

Market Transformation: Substantial Progress from a Dozen Years of Work

Steven Nadel
American Council for an Energy-
Efficient Economy
March 2004



Market Transformation 12 Years Old

-
- Paper by Eckman, Benner & Gordon at 1992 Summer Study
 - Dozens of MT initiatives since then
 - Formation of CEE, NEEP, NEEA, MEEA
 - Energy Star gone from idea to major presence



MT in a Policy Context

- In the mid-1990s, leading PUCs and program operators embraced MT – CA, MA, NY, WI, NWPPC
- Support due to expectations of large, modest-cost savings ...but also perceived as way to eliminate incentives and transition out of DSM
- Some back lash and push for resource acquisition



Policy Context (continued)

- In recent years growing consensus that MT & RA complementary and gradate into each other
- MT now perceived as one of several strategies worth pursuing – mix of strategies depends on resource needs
- MT also embraced by GEF for international development work



What Has MT Accomplished?

- Early successful initiatives included Northwest Model Conservation standards, Wisconsin furnace programs, SERP, Energy Star office equipment
- In 2003, ACEEE examined 28 current initiatives underway in multiple parts of country



Largely Transformed

- Energy Star exit signs (LED, etc.)
- Energy Star residential clothes (standard takes effect 2007, although still an opportunity to promote higher levels of efficiency)



Transformation Likely

- LED traffic signals
- SEER 12/13 residential a/c
- TP-1 dry-type distribution transformers
- Building operator training/certification
- Energy Star residential appliances
- Commercial packaged a/c
- Commercial clothes washers
- Condensing furnaces in cold climates



Substantial Progress

- Energy Star residential windows
- Energy Star new homes
- CFLs/fixtures
- Home electronics
- Packaged commercial refrigeration
- Commercial new construction
- Real estate, schools
- Premium efficiency motors
- Compressed air systems



Some Progress

- Residential a/c installation & maintenance
- Duct sealing
- Ground-source heat pumps
- Cool roofs
- Retrocommissioning
- Commercial lighting design
- Motor management practices
- Furnace fans



Little Progress

- Heat pumps water heaters



Economics of MT

Program	TRC Cost of Saved Energy
Hi-eff furnaces in WI	\$0.27/therm
E-Star office equip	<\$0.01/kWh
New homes in NW	\$0.03/kWh
Elec motors in BC	\$0.012/kWh
Effic magnetic ballasts	\$0.014/kWh
High-eff refrigerators	\$0.028/kWh

Source: Nadel and Latham 1998



Attributes Linked with Success

- Have low incremental cost
- Rapid paybacks
- Substantial non-energy benefits
- Primarily improvements to existing technologies
- Incorporated into codes and standards
- Greater level of effort



Widgets and Practices

- Initiatives focused on widgets that can be incorporated into standards & codes have been most successful.
- Initiatives to promote improved practices have moved slower; successful ones:
 - serve small # of sophisticated customers
 - provide them value



Other Lessons Learned

- Work with major players in the market – increasingly seen as partners
- National and regional MT groups have played a critical role
- Energy Star has provided an important branding platform (national brand has worked better than local brands)



Other Lessons Learned (2)

- Incentives can be helpful, particularly early in an initiative
- Promotion very important
- Training of service providers important
- Product/service needs to be valuable and work well
- Successful initiatives generally multi-pronged



Other Lessons Learned (3)

- Need to differentiate efficient products and services in eyes of consumers
- For consumer programs, keep them simple from a consumer perspective
- Target needs to be achievable but not too easy
- Pay attention to metrics (equipment, evaluation) – you get what you measure



Implications for the Future -- Organizations

- Pay attention to sustaining efforts and organizations in the long-term
- Can the regional approach be expanded to other regions (e.g., more in the Midwest & Southwest, expand to the Southeast?)
- Continue to build/strengthen relationships with trade allies.



Implications for the Future -- Initiatives

- Leveraging codes & standards should continue (includes efficient equipment and construction practices)
- More attention to promoting efficient practices (majority of remaining savings potential)
- Look at new opportunities (e.g. emerging technologies)

