

Energy Efficiency as a Resource

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Definition of a Resource

- ◆ “It’s all about hot showers and cold beer”- Amory Lovins



Resource Definition

Capacity	Ability to be available to provide energy	Potential revenue: \$/kw-month
Energy	Actual delivery	\$/kwh

Catalysts in New England for energy efficiency as a resource

Systems benefit charge funds	CT's fund currently \$62 million/year	CT offsetting ~50 MW of load growth each year at \$50
Restoration of funds that were raided	\$12 million restored starting 7/1/06.	Sustained commitment important for certainty, credibility
RGGI	Model rule suggests that at least 25% of allowances be auctioned	Conservative estimate of \$105 million/ year
FERC decision June 2006 on capacity	Approved ISO-NE LICAP settlement	Transition period 12/06-5/10. Forward capacity market begins 6/10

Barriers and Their Effects

- ◆ Cream skimming
- ◆ Financial analytical methods
- ◆ Monitoring and verification
- ◆ Continued focus on measures with quick paybacks. Achieving 10-15% reduction v. 40-70% possible
- ◆ Use of same discount rate: underestimates EE and its cumulative benefits. Overestimates the value of fossil generation. Misses the high coefficient of risk caused by fuel price volatility
- ◆ EE performance discounted and/or subject to performance bonds, which are inefficient.

Monitoring and Verification

- ◆ Additionality: key for RGGI, CT climate plan, ISO FCM
- ◆ RSVP&E: five point “test”
- ◆ Bundling: buildings, summer and winter measures, et al will help smooth out variation and increase overall amount of efficiency
- ◆ Pilots: help test ideas, then apply them more broadly across sectors and/or buildings owned or serviced by same company

Solutions: time to apply them consistently and across regions and sectors

- ◆ EE first in loading order
 - ◆ ISO FCM
 - ◆ Whole buildings/ whole systems approach
 - ◆ Adjust discount rate to account for risk and benefit
 - ◆ Co-benefits
 - ◆ Monitoring and verification
- CA PUC order. CT investigating how to accomplish
- Great opportunities for EE to flatten and decrease demand regionally
- ◆ 40-70% reduction in energy, smaller boilers, fans, etc used. Actual costs are lower
 - ◆ Use risk adjusted discounting to capture EE benefits, properly value risk of fuel price volatility, operating costs of generators
 - ◆ Build on tools like COBRA to show public health, criteria pollutant, other benefits
 - ◆ Refer to established protocols. Build EE portfolio from several buildings to dampen variability from singular building or measure

Connecticut's Plan

- ◆ Completed maximum EE potential study
- ◆ Go upstream
- ◆ Link EE to other programs
- ◆ Expand application of co-benefits, educate other agencies
- ◆ Results conclude that load growth can be completely offset through 2012 at an average cost of 2c/kwh
- ◆ Focus incentives at manufacturer level. Move from point of sale to point of mfr to push technology
- ◆ White tag program starting in 2007. Will require 4% EE/CHP as resource by 2010. Auction of RGGI allowances. EE as resource in SW CT to relieve congestion.
- ◆ Use co-benefits to educate policy makers, underscore rationale for actions today

Potential new business lines to encourage even more EE

- ◆ Insurance-traditional (property and casualty)
- ◆ Insurance- new (risk reduction)
- ◆ Financial/banking
 - ◆ Guaranty EE performance. Example Energy Savings Insurance, performance audits
 - ◆ Co's work with EE programs that reduce risk and improve public safety. Example: torchiere turn-in
 - ◆ Redesign insurance rates based on energy usage
 - ◆ Private equity funds. Directly invest in EE. Sell attributes, generate revenue stream through savings, bid EE saved into ISO FCM

The Path Forward

- ◆ Capture all cost-effective EE
- ◆ Apply lessons from pilot studies store-wide, across state and region
- ◆ Complete technical research to fill gaps
- ◆ Implement National Action Plan for Energy Efficiency
- ◆ Require through PUC orders, codes/standards
- ◆ Integrate demand side measures into air SIPs
- ◆ If it works in one store, apply it to all, then replicate to apply to all in that sector
- ◆ Studies needed: 1] to determine price sensitivity of EE in capacity market; 2] debunk myth of EE and rate increases v. bill impacts, 3] true costs of EE across life of measure (last one done by LBL in early 1990s)
- ◆ NAPEE: outstanding effort. Maintain momentum through actions now.

Adding Value to EE: Potential Revenue Streams



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