



# All Natural:

Straightforward Ways to Acknowledge  
the Continued Value of **Natural Gas**  
Conservation Programs

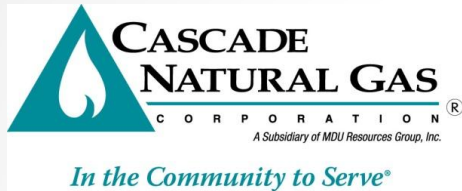
**Presentation to ACEEE National Conference on Energy Efficiency as a  
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**Allison Spector, Manager, Energy Efficiency & Community Outreach,  
Cascade Natural Gas**

**H. Gil Peach, Principal of H. Gil Peach and Associates**

# Brief Background on Who We Are:



Scan America®

## Cascade Natural Gas Corporation (CNGC)

- Cascade is an LDC serving over 260k customers in 96 cities and towns across WA and OR
- Mostly rural with several small cities
- Conservation Incentive Programs operating in both WA and OR
  - WA in-house with 3 FTE and 6 contractors from Lockheed Martin
  - OR programs operated through the Energy Trust of Oregon

## H. Gil Peach and Associates

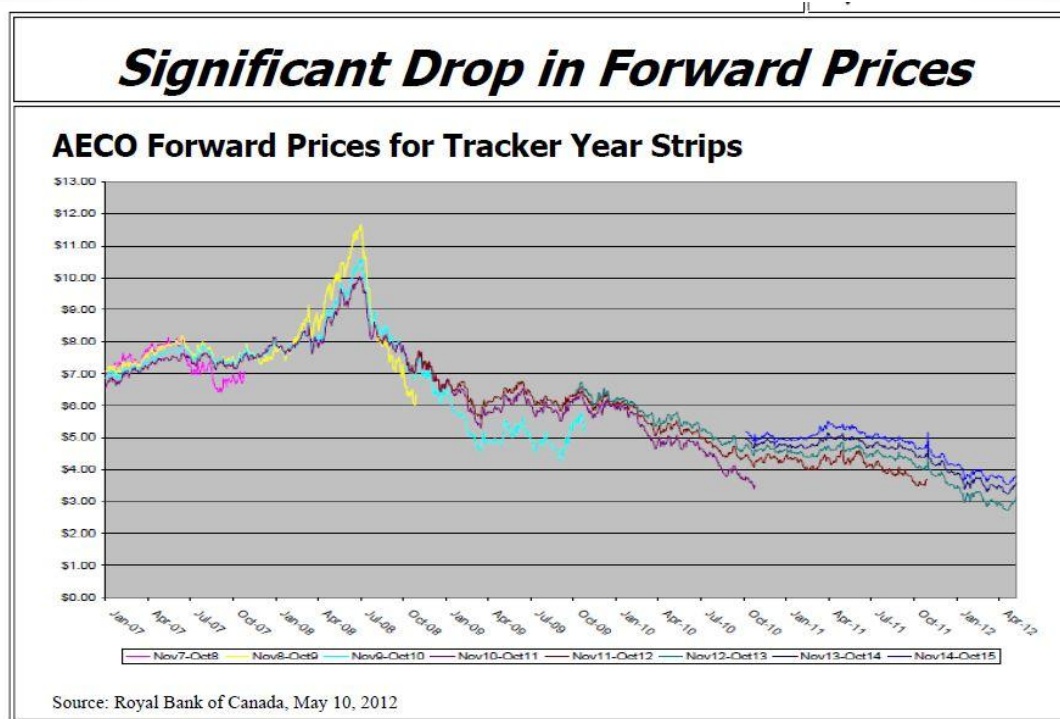
- Peach and Associates is a Consultant that Conducts evaluations, policy and potential studies. We sometimes do projects within the Scan America® Group
- We assist Commissions with Savings Verification to be sure results are real, and do DSM and low-income evaluations for utilities and government
- We assist in measurement issue and provide litigation support

# Conservation, Gas Pricing And how Cascade is responding, in real-time...

- Maintaining TRC cost effectiveness *at the portfolio level*. Passing UCT at *program and portfolio levels*.
- Continued strategic restructuring.
- Awaiting results of potential reassessment
- Awaiting results of UG-121207
- Real time adaptation



# Price Forecast = Good for Selling Gas, Bad for Saving Gas?



- **2010 IRP-** \$.6877 levelized cost limit
- **2012 IRP-** \$.419 levelized cost limit

*...a decrease of 40%*

# Critical Objectives

- (a) **Safeguard cost-effectiveness** (and quantify it accurately);
- (b) **Select programs and strategies carefully;**
- (c) **Maintain a long term/big picture perspective.**

# Safeguarding Cost Effectiveness

Maintaining cost-effectiveness is consistent with least-cost DSM planning and ensures that programs continue to bring value to our customers;

***But how should **value** and **cost effectiveness** be measured?***

***We've asked ourselves three big questions...***

# Question #1:

**“Are we doing everything we can to maintain program cost effectiveness?”**

- Opportunities to minimize overhead
- Outsource vs. In-house
- Budget like a non-profit
- Low cost-no cost outreach
- Leverage, leverage, leverage

# Question #2:

**“How are economics, codes, and emerging technologies influencing overall conservation potential?”**

- Working with Nexant to perform reassessment of our Demand Side Management potential
- Examining different cost-test screening methods, and changing market conditions
- Ready for 2014 IRP planning cycle



# Question #3

- **“Are we measuring cost-effectiveness under the correct paradigm?” (TRC/UCT/Other?)**
  - Cascade uses both the Total Resource Cost and Utility Cost Tests
  - Consider purpose and implications of these tests
  - Quantify program value
  - Costs of lost opportunities

# Digging Deeper into cost-effectiveness (*Challenging the TRC*)

The paradigm of a lowered cost effectiveness makes several potentially flawed assumptions:

- That the TRC is the best standard of measurement for **Natural Gas** conservation efforts
- That the declining cost of gas results in declining value of energy efficiency
- That long term results are less valuable than immediate results.

# Possible Approaches

Use the “traditional” method, the Total Resource Cost Test (TRC).

- Consider non-energy benefits
- Reassess discount rates
- TRC was not designed to be the actual equivalent of a fuel purchase
- Does not automatically balance all costs with all benefits.

Consider a more gas-centered cost test approach

- Looking at avoided costs as avoided pipe.
- Measure more cleanly: one cost, one benefit
- Measured approach that avoids lost opportunities.

Utility Cost Test

- Views customers as rational actors
- Customers bring their own non-energy motivations and benefits to the table, but it's not part of the calculation
- Last line of defense for natural gas conservation efforts
- “Bonded” approach as set forth by other area utilities

# Bottom Line:

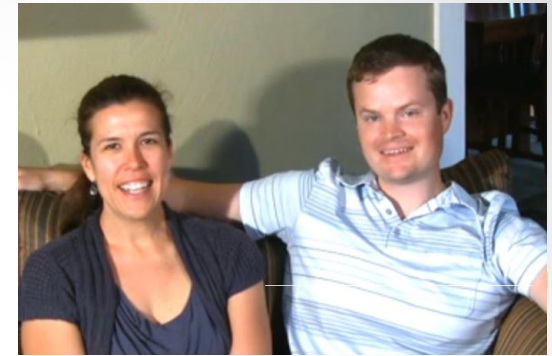
It is essential to fully recognize/measure the value of our programs.

- Conservation is a widely recognized Demand Side Management tool
- We should not inhibit conservation from either a DSM or environmental standpoint
- It is counterintuitive to ramp down when costs are low since low costs encourage greater usage

## Customers are Rational Actors...

“The benefits far exceeded my expectations. You don’t see it. It’s not like buying a new a new car. It’s not like buying a boat... But what you don’t realize is that [conservation] actually does increase quality of life to new standards. I wouldn’t have done it any differently.”

Driven by different motivations...



- Jon and Mariah Ross, Cascade Natural Gas Customers (Residential)

“The rebates made it feasible for us to go forward with our project. Without them the project probably would not have happened.”-  
Yakima Tennis Club Manager Jerry Findley

“Sustainability is very important to our organization. We want to do our part to help the environment and the fact that it also creates savings is icing on the cake.” - James Wepler, Operations Manager for Mount Vernon Parks and Recreation.

...leading to positive outcomes from a corporate, environmental, and customer perspective.

# Washington UG 121207 Investigation into Natural Gas Conservation Programs

- Examination of the appropriate assumptions and factors to include in natural gas avoided cost calculations.
- In the context of reduced gas costs and need for guidance by the LDC's.
- Ongoing investigation since July of 2012. Comprehensive stakeholder engagement.

# Oregon UM 1622

## Gas Cost Efficiency Cost Effectiveness Proposal

- Provides temporary exception to cost-effectiveness guidelines for natural gas programs run by ETO through October 18, 2014.
- Focus is on opportunities for programmatic streamlining.
- Mandate for ETO to examine program from a utility and societal perspective by July 1, 2014
- Societal appears to be governing metric, but exceptions considered if NEB, and other criteria are met.

# CPUC Energy Division Update to Cost-effectiveness Framework

- CA Commission Staff's effort to update the cost-effectiveness framework "to ensure that costs and benefits of demand-side benefits are accurately captured."
- Series of workshops on different cost-test approaches and frameworks for valuing energy efficiency resources.
- Consideration of "social cost test" to include social discount rate and conservation of carefully defined NEBs.



## NM (HB 267)

- Establishes a fixed tariff rider for efficiency programs
- Moves to a Utility Cost Test Model to embrace a broader spread of conservation measures.

# Looking to the Future

- For gas, electric and water utilities, ***the main point of planning is to choose wisely among alternative futures***. This is the overarching framework within which to consider alternative DSM tests.
- **Needs for climate adaptation increasing** (example, Moreland Commission final report for New York). We need a deeper (in terms of savings and planning) DSM that emphasizes resiliency of housing stock and production and commercial processes for customers
- Exact needs are unique to each utility and dependent on service territory. Each utility does its own planning.

# Engineering for Resilience

- The key concept is **resilience**: the ability to return to normal conditions (or an approximation) following stress.
- The concept of resilience in ecological systems was first introduced by the Canadian ecologist C.S. Holling. The concept is also used in engineering and physics. Both ecological and engineering resilience are relevant to utility planning.

# Investment Targets should be Physical

- **Durability pays.** (Tom Bender, *Learning to Count What Really Counts*, P. 19) Our targets for investment need to be physical targets.
- **We need practical “build by” dates:** This insight is the same as that of the American Society of Civil Engineers 2013 infrastructure ratings: Aviation: D (poor); Bridges: C+ (mediocre); Dams: D (poor); Drinking Water: D (poor); Energy: D+ (poor); Hazardous Waste: D (poor); Inland Waterways: D- (poor); Levees: D- (poor); Ports: C (mediocre); Public Parks and Recreation: C- (mediocre); Rail: C+ (mediocre); Roads: D (poor); Schools: D (poor); Solid Waste: B- (good); Transit: D (poor); Wastewater: D (poor)

# More Engineers & Different Cost Tests

- **What is implied is a stronger role for planning for utility management and engineers.** As noted earlier, the objectives need to be set as physical targets. This implies a stronger engineering component in planning.
- **The Utility Cost Test (UCT or PACT) is compatible with the resiliency goal.**
- **Since resiliency needs will increase, and goals are physical, there can be no discounting. The nature of the DSM paradigm is transformed.** (Example – ARRA cost testing of home weatherization which counts all units of energy saved on an engineering basis rather than on the basis of a financial discounting of the future).

# Questions?

- **Allison Spector**, Cascade Natural Gas Corporation, 360-788-2356, [allison.spector@cngc.com](mailto:allison.spector@cngc.com)
- **Gil Peach**, H. Gil Peach and Associates

# Nordhaus's Folly

- Asteroid example from Frank Ackerman, *Can We Afford the Future?* London & NY: Zed Books, 2009.



# Hurricanes, flooding, sea rise, fires, etc.

- More extreme weather (repeated more frequently)
- Investigation into readiness
- Commission orders
- Hardening of systems for resilience (Con Ed; PUF)
- Customers are a part of the system



# Holiday Tree or Occam's Razor?

- Loading aspects onto the TRC
- Vs. a clean and simple test