

Comment Summary for CR-101: Commission Investigation into Natural Gas Conservation Programs

November 16, 2012

1. What are the appropriate assumptions or factors to include in natural gas avoided cost calculations?

General characteristics of avoided cost calculations

Comment. Puget Sound Energy (PSE) separately calculates avoided costs for the six end-uses which are representative of the measures offered through Energy Efficiency Services programs.

- Measures offered by EES save energy at different times throughout the year.
 - Energy costs vary throughout the year, making the avoided costs dependent on timing of savings.
 - Measures which save energy on the peak day avoid additional pipeline demand charges and distribution capacity costs.¹

Inputs for avoided cost calculations

Comment. PSE calculates total avoided costs of natural gas includes the:

- weighted average annual market prices of natural gas.
- avoided pipeline demand charge.
- avoided pipeline variable transportation charge.
- avoided pipeline fuel reimbursement charge.
- avoided distribution capacity costs.²

Cascade Natural Gas Corporation (CNGC) believes that avoided costs should only consider capacity-related costs as:

- companies have no control over the market or the price.
- commodity costs are a complete pass through (not a cost avoided by a change in usage).

¹ PSE, August 31, 2012, page 3.

² PSE, August 31, 2012, page 3.

- Customers will consider actual gas costs when deciding whether to make an investment regardless of whether gas supply or commodity costs are redundantly built into the equation.
- conservation programs have no impact on the price.³

Therefore, CNGC recommends using the:

- costs of constructing additional pipeline.
- costs of constructing additional distribution system.
- inflation of these costs over time.⁴

CNGC provides a caveat to removing commodity costs from the avoided cost:

- Revise cost-effectiveness threshold to ensure that the approach did not unnecessarily preclude rebates that remained in the public interest.⁵

Northwest Natural Gas Company's (NW Natural) current avoided cost is comprised of:

- the long-term gas price forecast compiled from Intercontinental Exchange (ICE) futures and a consultant's gas price forecast.
- gas storage carrying costs for inventory.
- upstream variable transmission costs.
- peak-related on-system transmission costs.
- a 10% adder for unidentified environmental benefits.
 - recommended by the Northwest Power and Conservation Council.⁶

NW Natural is currently considering whether or not it would be more accurate to use a long-run marginal cost as opposed to the short-run marginal cost currently used for the commodity portion of their avoided cost.

- Savings from efficiency measures accrue over time.⁷

The NW Energy Coalition (Coalition) recommends including the:

- avoided environmental compliance costs.
- cost to the utility assuming that natural gas prices will rise and benefit of mitigating price risks over the long term.
- value of retaining conservation program delivery infrastructure.
- peak demand reduction.
- distribution system maintenance.
- pipeline & storage benefits.

³ CNGC, August 31, 2012, page 2.

⁴ CNGC, August 31, 2012 page 2.

⁵ CNGC, October, 4, 2012, page 3.

⁶ NW Natural, August 31, 2012, page 2.

⁷ NW Natural, August 31, 2012, page 2-3.

- reduced customer arrearages.
- improved customer service.⁸
- strain on trade ally network.⁹

The Northwest Industrial Gas Users (NWIGU) strongly urges against inflating the future price of natural gas for purposes of calculating avoided costs.

- Lower prices are not a short-term phenomenon.
- Current avoided costs will capture any future price increases.
- Changing avoided cost calculations will erode the credibility of demand side management.¹⁰

The Energy Project states that the following should be considered in avoided cost calculations:

- future costs of environmental impacts due to fracking.¹¹
- value of maintaining workforce skills related to installing energy efficiency measures.¹²

Conservation adder

Comment. PSE does not include the 10 percent conservation credit¹³ in its avoided cost calculations.

- Credit is from the Northwest Regional Power Act of 1980 and is applied by many utilities to electric avoided costs.
- PSE does not apply credit to be consistent with its IRP.¹⁴

CGNC believes that the existing 10 percent non-energy benefit adder may be outdated and imprecise in the current context of natural gas conservation efforts.¹⁵

CGNC supports a general reexamination as part of UG-121207.

- However, any reassessment of non-energy benefits must not be unwieldy or unduly burdensome.

⁸ Coalition, August 31, 2012, page 2.

⁹ Coalition, October 5, 2012, page 4.

¹⁰ NWIGU, October 5, 2012, page 1.

¹¹ Energy Project, August 31, 2012, page 2.

¹² Energy Project, August 31, 2012, page 3.

¹³ Staff understands the conservation adder/credit to be a numerical input that captures a stated preference for conservation resources over other resources. It is not meant to approximate environmental and other non-energy benefits.

¹⁴ PSE, August 31, 2012, page 3.

¹⁵ CNGC, October, 4, 2012, page 1-2.

- Reexamination should not detract from the broader investigation of alternative methods of assessment.¹⁶

CGNC states that the reassessed adder could be applied within the TRC test if that test is determined to still govern.¹⁷

NW Natural currently adds a 10 percent adder for non-quantifiable environmental benefits.¹⁸

- Open to using real, quantifiable environmental costs instead of the 10 percent adder.¹⁹

The Coalition recommends revisiting the 10 percent conservation adder.

- The energy landscape has changed considerably since the 1980s when it was established.
- There should be a similar adder mandated for natural gas conservation.²⁰

The Public Counsel Section of the Washington State Attorney General's Office (Public Counsel) has not yet taken a position on this issue.²¹

Other adders

Comment. NW Natural does not support adders that are both difficult to quantify and are not the financial responsibility of the utility rate payers.

- Examples are adders for comfort or improved housing stock.²²

The Coalition also offers the option of employing a social adder similar to Vermont.

- Acknowledges many hard-to-quantify benefits.
- Simple to implement.
- Could be controversial.²³

¹⁶ CNGC, October, 4, 2012, page 2.

¹⁷ CNGC, October, 4, 2012, page 2.

¹⁸ NW Natural, October, 12, 2012, page 2.

¹⁹ NW Natural, August 31, 2012, page 3.

²⁰ Coalition, August 31, 2012, page 2.

²¹ Public Counsel, October 5, 2012, page 3.

²² NW Natural, October 5, 2012, page 1.

²³ Coalition, October 5, 2012, page 4.

Discount rate

Comment. The Coalition states that energy efficiency programs should employ a low-risk, long-term customer/societal cost discount rate.

- Energy efficiency programs incur less financial risk than supply-side resources as building capacity typically incurs capital costs.²⁴
- Overly high discount rate skews the cost-effectiveness of programs.²⁵

Public Counsel believes that a low-risk, long-term customer/societal cost discount rate should not be applied within the TRC test or the UCT.

- This type of discount rate is only appropriate for the societal cost test.
- Discount rate is typically the utility's weighted average cost of capital.²⁶

Sensitivity test

Comment. NW Natural's sensitivity test on their 2011 Modified IRP shows that a 39% increase to the avoided cost only increases the total DSM achievable potential by 4%.²⁷

2. Should the companies use a combination of cost tests in evaluating the cost-effectiveness of natural gas conservation programs?

Optimal Tests and Alternatives

Comment. PSE believes that the IRP and current program design process are currently working together effectively.²⁸

PSE believes that cost test analysis should remain as stated in their Schedule 183.

- "Company funding for services will be limited to cost-effectiveness defined by a Utility Cost Test using the Company's Energy Efficiency Cost Effectiveness Standard, also known as the Conservation Cost Effectiveness Standard."
- "a Measure must reasonably be expected to satisfy the Total Resource Cost Test and the Utility Cost Test."²⁹

²⁴ Coalition, August 31, 2012, page 2.

²⁵ Coalition, October 5, 2012, page 1.

²⁶ Public Counsel, October 5, 2012, page 3-4.

²⁷ NW Natural, August 31, 2012, page 3.

²⁸ PSE, October 5, 2012, page 4.

²⁹ PSE, October 5, 2012, page 6.

CNGC believes that a UCT is optimal when calculating only those costs which are capacity-related.³⁰

- Utility would pay incentives up to what it would otherwise cost the utility to add capacity.³¹

A second-best option, according to CNGC, is an average of the portfolio-level outcomes of the UCT and the TRC test.

- Averaging balances economic and environment benefits.
- Averaging balances visionary and transformative measures with tried-and-true measures.³²
- Averaging makes the portfolio less sensitive to declines in the natural gas market, mitigating some of the “yo-yo” effect of ramping-up with the IRP process.³³
- “A holistic and combined approach is particularly critical for a small utility like Cascade Natural Gas who has a maturing energy conservation program that has just begun to receive increased momentum/participation in its programs.”³⁴

A third-best measure, according to CNGC, is to weight the UCT and TRC test 60/40 favoring the TRC test.

- WUTC has previously used the TRC test.³⁵

CNGC cautions against relying exclusively on non-energy benefits as a “solution” to maintaining cost-effective natural gas conservation efforts.

- May lead to artificial inflation of such benefits.
- May overstate the importance of the TRC test itself.³⁶

CNGC believes that the focus of the rule-making should be on determining if the TRC test is an ideal method.³⁷

CNGC offers that all of the “status quo” metrics being used to assess conservation efforts may not have ever been best fit for conservation efforts operated by natural gas utilities.

³⁰ CNGC, August 31, 2012 page 2.

³¹ CNGC, August 31, 2012 page 2.

³² CNGC, August 31, 2012, page 3.

³³ CNGC, August 31, 2012, page 4.

³⁴ CNGC, August 31, 2012, page 4.

³⁵ CNGC, August 31, 2012, page 3.

³⁶ CNGC, October, 4, 2012, page 1.

³⁷ CNGC, October, 4, 2012, page 1.

- Current tests were modeled primarily after those applied to electric utilities.³⁸

NW Natural recommends applying the TRC test at the portfolio level.³⁹

Measure-level TRC tests are, according to NW Natural, not advisable without allowances for exclusions.

- Example: Energy Trust of Oregon's exception for a lower than 1 TRC if measure costs are expected to go down with market transformation.⁴⁰

NW Natural supports using the UCT at the measure level and the TRC at the portfolio level.⁴¹

Avista cautions against using the program administrator cost test (formally known as the UCT) independent of other tests.

- UCT does not fully represent the costs and benefits to ratepayers.⁴²

Avista currently claims energy efficiency savings based on gross TRC test results.⁴³

Avista performs program planning based on net TRC test results.⁴⁴

The Coalition recommends investigating the following:

- Improved use of the TRC test and/or other existing cost tests (including the UCT) individually or compositely.⁴⁵
- Regional approaches to natural gas conservation cost effectiveness, including the Energy Trust of Oregon's proposed 2-year waiver and British Columbia's Modified TRC.⁴⁶
 - British Columbia took nearly a year to develop its Modified TRC.
 - Crafting stakeholder agreement takes time.
 - Allows utilities to avoid prudency concerns.⁴⁷

The Coalition offers the option of lowering the TRC ratio requirement when gas prices fall below a set price.

³⁸ CNGC, October, 4, 2012, page 2.

³⁹ NW Natural, August 31, 2012, page 3.

⁴⁰ NW Natural, August 31, 2012, page 4.

⁴¹ NW Natural, August 31, 2012, page 5.

⁴² Avista, August 31, 2012, page 3.

⁴³ Avista, August 31, 2012, page 3.

⁴⁴ Avista, August 31, 2012, page 3.

⁴⁵ Coalition, August 31, 2012, page 2.

⁴⁶ Coalition, August 31, 2012, page 3.

⁴⁷ Coalition, October 5, 2012, page 4.

- Preserves benefits of conservation programs without altering test inputs.
- Must be coupled with prudence determination to hold utilities accountable.⁴⁸

NWIGU supports the continued use of the current methodologies for avoided cost.

- The Commission should protect the interests of natural gas consumers (especially given economic challenges faced by consumers).
- The current natural gas market should not cause the Commission to change the avoided cost methodology.
- Market prices for natural gas are expected to remain low; there was a paradigm shift in the market beginning in 2008 and 2009 due to shale gas discoveries in North America.⁴⁹

The Energy Project does not recommend a specific test, but believes that the current test does not properly value benefits for low-income customers.⁵⁰

Public Counsel states that they are not currently aware of any justification for moving away from or modifying the TRC test,⁵¹ used at the portfolio level.⁵²

- TRC test appropriately recognizes costs to the utility and ratepayers as outlined in WAC 480-90-238.⁵³

Public Counsel believes that any new hybrid tests (based on averaging the UCT and TRC test) would likely cause greater confusion.⁵⁴

Pros for the TRC test

Comment. CNGC states that the TRC identifies energy conservation measures with strong payback for consumers.⁵⁵

NWIGU states that the TRC test ensures that the overall portfolio of programs is itself cost effective.

- Portfolio-level evaluation has allowed for the deployment of some higher-cost programs, including pilot programs, when balanced with other highly cost-effective programs.⁵⁶

⁴⁸ Coalition, October 5, 2012, page 4.

⁴⁹ NWIGU, August 31, 2012, page 2.

⁵⁰ The Energy Project, August 31, 2012, page 2.

⁵¹ Public Counsel, August 31, 2012, page 2.

⁵² Public Counsel, October 5, 2012, page 4.

⁵³ Public Counsel, October 5, 2012, page 4.

⁵⁴ Public Counsel, October 5, 2012, page 7.

⁵⁵ CNGC, August 31, 2012, page 3.

Cons for the TRC test

Comment. CNGC states that the TRC requires consistent updates to ever-fluctuating variables such as equipment costs and incremental savings in order to remain valid. The TRC also limits the inclusion of measures that may greatly reduce energy consumption, but are “prohibitively” expensive due to a lack of maturation in the market.⁵⁷

Pros for the UCT

Comment. CNGC states that the UCT embraces a wider range of innovative natural gas conservation measures, eliminates the equipment cost variables, and readily allows utilities to identify the cap at which an incentive amount should be set.⁵⁸

NW Natural states that the UCT is useful for budgeting and determining the appropriate incentive level (the incentive level is adjusted so that the benefit costs ratio is no less than one).⁵⁹

Cons for the UCT

Comment. CNGC states that the UCT does not consider the costs or payback to the consumer.

- A program governed solely by the UCT risks driving customer purchases based on high-impact measures that may have long payback periods.⁶⁰

Public Counsel states that, under a UCT analysis, care must be taken to estimate savings directly attributable to the program.

- A net-to-gross analysis must be undertaken.
- Utilities have traditionally reported gross savings.⁶¹

⁵⁶ NWIGU, August 31, 2012, page 3.

⁵⁷ CNGC, August 31, 2012, page 3.

⁵⁸ CNGC, August 31, 2012, page 3.

⁵⁹ NW Natural, August 31, 2012, page 4.

⁶⁰ CNGC, August 31, 2012, page 3.

⁶¹ Public Counsel, October 5, 2012, page 5.

Other suggested inputs for analysis

Comment. The Coalition recommends that customer benefits and societal benefits also be included in analyses to fully value energy efficiency.

Customer benefits include:

- lower bills.
- co-benefits in reduced water, fuel oil, etc. usage.
- increased productivity.
- increased safety and comfort.
- reduced rate volatility resulting from Purchase Gas Agreement adjustments.

Societal benefits include:

- reduced emissions and other environmental impacts.⁶²
- support and maintenance of local jobs.⁶³

The Energy Project recommends the benefits for low-income households be considered. Benefits include:

- reduced energy bills.
- increased comfort.
- better health and safety.
- being able to stay connected to service.
- reduced dependence on bill assistance.
- other “non-energy” benefits.⁶⁴

The Coalition recommends that additional benefits and risks be considered, including:

- (general) non-energy benefits.⁶⁵
- risks of current gas market.
 - interruptions from accidents
 - weather changes
 - pipeline disruptions
 - storage constraints
 - pending environmental regulations⁶⁶

⁶² Coalition, August 31, 2012, page 2.

⁶³ Coalition, August 31, 2012, page 3.

⁶⁴ Energy Project, August 31, 2012, page 3.

⁶⁵ Coalition, October 5, 2012, page 1.

⁶⁶ Coalition, October 5, 2012, page 1-2.

Cost Test Analysis

Comment. Avista, in UG-12119, considered several scenarios in an attempt to ascertain if any reasonable calculation of the DSM portfolio or modifications to the avoided cost would yield a portfolio that is cost-effective under the Total Resource Cost (TRC) test. The major scenarios included:

- The addition of a carbon cost adder for 2013-2019 (in addition to the carbon cost that is incorporated into the avoided cost itself for 2020 and beyond).
- The inclusion of a natural gas distribution capacity cost value.
- The use of an interpretation of the TRC test on a gross (including all program participants) rather than a net (based upon those participants who adopted the measure due to utility intervention) basis.
- Various alternative categorizations of net-to-gross ratios and realization rates by program.
- Different means of allocating non-incentive utility costs across programs.

None of the scenarios tested above resulted in a portfolio that was projected to be cost-effective under the TRC. Generally, the most optimistic scenarios led to benefit-to-cost ratios in the low 0.70 range.⁶⁷

Passing cost-effectiveness tests

Comment. PSE believes that the Commission's policy should be consistent with their Conservation Tariff Schedule (Schedule 183) which allows PSE to terminate non-cost-effective programs immediately.⁶⁸

CNGC believes that it is important to decide if economics or environmental value should prevail when determining continuation of programs. CNGC values both.

- Maintaining some level of conservation incentive, even as the cost of gas declines, will mitigate lost opportunities for energy savings.⁶⁹

NWIGU believes that the Commission should only allow recovery of gas

⁶⁷ UG-121119, June 29, 2012, page 2-3.

⁶⁸ PSE, October 5, 2012, page 5.

⁶⁹ CNGC, October, 4, 2012, page 2.

efficiency program expenditures which are cost effective for the utility's customers.⁷⁰

Low-income

Comment. PSE believes that low-income weatherization programs need to meet some level of cost-effectiveness.

- TRC of 0.667
 - Funding is in accordance with funding described in Electric Energy Efficiency Schedule 201.⁷¹

CNGC believes that it is essential that weatherization services remain available for low-income natural gas customers as they are in the public interest.

- Upgrades help low-income individuals manage energy costs, thus helping avoid arrearages.
- Health and safety benefits are well documented.⁷²

NW Natural supports weatherization incentives and low-income energy efficiency programs. These programs:

- should be considered a basic customer service offered by utilities.
- would prevent the stopping and starting of programs.
- should not be evaluated using the TRC test, but the Participant Test.⁷³

The Energy Project recommends that current programs and measures for low-income households should be maintained.

- Low-income energy efficiency service providers often combine funds from other sources.⁷⁴
- Natural gas prices are known to be “somewhat volatile.”⁷⁵

Public Counsel agrees with other stakeholders that low income weatherization programs are unique.

- Many benefits are not captured in current cost-effectiveness analyses.⁷⁶

⁷⁰ NWIGU, August 31, 2012, page 2.

⁷¹ PSE, October 5, 2012, page 7.

⁷² CNGC, October 4, 2012, page 3.

⁷³ NW Natural, October 5, 2012, page 2.

⁷⁴ The Energy Project, August 31, 2012, page 1.

⁷⁵ The Energy Project, August 31, 2012, page 2.

⁷⁶ Public Counsel, October 5, 2012, page 7.

Frequency of evaluation

Comment. PSE recommends a policy that considers the dynamic market conditions which are challenging for planning, developing, and executing cost-effective gas conservation programs.

- Policy could include something like a comprehensive IRP-level analysis check-in which would not require all assumptions to be updated but would provide sufficient assurance that the revised level of conservation will continue to meet requirements of WAC 480-90-238.⁷⁷

NWIGU recommends a requirement for local distribution companies to monitor cost-effectiveness on a semi-annual basis with reports to the Commission.

- Reports should note technological developments, cost changes, and program delivery options.⁷⁸

3. Miscellaneous Comments

Timing of avoided cost rule-making

Comment. PSE believes that the Commission should defer action on developing “Avoided Cost” rules until after the 2013 IRP is completed.

- PSE will expand upon timing and ramp rates in their 2013 IRP.⁷⁹

Characterization of changes resulting from rule-making

Comment. PSE believes that “any...short-term changes to the uses of [the currently used] cost tests should not be viewed as ‘policy’ decisions, but rather as a fundamental change in the methodology.”⁸⁰

Administrative costs

Comment. CNGC believe that there are still opportunities to further adjust program delivery costs (administration costs) to help maintain cost effectiveness even as the projected cost of natural gas continues to decline.⁸¹

⁷⁷ PSE, October 5, 2012, page 5.

⁷⁸ NWIGU, August 31, 2012, page 3.

⁷⁹ PSE, October 5, 2012, page 4.

⁸⁰ PSE, October 5, 2012, page 6-7.

Requests for consideration of additional issues

Comment. PSE wants clarification on which process is being discussed in the CR-101 process: the IRP or the program design process.⁸²

CNGC wishes to consider whether or not there are unintended consequences to starting and stopping conservation programs.⁸³

NW Natural raises the following policy-related questions they believe likely need to be addressed through legislation:

- Should the Commission consider allowing exclusions from the cost effectiveness standard for specific purposes such as:
 - investment in market transformation?
 - prevention of stopping and starting of certain measures that are vulnerable to changing gas or measure costs?
 - to allow parity of offerings among competing utilities?

NW Natural supports allowances, stating that they are useful to move the market and continue investments.⁸⁴

- How should low-income weatherization programs be valued?
 - Benefits are not quantified in traditional cost effectiveness tests.⁸⁵
- Is there a risk or concern that natural gas programs will continue to be vulnerable to failing cost effectiveness standards after clarification of avoided cost calculations and cost effectiveness tests?
 - Should any or all energy efficiency offerings be explicitly part of basic utility service? If so, to what degree?
 - If certain measures were considered “basic utility service,” how should the programs be designed?⁸⁶
- “Since market conditions can change and energy efficiency programs rely on customer response, [NW Natural] would recommend that the Commission consider DSM acquisition goals to be estimates rather than hard targets.”⁸⁷

Avista recommends that Commission Staff prepare a matrix of the:

⁸¹ CNGC, August 31, 2012, page 1.

⁸² PSE, October 5, 2012, page 3.

⁸³ CNGC, October 4, 2012, page 3.

⁸⁴ NW Natural, August 31, 2012, page 5.

⁸⁵ NW Natural, August 31, 2012, page 5.

⁸⁶ NW Natural, August 31, 2012, page 5.

⁸⁷ NW Natural, August 31, 2012, page 5.

- methodologies used by Washington’s four local distribution companies for the avoided cost calculations.⁸⁸
- technical components underlying how each utility uses cost-effectiveness tests.⁸⁹

The Coalition requests the consideration of the following issues:

- The effect of hedging mechanisms on avoided cost calculations.
- Whether there should be consistency of cost-effectiveness test calculations across utilities.
- How to address the potential cost of future carbon regulation and the cost of climate change.
- Deciding the determinants of cost-effectiveness for low-income programs.
- How to provide the flexibility needed within conservation programs to maintain community investments in energy efficiency and increase market acceptance of emerging technologies.⁹⁰

NWIGU recommends exploration and support of the direct use of natural gas and combined heat and power systems with electric utility operations.

- These programs could lower carbon dioxide emissions.
- These programs could lower overall energy costs for all consumers.⁹¹

Public Counsel requests that companies provide specific information about the factors, elements, and assumptions included in its avoided cost and cost-effectiveness calculation.

- Compare the information to other utilities.⁹²

Public Counsel believes that it would be helpful to gain a better understanding of the system benefits derived from natural gas conservation as part of the rule-making process.⁹³

Public Counsel requests that the utilities provide details and evidence to support consideration of costs for starting and stopping conservation programs if it will be considered in the rule-making.⁹⁴

⁸⁸ Avista, August 31, 2012, page 2.

⁸⁹ Avista, August 31, 2012, page 3.

⁹⁰ Coalition, August 31, 2012, page 3.

⁹¹ NWIGU, August 31, 2012, page 3.

⁹² Public Counsel, August 31, 2012, page 1-2.

⁹³ Public Counsel, August 31, 2012, page 3.

⁹⁴ Public Counsel, October 5, 2012, page 7-8.