Retail Plug-Load Portfolio (RPP): Options for NTGR Approval

EM&V and Residential Program Teams

July 23, 2015

Agenda

1. Status of Four Key Parameters

2. Consistency with MT White Paper

3. Endorsement of NTGR Values

   - Generalized Bass Diffusion Model: Gas Clothes Dryers Example

   - Model Results

   - Proposed NTGRs

   - Risk Management

   - Questions

Our Current Understanding Of CalTF Endorsement of Methods and Values

- CalTF has endorsed methods for all four key parameters

- CalTF has endorsed the values for all key parameters except for NTGRs and UESs.

- Objective for today's discussion is the endorsement of values for NTGRs.

- PG&E will seek endorsement of UES values at September CalTF meeting

Parameter	Methods	Values
UES	X	
IMC	X	X
EUL	X	X
NTGR	X	

NTGR Approach Consistent with MT White Paper Guidance

- For market transformation, the cost time frame is much longer (and, importantly, dynamic).

- The stream of benefits from market effects is not static either.

- A third potential issue is the need to provide a surrogate for NTGRs used in the cost-effectiveness calculator.

- For market transformation initiatives, naturally occurring growth must be forecast into the future and debited from the overall cumulative impact of the initiative.

Rationale for Seeking CalTF Endorsement for 10-year NTGRs

- IOUs must include benefit-cost ratios (TRCs) in their program implementation plans (PIPs)

- These TRCs must include the benefits, costs, and NTGRs for the duration of each program.

- Since the IOUs are filing a 10-year PIP, it must include a 10-year estimate of TRCs.

- For internal consistency, the benefits, costs and NTGRs must all use the same 10-year timeframe.
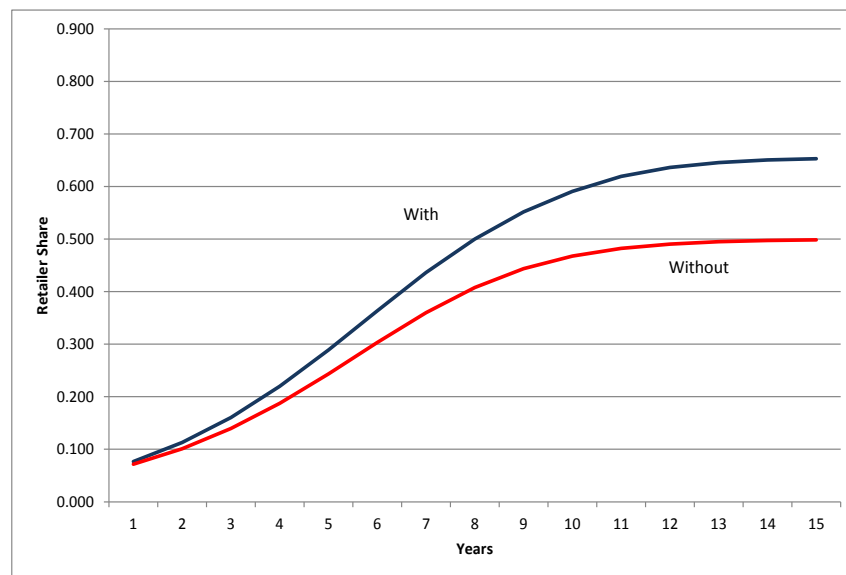
Market Share Scenarios for Participating and Nonparticipating Retailers: Gas Clothes Dryers

Participating Retailers
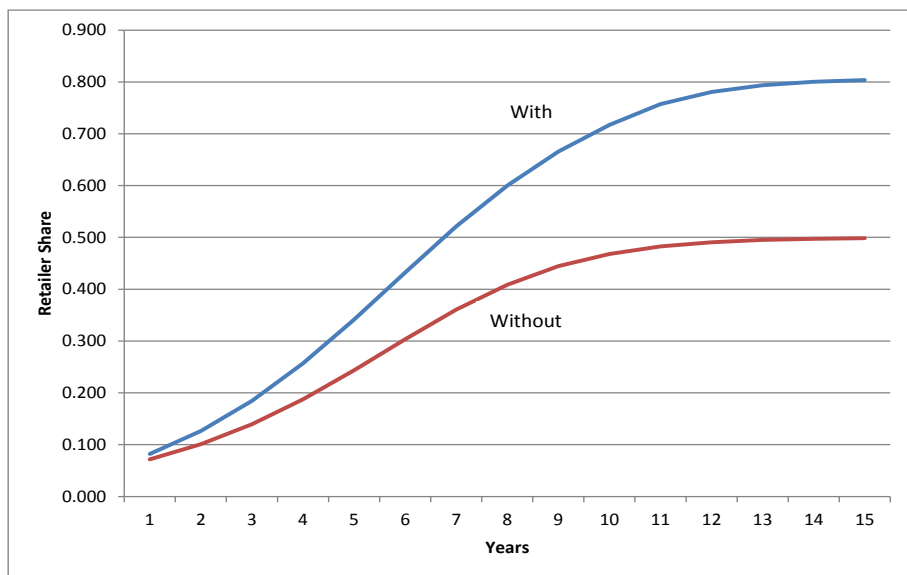
Nonparticipating Retailers

Initial MEA_NTGRs Start Small and Forecasted to Increase Over Time

- Derived through the Generalized Bass Diffusion Model as described in Appendix 8 of RPP Program Workpaper.

- Methods for updating key parameters annually is described in Appendix 8.

Product Category	2nd-Year MEA_NTGR	6th-Year MEA_NTGR	10th-Year MEA_NTGR
Air Cleaners	0.11	0.51	0.98
Sound Bars	0.15	0.49	0.78
Home-Theaters-In-A-Box	0.21	0.68	1.01
Freezers	0.10	0.32	0.47
Electric Clothes Dryers	0.09	0.41	0.68
Gas Clothes Dryers	0.23	0.53	0.86

Final Proposed Market-Effects-Adjusted NTGRs (MEA_NTGR) in RPP Workpaper

- After producing the initial estimates, we conducted sensitivity analyses based on 200 simulations for each product.

- The results are the slightly more conservative estimates used in the work paper.

Product Category	Proposed Work Paper MEA_NTGRs
Air Cleaners	0.95
Sound Bars	0.78
Home-Theaters-In-A-Box	1.01
Freezers	0.47
Electric Clothes Dryers	0.66
Gas Clothes Dryers	0.83

Annual Updates of Parameters Are Critical to Assess Program Performance and Mitigate Risk

- Annual Updates to Parameters Based on:
  - Results of theory-driven evaluations
  - Recorded sales
  - Results of parameter-specific studies (i.e., IMC, UES, EUL)
  - Market characterization and assessment studies
  - Literature reviews

Possible Approaches for CalTF Endorsement of NTGR Values

- PG&E preferred approach: Interim endorsement of 10-year values for 2-3 years

- Endorsement of default NTGR of 0.70 typically used for resource measures

Additional Materials

Risk Mitigation Machine

Input → Process → Output

Feedback
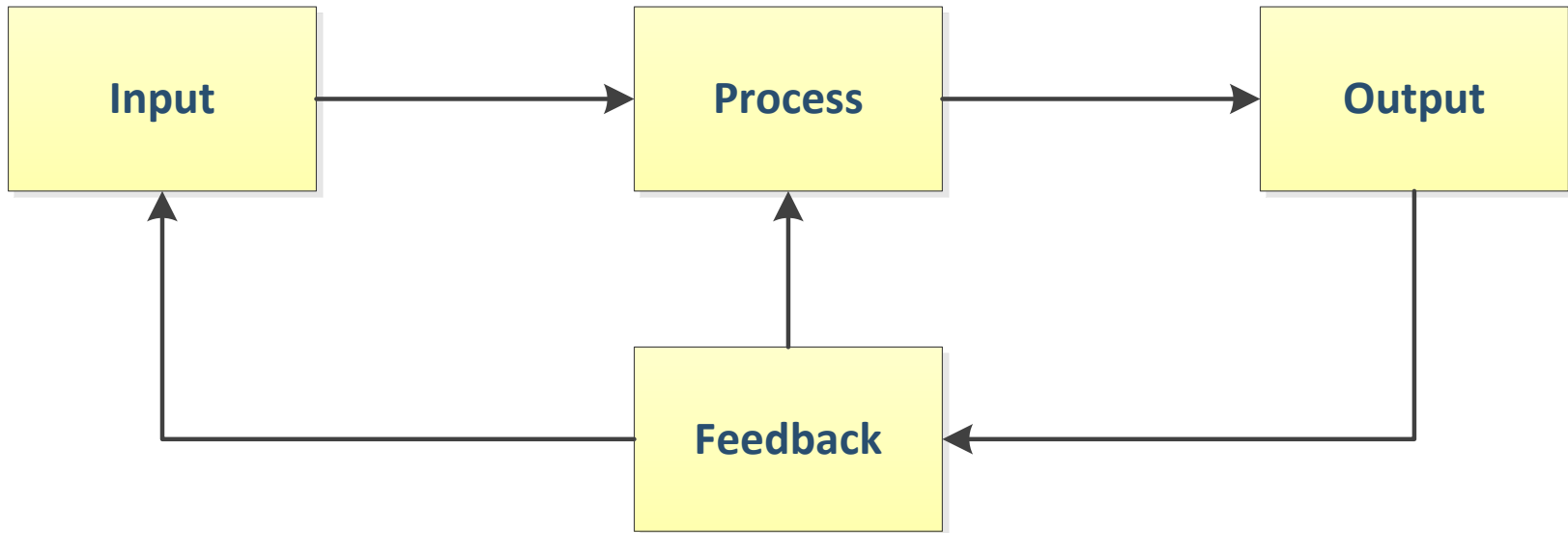
NTGR Documentation: Appendix 8

Short-Term Performance Indicator

- **Partial-Leading-Indicator Net-to-Gross Ratio (PLI-NTGR):**
  - Short-term program performance indicator for participating retailers
  - Not a long-term indicator of program performance based on all elements in the logic model because all components of program were not implemented

- **(Net savings/Gross savings) =**

  6,665 kWh/ 126,172 kWh= 0.05

- **5% lift in sales due primarily to short-term promotional interventions (price and placement promotions)**

PLI-NTGR Does Not Assess Entire Program

Activities

A. PG&E characterizes markets and estimate savings potential for candidate products

B. PG&E contacts utility partners regarding collaboration in Program delivery

D. PG&E and utility partners determine which retailers to recruit

E. PG&E, utility partners and identified retailers target product categories with energy savings potential

U. PG&E and utility partners participate in meetings with and provide market data to staff of Energy Star and Code and Standards Programs regarding targeted product categories

Outputs

C. Utility partners recruited

H. Retailers implement plans employing various strategies and update as necessary.

G. PG&E and partner utilities approve retailer marketing plans including sales forecasts of program-qualified models within each product category.

F. PG&E and utility partners determine incentive levels for program-qualified models within each product category, present them to retailers, and sign contracts.

V. PG&E and utility partners provide input on proposed energy efficient model specifications to staff of Energy Star and Code and Standards Programs

Short-Term Outcomes (1-2 Years)

I. Reduction in customer market barriers to purchase products that are more energy efficient

J. Increased sales of energy efficient models within targeted product categories

K. Retailers receive incentives from PG&E and utility partners

L. Increased retailer engagement

M. Additional retailers join program

P. Short-, mid-, and long-term energy and demand savings and other environmental and non-energy impacts.

Mid-Term Outcomes (3-6 Years)

N. Increased share of efficient models sold in targeted product categories among participating retailers

O. Increased share of efficient models sold in targeted product categories among nonparticipating retailers.

W. In the mid-term and/or long-term, more stringent mandatory and voluntary standards are adopted

Long-Term Outcomes (7-10 Years)

Q. Increased demand experienced by manufacturers for more efficient models in targeted product categories.

R. Manufacturers increase production of the efficient models in targeted product categories

S. Permanent change in the availability of efficient models in targeted product categories among participating and nonparticipating retailers

T. Increase in market share of efficient models in targeted product categories

Residential PLA Program