coordination with CORE Programs
- ❑ Demonstrate “market barrier” insight
- ❑ Provide leadership and coordination statewide

2. Key Land Use & Community Energy Findings & Recommendations



Key Findings: Community Planning & Engagement (AKA Land Use and Energy Policy)

Denser, mixed use development = less energy use

- State Gov't - Revise, follow State Development Plan & Smart Growth Statutes (RSA 9-A, 9-B), incl. formal Energy Policy
 - Regional Entities (e.g. PAREI) - Support, assist, encourage
 - Local Gov't – Insulate town hall, energy in land use regs, form based codes encouraged by NH OEP and RPCs
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3. Key Energy Finance

Findings & Recommendations



Key Findings- Energy Financing

- Finance is a single tool
 - Cannot be offered in isolation
 - Must coordinate with market demand stimulation mechanisms
 - Takes significant time to establish successful program
 - Most effective when scaled, coordinated, and easy to access
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Key Findings – Energy Financing (con't)

- NH financing programs:
 - ❑ Relatively new, but headed in right direction
 - ❑ Capital levels not adequate or sustainable
 - ❑ Imbalanced sector offerings/risk assessment
 - ❑ Many not maximizing opportunities for leveraging capital from lending institutions
 - ❑ Res programs financing low hanging fruit (\$3,400 - \$4,400 vs \$7,500 national average)
 - ❑ Not coordinated
 - ❑ No common branding or single point of contact
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Recommendations – Energy Financing

- **Single administrator, state-wide program**
 - Scale, clarity, coordination, cost-effective, easy access
 - **“Team approach”**
 - **Address capital levels and sustainability**
 - **Implement demand stimulation and risk mitigation mechanisms**
 - QECB Green Community Program, contractor sales network
 - **Increase/refine marketing and outreach to appeal to the New Hampshire population**
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4. Next Steps from Here



Next Steps

For Study Team

2 Public Presentation Days:

Fall 2011 - Winter 2012

Study Team

- Vermont Energy Investment Corporation (VEIC) – Prime
 - Senior-level PM, 3 Senior Managers, and 8+ specialists with expertise in EE and SE program design & assessment, low income/WAP, demand response, smart grid, finance & investment, etc.

 - Jeffrey H. Taylor & Associates – Subcontractor
 - Jeff Taylor, NH Planning and Stakeholder Outreach Lead
 - Steve Whitman, NH Local Energy Committees Outreach Specialist

 - Optimal Energy, Inc. (OEI) – Subcontractor
 - Philip Mosenthal, Performance Incentives Lead
 - Cliff MacDonald, Utility Analyst
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For More Information

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