

# **MT Programs: What are the Most Promising Targets for the Next Decade?**

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## **Past Screening Studies**

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- Prepared in 1997-98 for PG&E, Boston Edison, NW Alliance, CEE, NEEP
- Helped identify priorities
- Many of the top priorities successful
- Made significant progress on others



## Need for an Updated Analysis

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- Some measures no longer appropriate
- New measures now being considered
- Now initiatives often promote related measures to a single market
- Some data needs changing



## New ACEEE Study

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- Update previous studies, particularly national study
- Add and subtract measures as appropriate -- based on feedback from MT groups and leaders
- Update costs and savings



## Technologies/Practices Examined: Residential

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- Major appliances
- Central a/c
- Heat pump water htrs
- Gas water heaters (tank and integrated)
- Furnace fans
- Furnaces/boilers
- Ducts & infiltration
- Lighting
- Standby power
- Power supplies
- New homes
- Light roofs
- Windows
- Ground source HP



## Technologies/Practices Examined: Commercial

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- Packaged a/c
- Chiller systems
- Lighting
- Packaged refrigeration
- Built-up refrigeration
- Furnaces & boilers
- Light roofs
- Advanced glazing
- Heat pump water htrs
- Retrocommissioning
- Bldg operator training
- Sector-based retrofits
- New construction
- Clothes washers
- Cooking equipment
- 3-color traffic lights



## Technologies/Practices Examined: Industrial

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- Premium motors & motor management
- Compressed air, fan, & pump systems
- Lighting
- Transformers
- Cleanroom optimization
- Data center optimization
- Management practices (e.g. 1-2-5)



## Methodology

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Screening based on 3 primary factors

- Potential energy savings by 2020, considering feasibility and economics
- Cost of saved energy
- Likelihood of success
- Weighted 40-30-30%



## Caveats

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- Results very preliminary -- likely to change somewhat
- Based on imprecise data and judgement calls -- indicative, not definitive
- Small differences in ranks not significant
- Does not account for regional differences



## Top-Ranked Measures

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- Retrocommissioning
- Major appliances
- Ind'l mgmnt practices
- Comm. lighting
- Res. windows
- Com. clothes washers
- Res. Lighting
- Res. ducts/infiltration
- Standby power
- Furnace fans
- Fan/pump systems
- Res. light roofs
- Motors/management
- Power supplies
- Comm'l windows
- Bldg operator training



## Top-Ranked Measures (continued)

- Res. a/c and HP
- Cleanrooms
- Com. packaged a/c
- Comm'l furnaces/boilers
- Comm'l new construction
- Chillers
- Packaged refrigeration
- Data centers
- Comm'l retrofits by sector



## Classifying the Top Measures

Large Savings, Long-Term Effort	Opportunity for Code Changes Over the Medium-Term	Standards Possible in the Next Few Years	Substantial Benefits, Limited Number of Sophisticated Customers
Comm'l building retrocommissioning (1)	Commercial lighting (4)	Major residential appliances (2)	Premium motors and motor management (13)
Industrial management practices (3)	Residential windows (5)	Commercial clothes washers (6)	Building operator train'g & certification (17)
Residential lighting (7)	Residential light roofs (12)	Standby use of electronics (9)	Cleanroom optimization (19)
Residential duct sealing & infiltration reduct'n (8)	Advanced commercial glazing	Residential furnace, heat pump & a/c blowers (10)	Chiller systems (23)
Motor systems (11)	Industrial lighting (16)	Power supply efficiency (14)	Data center optimization (25)
Sector-based commercial retrofits (26)	Commercial new construction (22)	Residential central a/c (18)	
		Commercial packaged a/c (20)	
		Commercial furnaces & boilers (21)	
		Packaged commercial refrigeration systems (24)	

