

# THE 900% SOLUTION

*Supercharging HVAC Efficiency Portfolios*

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**For:**

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**By:**

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# Presentation Overview

- Program Rationale and Design
- Importance of Online Rebate Application Processing
- Introducing New Measures and Setting Incentives
- Outreach and Marketing Strategies
- Accomplishments and Comprehensive Benefits
- Customer Service



# Program Concept

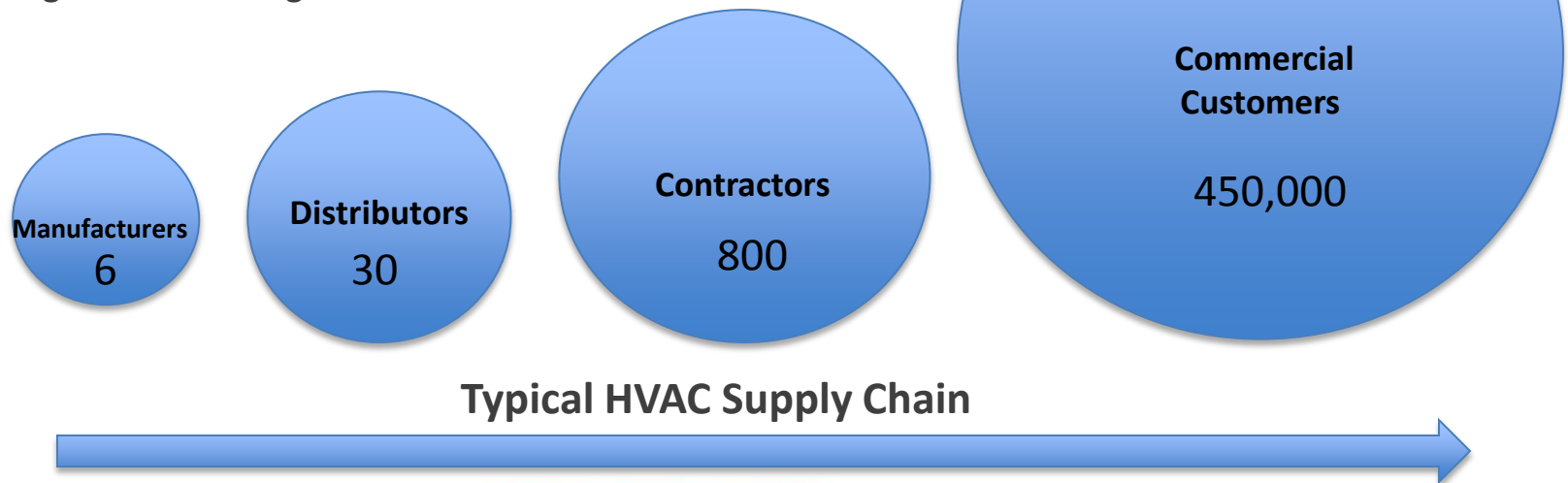
- These incentive programs target distributor networks because the majority of HVAC and Motors products flow through these channels. Thus, by engaging distributor market actors you can effectively change the types of products that flow through to the customers.
- The goals are to influence distributors to stock and promote high efficiency equipment.
- A fully-automated paperless application processing system makes participation easy, and utilities have achieved 9 times greater impacts compared to traditional program models as a result.



*How can a utility program effectively serve an extensive customer base who's focus may not be energy efficiency?*

## Why Target Distributors?

- Provide better customer service
- Influence a greater percentage of the market
- Reduce program administration and marketing expenses
- Streamline/simplify processes and reduce confusion
- Accelerate uptake of promising new technologies
- Targeted marketing initiatives





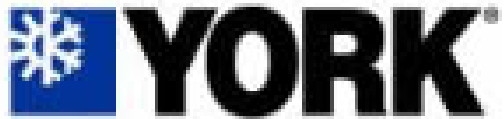
## Process

*Leverage the market.*

1. Recruit and enroll distributors in program
2. Distributors stock, promote and sell high efficiency equipment
3. Distributors ship equipment to customers for installation
4. Distributors enter equipment information into online application system
5. Payments issued to distributors
6. A percentage of installed equipment is inspected



# Participating HVAC Manufacturers



**TRANE**<sup>®</sup>



## Current Measures

- Packaged & Split AC
- Water Source Heat Pumps
- Evaporatively Cooled AC
- Air Cooled Chillers
- Water Cooled Chillers
- Mini/Multi-Splits
- Variable Refrigerant Flow



Mini/Multi-Splits



Variable Refrigerant Flow

## Potential Measures

- Advanced RTUs
- Ice Energy Storage
- Wireless Pneumatic Thermostats
- Fault Detection & Diagnostics
- Controls
- Evaporative Coolers
- IDSM



Ice Energy Storage

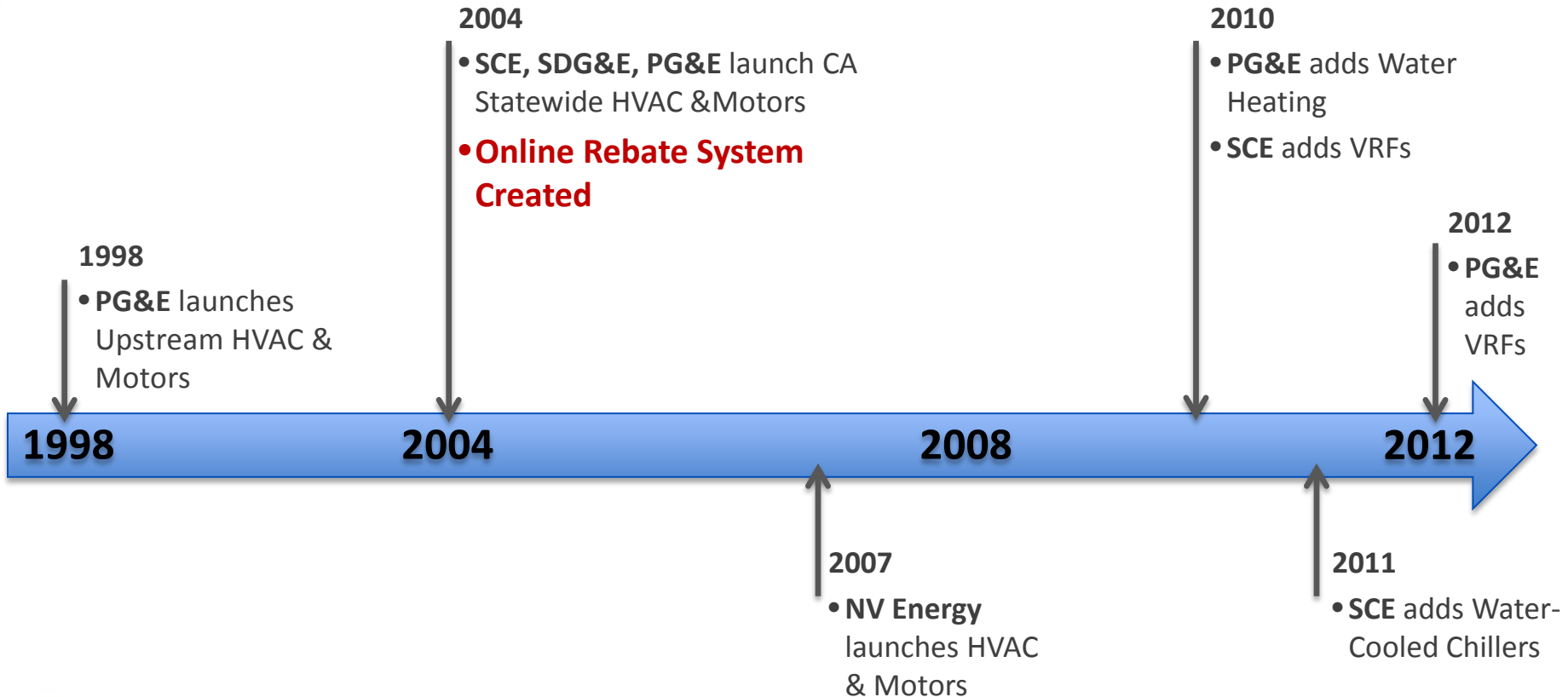


Wireless Pneumatic Thermostats



# Program Progression

*Online rebate processing has enabled the program to scale.*





## Required Information

1. Manufacturer
2. Model number
3. Units installed
4. Serial numbers
5. Install address

## Features

- Complete applications in under **2 minutes**
- Process applications in **2 days**
- Pay rebates in **1-2 weeks**
- Automated application tracking (like FedEx)



# Introducing New Measures

## Approach

- Identify promising technology
- If necessary, develop workpapers and verify measure savings
- Establish high-value incentives
- Notify distributors that a new measure has been added to the program
- Educate distributors about commercial applications
- Identify and mitigate unforeseen market barriers

## Successes

### SCE 2010-11 VRF Measure:

- 31 applications
- 1,250 tons HVAC rebated
- 1,038 kW saved annually
- 2,150,000 kWh saved annually

### SCE 2010-11 WCC Measure:

- Chillers 30,000 tons in 2011
- 6X increase over downstream WCC measure
- **Doubled SCE's Commercial HVAC savings**

### PG&E 2012 VRF Measure:

- Launched 4/9
- **1,350 tons HVAC rebated in first month**



## Approach

- The majority of run-hours are at part-load
- Traditional calculations are based strictly on full-load ratings
- Our approach simulates equipment using:
  - Full AND part-load performance ratings
  - Annual hourly weather data to capture peak and part-load operating conditions
- Modeled results using this method:
  - Are extremely accurate
  - Enable greater energy savings
  - Enable higher rebates

## Results

- CA IOUs offered greater rebates for WCC
- WCC measure activity increased 6X
- CA IOUs introduced first prescriptive VRF measures in the country
- SCE's 2011 HVAC program claimed an additional:
  - 11.8 GWhs (52% over 2010)
  - 3.6 MW (64% over 2010)
  - Program exceeded annual goals by 200%
- Savings estimates enabled rebates to offset the IMC of a VRF system
- Leveraged Distributors to educate and upsell VRFs to contractors



## Approach

**Step 1:** Develop rigorous models that prioritize accuracy, rather than conservatism

- This justifies larger rebates and makes program more attractive

**Step 2:** Base incentives on sensitivity to Incremental Measure Cost (ICM) and the delta of energy used by the efficient unit and code baseline

**Step 3:** Establish tiered incentives that cover a significant portion of the ICM

- Tiered incentives are not confusing in distributor programs because the rebate processing is automated and based on the model number

## Results

### Packaged HVAC Rebates

- 80% of the ICM
- \$100 per ton HVAC

### Water Cooled Chiller Rebates

- 95% of the ICM
- \$200 per ton HVAC

### Variable Refrigerant Flow Rebates

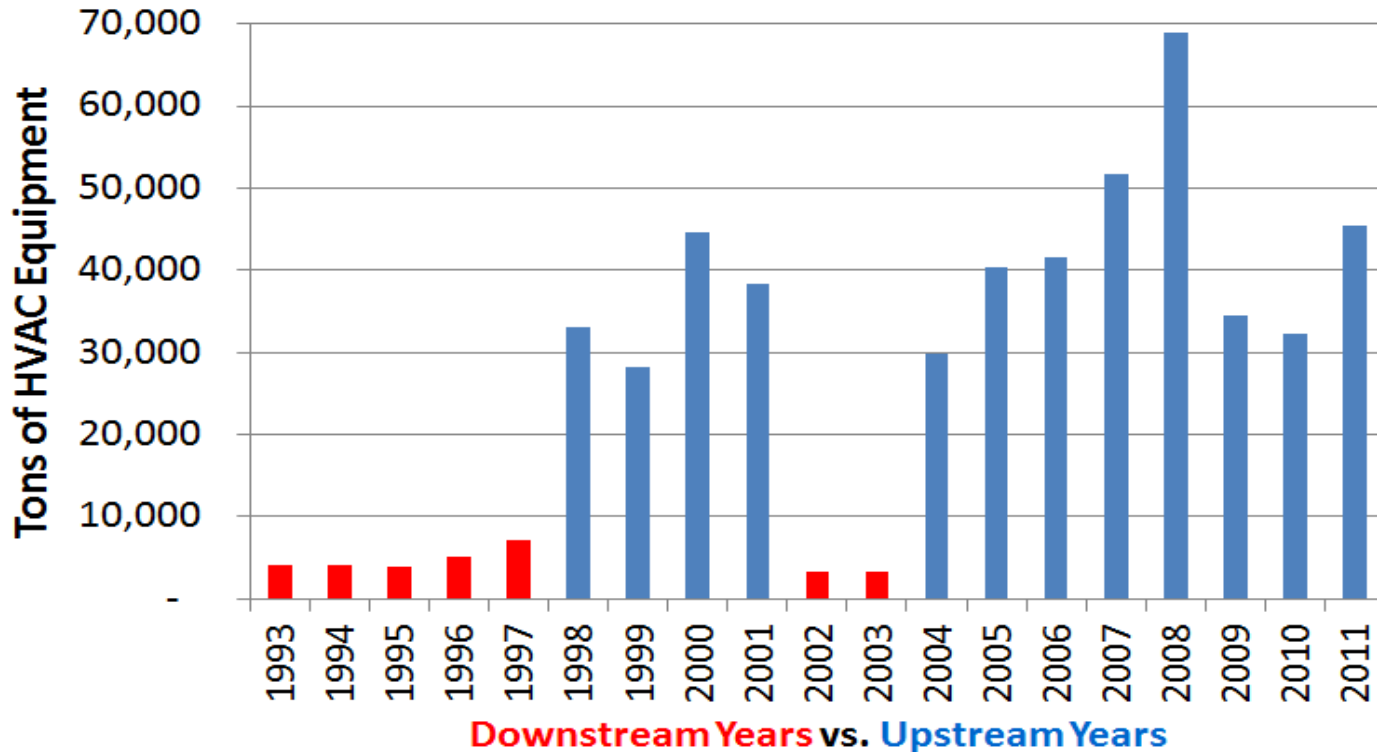
- 50%-60% of the ICM
- \$1000 per ton HVAC



# Program Performance

*The 900% Solution!*

## PG&E Upstream HVAC Program Performance vs. Downstream



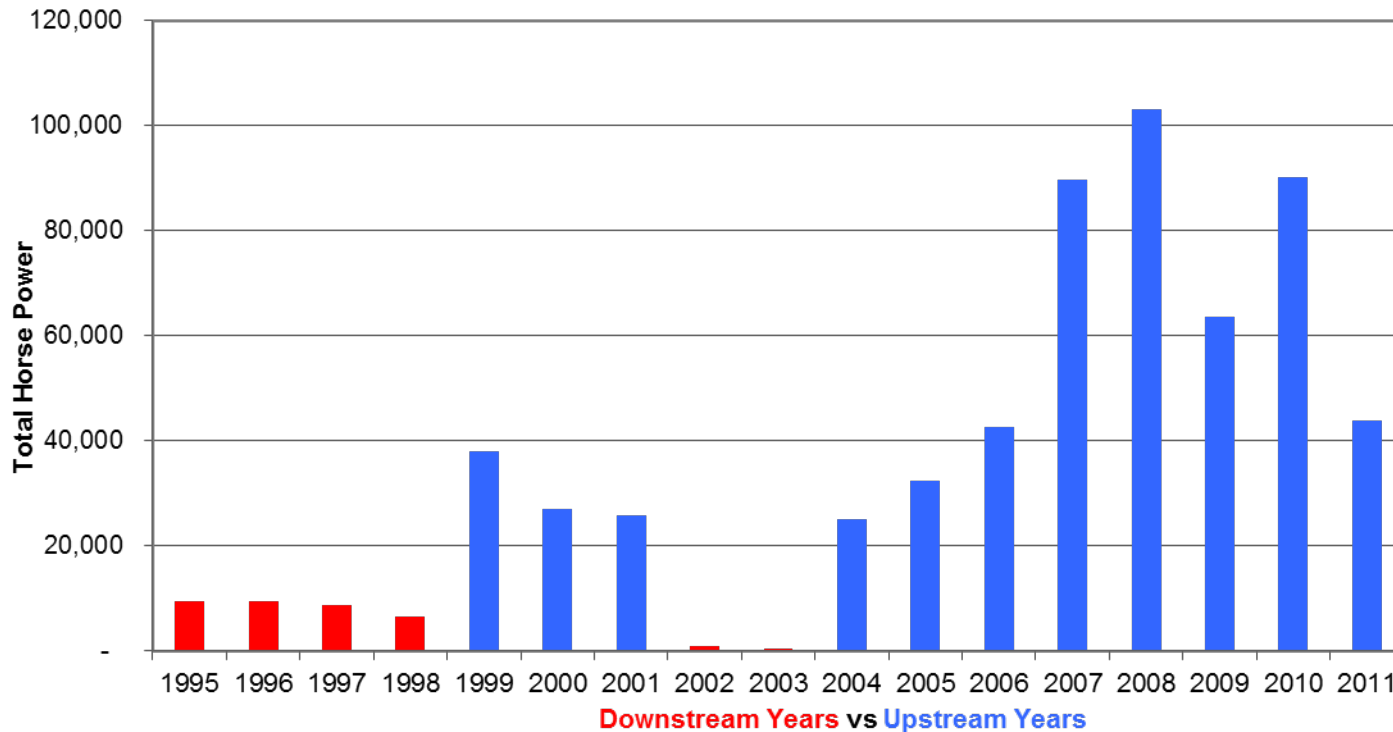
Note: The 2009-10 drop-off can be linked to the US economic recession.

Source: Pacific Gas and Electric Company, 2012



# Program Performance

## PG&E Upstream **Motor** Program Performance vs. Downstream



Note: The 2009-10 drop-off can be linked to the US economic recession.

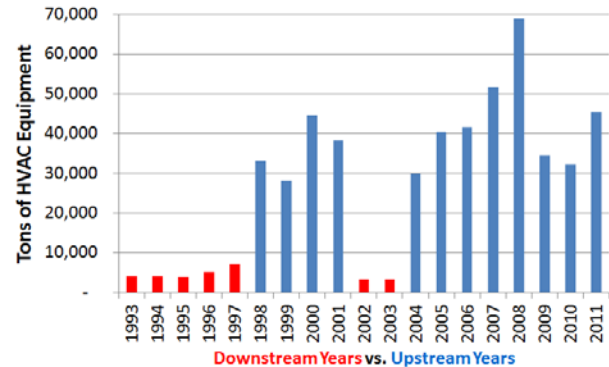
Note: In 2011, NEMA Premium incentive retired due to EISA 2007 mandate.

Source: Pacific Gas and Electric Company, 2012



## The program benefits include:

- “Simplicity, simplicity, simplicity” – ACEEE, 2010
- Increased activity... by an order of magnitude!
- Substantial year over year kW and kWh savings
- New measures can be introduced faster
- Small and well defined target market (Distributors) makes better use of marketing budgets
- Marketing and administration expenses are minimized
- Leverage distributor networks
- Program launches quickly
- Simplifies EM&V process, however it’s important that PUC’s evaluation staff’s understand the program logic
- Distributors clearly understand the value of the tiered incentives and proactively engage the program as a result



# What is Customer Service?

## What Can Compromise Customer Satisfaction?

- Confusing and/or time consuming processes
- Not knowing about rebate opportunities
- Having to resubmit applications
- Long lead times on receiving rebate checks
- Not saving energy

*A sales increase of 900% is one of the greatest indications that you are doing a better job of serving customers.*

## How Does Incenting Distributors Mitigates These Issues?

- Rebates are paid faster
- Cumbersome applications are eliminated
- Greater and more widespread savings

*“The Program makes participation easy, and the incentives make the margins work, which allows us to stock and sell a larger percentage of high efficiency equipment.”*

**Jim Lazor**  
Chief Executive Officer and President,  
Carrier Sales & Distribution





# Questions & Discussion



# Thank You for Your Time

Sincerely,

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# Upstream Equipment Categories



Water Heaters



Beverage Merchandisers



Cabinet Signs



Motors



LED Refrigerated Case Lighting



HVAC Systems



LED Channel Letter Signs

