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Residential Efficiency Crossroads: Opportunities for the Future

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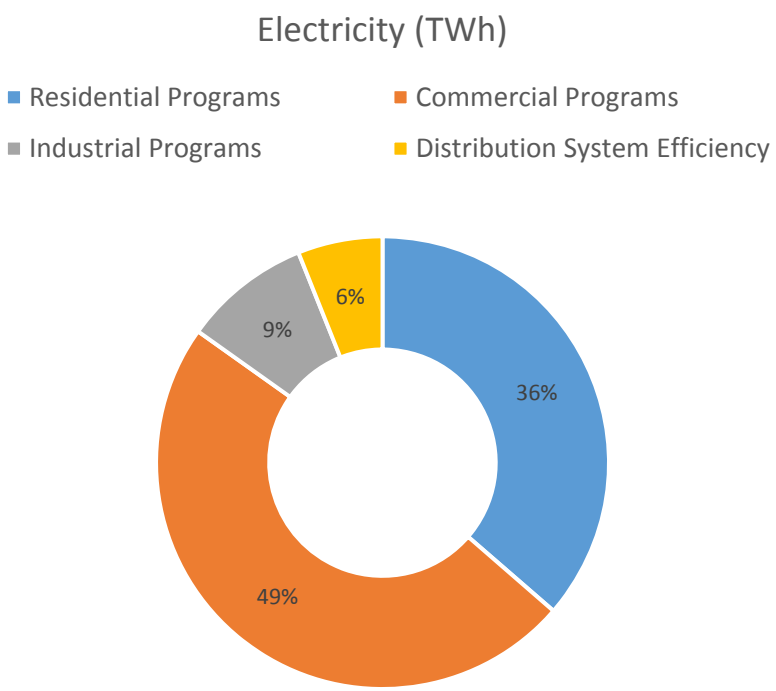
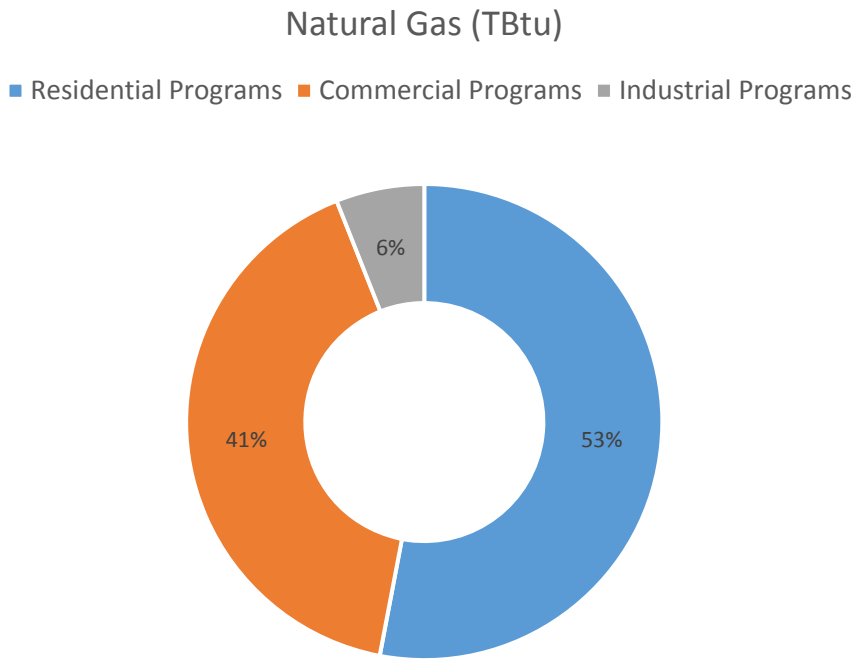
Efficiency Savings Potential for 2030

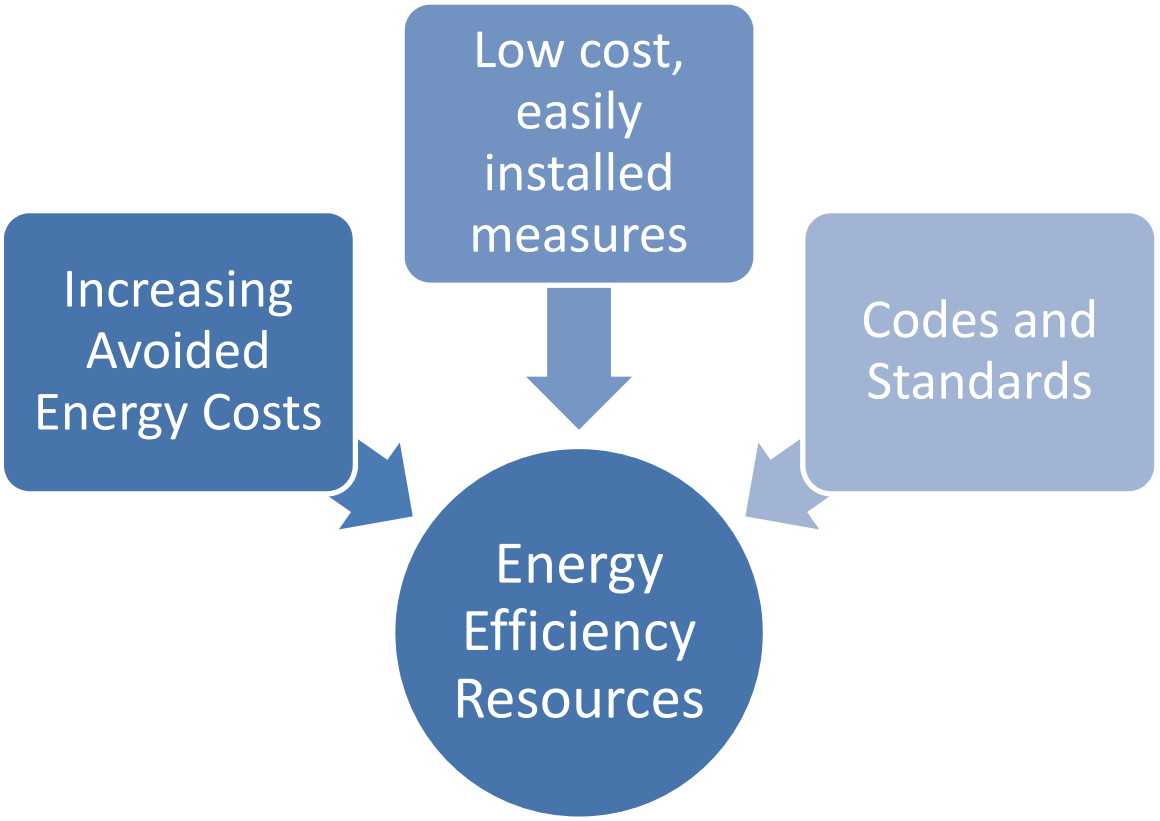


1162 TWh or 27% of total forecasted electricity consumption in 2030



1887 TBTU or 19% of total forecasted natural gas consumption in 2030

A short history of DSM



The Squeeze

EE Targets

Cost-Effective Programs

Costs of Energy

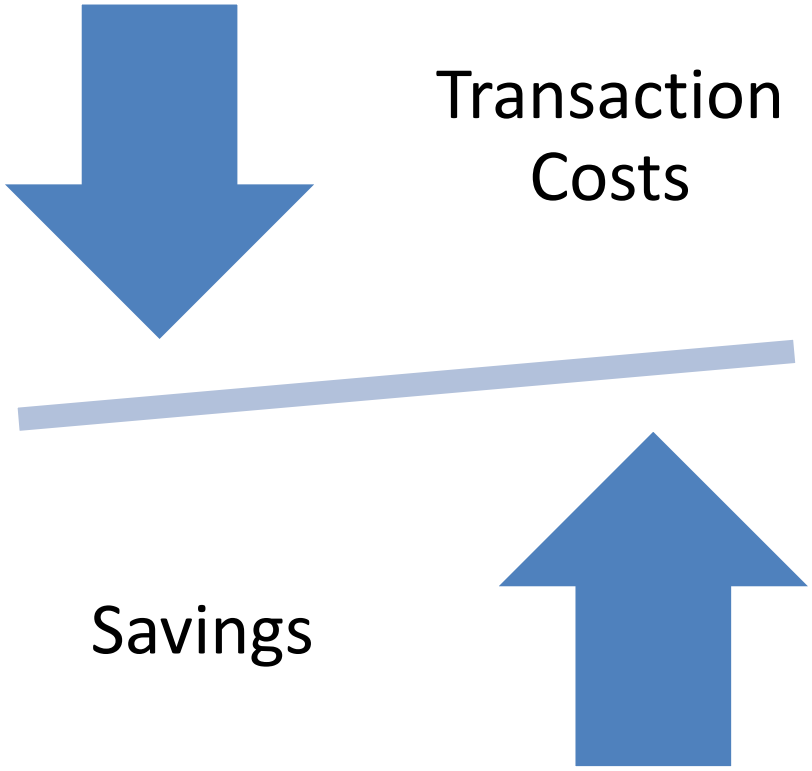
Cost of Savings

Increasing baselines

New Technology cost

Possible Directions for EE Planning

How can utility program sponsors continue to meet regulatory goals, while still providing ratepayer value?



Upstream/Midstream Programs

- Expanding the model
  - Pros: low participation barriers
  - Cons: difficult to evaluate
- Solution: technology-aided instant rebates

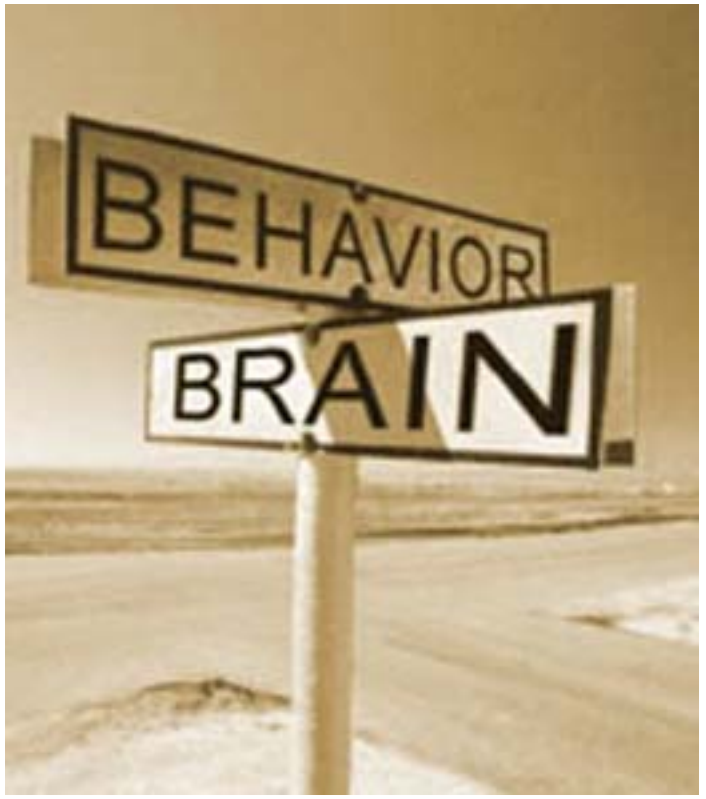
Off-site Residential Audits

- Pros: entry point to other programs, high customer satisfaction, informs EE investment
- Cons: expensive, no savings, lots of hand-holding, lots of barriers
- Solution: Advisor supported DIY audits

What if program sponsors could leverage currently available, multimedia channels and social networking to deliver similar services at a significantly lower cost?

Opt-out Programs

- Capitalize on behavioral theory- Inertia overcomes economically rational behavior
- Example: load control program supported by smart meter technology



Promising New Technologies

- LEDs, Heat Pump Water Heaters, Controls, Ductless Mini-splits
  - Pros: costs may be dropping (LEDs)
  - Cons: High costs remain, can be complicated (controls)

A bit about the TRC

	Benefits			Costs			Balanced
	Participant	Utility	Society	Participant	Utility	Society	
Participant Test	✓		✓	✓		✓	Yes
PAC Test or UCT		✓			✓		Yes
RIM Test		✓			✓		No
TRC Test		✓		✓	✓		No
Societal Test	✓	✓	✓	✓	✓	✓	Yes

✓ - Included in test

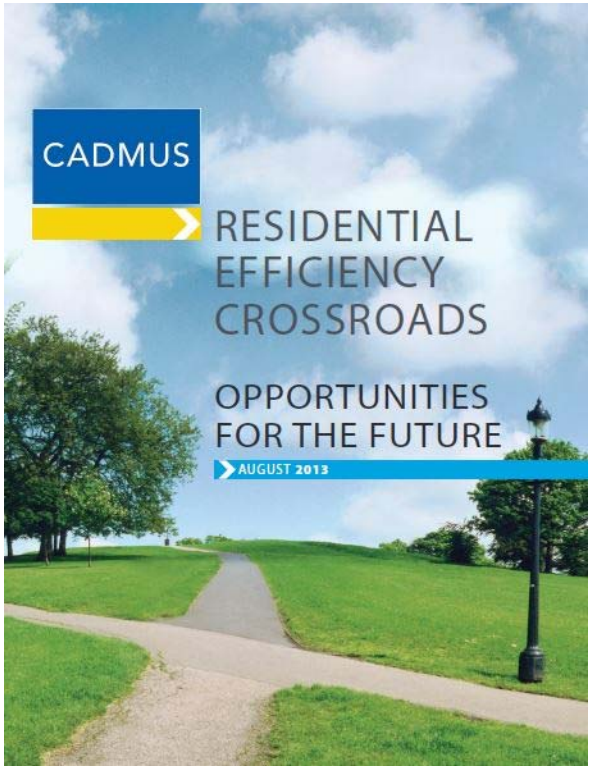
✓ - Included in test, but can be difficult to measure

If potential remains, but it cannot be cost-effectively captured under traditional program models, are those models still relevant?

Modify the TRC or Replace it?

- Program Administrator Cost or Utility Cost Test
  - Equal treatment of efficiency and supply-side options
  - Symmetric – includes only utility costs and benefits
  - No imbalance from exclusion of non-energy benefits
  - Removes incremental cost of energy efficient measures/projects (only counts utility investment)
  - Compatible with integrated resource planning

Get the Papers



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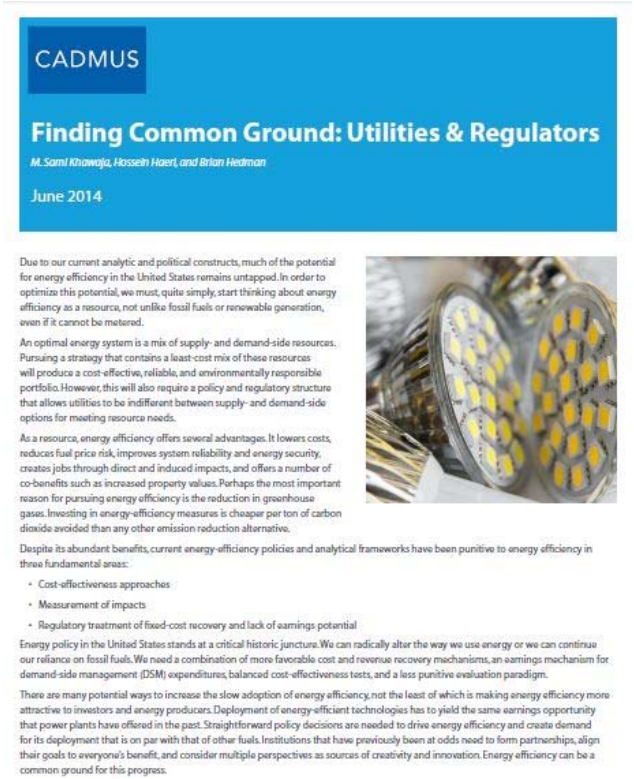

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