

Job Creation Through Investment in Energy Efficiency and Renewables

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What is Opportunity Maine?

- Nonprofit devoted to advancing education and economic development in Maine.
- Launched a successful statewide campaign to provide college loan reimbursement through a tax credit for Maine graduates.
- Now looking at sectors where focused public investment coupled with effective workforce development can result in increased prosperity and job creation. Energy is one of the most promising fields.



Efficiency Costs Less and Creates More Jobs.

- In Maine, buying 9 million kilowatt hours of electricity
 - Costs \$1,000,000 if purchased from fossil fuel sources, and creates at most 1 job in-state.
 - Costs \$1,000,000 if purchased from renewable generation, creates at most 1 job in-state, and provides some price security
 - Costs \$300,000-\$600,000 if “purchased from” efficiency, creates 6-12 jobs in-state.



General Barriers to Development of a Market for Efficiency

- Lack of information
- Upfront cost
- Lack of access to capital
- Misaligned incentives
- Potential for abuse
- Absence of economies of scale



Additional Challenges in Maine

- Poor, rural state
- Workforce lags behind NE in education & training
- Lag behind other states in efficiency investment
 - Historical resistance of utilities to efficiency efforts
- Over-rely on heating fuel (80% of homes)
- Uniquely underdeveloped efficiency market



Maine's Efficiency & Renewables Landscape

- Strong RPS, wind-friendly policies.
- RGGI
- Small SBC funds efficiency programs
- Statewide building and energy codes
- Elevated standards for state and school buildings
- Well-developed low income weatherization infrastructure.



Opportunity Maine's Bill

- Increase efficiency of Maine's homes, businesses and factories by 30% over 10 years and dramatically increase usage of distributed renewable energy technology.
- Consolidate efficiency & renewable programs
- Build a market for efficiency & renewables
- Create workforce infrastructure and make needed workforce & R&D investments to ensure adequate skilled labor, quality work and innovation.



EERS as Goal and Funding Mechanism

- Set statewide 10-year goals for efficiency & distributed renewables in buildings
 - Electricity: 30%
 - Natural gas: 30%
 - Heating fuel: 16.5%
- T&D/gas utilities & heating fuel wholesalers buy efficiency credits sufficient to meet goals.
- Must buy credits equal to 15% of “generated” energy per year, pricing efficiency at 60% of cost of generated resource.



Funds Held by Energy Efficiency Utility (EEU)

- Public body with bonding authority
- 10-member board includes:
 - State agency reps - PUC, Public Advocate (residents & small business), Housing, Planning, State Energy Office, DEP, Labor
 - Consumer reps - Industrial, commercial
 - 1 RGGI trustee
- Funds held in trust for ratepayers, outside general fund. State is not liable for EEU's obligations.
- Efficiency & renewable programs consolidated, with EEU managing or coordinating with program managers



Programs Managed by Nonprofit

- Competitive bidding process
- 5-year contract
- Broad array of performance measures, transparency & accountability mechanisms
- Public body allows for long-term planning, financing, while nonprofit with short-term, competitively bid contract ensures flexibility and accountability
- Nonprofit manages RGGI Trust as well



Principles of Program Design

- Funds allocated according to energy source (electricity, gas, heating fuel) & sector source (residential, commercial, industrial)
- Programs supplement, not supplant, private market goods, services & financing
- All buildings must get audit, free if meets standards
- Emphasis on audit, technical assistance, grants & using EEU funds to leverage long-term savings
- Administration of some efforts may be contracted to utilities, others, but utilities have no presumptive right to deliver efficiency.
- Utilities must make billing systems available on commercially reasonable terms to facilitate financing arrangements
- Municipalities may use property tax billing system in similar way



Beyond Return on Investment

- Most programs measure success by return on investment or cost per btu saved
- “Return” is proper concept for investment of discretionary funds, but consumers cannot avoid spending to meet energy needs – no discretion.
- In functioning efficiency market, question is whether consumer has purchased every btu that is cheaper than generated energy.
 - Create a functioning efficiency market by rechanneling energy spending, bonding with reliable revenue & implementing economy-wide program over short period - ten years.



Residential Programs

- Address renters, owners, split incentives
- Chief focus is weatherization
- Get to all low and middle income homes
- Low-income are 1st priority – full grant
 - Elevated efficiency standards for public/subsidized housing
- Middle-income are 2d priority – half grant
- Aggressive goals for residential sector will ensure strong outreach to high-income



Commercial Programs

- Small businesses are top priority
- Chief focus is HVAC
- Emphasize audit and technical assistance
- Separate auditing from execution
 - Usually, energy service companies do both
 - Separating prevents skimming, where ESCO identifies measures with quickest payback, marks prices way up.



Industrial Programs

- Priority is small business, but every industrial facility gets back at least what it “puts in” through passed-on credit costs
- Emphasis on processes, combined heat, power and cooling
- Audit and technical assistance, prevent skimming



Other programs

- Government buildings (commercial) emphasize municipalities, rural.
 - Get no more out than “put in”
- Nonprofits, hospitals, universities (mostly commercial)
- Address unique barriers for public and nonprofit actors



Workforce Development

- 5% of efficiency credit dollars deposited in Green Energy Job Growth Fund
 - Labor Dept. & Econ. & Community Dev. Dept develop, in consultation with stakeholders:
 - Terminology, high-demand industry designations;
 - Labor market, workforce and industry analysis;
 - Identification of emerging technologies;
 - Credentials, licensing recommendations, and career ladders for relevant fields



Workforce Development, Cont'd

- 20% of Job Growth Fund dollars fund competitive planning and implementation grants for industry partnerships
 - Bring labor, business, education, and community stakeholders in an industry together to assess and make plans to meet workforce needs
 - Modeled on federal SECTORS Act and Green Jobs Act
- 80% to direct support of worker training, using model of Maine's Competitive Skills Scholarship Program:
 - Tuition, fees and supports for programs that link career center clients & other disadvantaged populations to training for high-demand, livable wage occupations
 - Allow adult ed, vocational high schools to receive targeted funds



Research and Development

- 1% of efficiency credit dollars go to R&D
 - Placed in fund for competitive grants in Maine Technology Institute
- Develop energy innovation industry
 - Tidal power
 - Combined solar PV/thermal
 - Use of composites for wind components



Raising Standards To Promote Efficiency and Renewables

- Increase RPS to ensure market for renewables, especially wind
- Higher energy standards for public buildings (all levels of govt), aff. housing
- Appliance standards tied to CA
 - Transmission line efficiency standards
- Decoupled rate structure for peak load



Possible Lessons for NJ

- NJ relies on utilities rather than EEU. Even greater need for:
 - Reliance on efficiency/renewables standards
 - Objective measures of results
 - Standards for contractors
 - Workforce development structures/investment
 - Input from & coordination with other agencies with energy-related responsibilities
 - Attention to aspects of energy in the built environment that do not involve utilities



Questions?

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