



Keeping Score—Measuring the Results of Energy Efficiency Programs

An Evaluation, Measurement & Verification Framework

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March 9, 2012 – Western Energy Institute Spring Energy Symposium

Background: Avista's Resource Profile

E. Washington and N. Idaho

- 360,000 electric customers
- Average hourly load: 1,046 aMW; Peak load: 1,660 MW
- Annual use per residential customer: 11,630 kWh

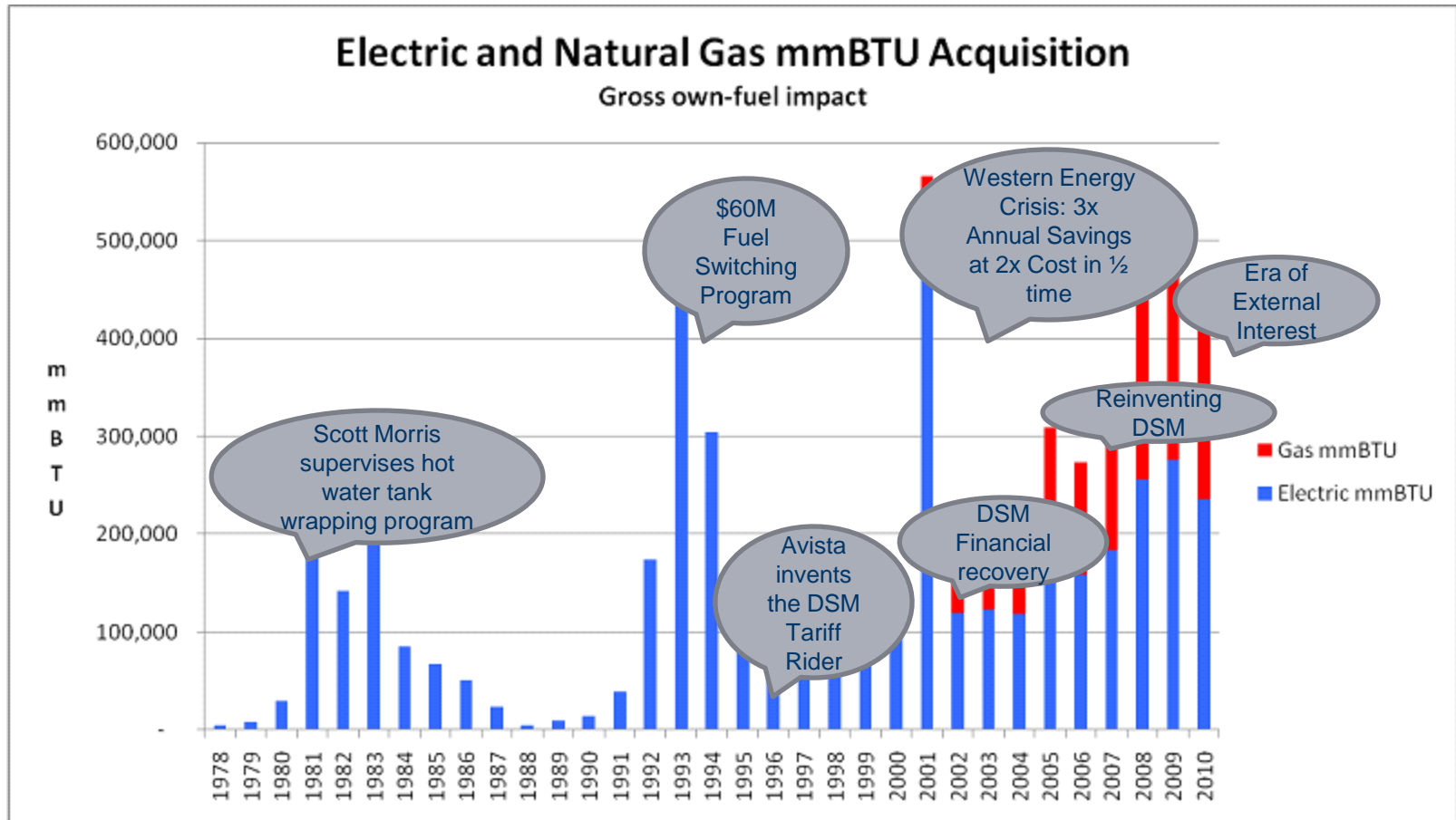
E. Washington, N. Idaho, and SW Oregon

- 320,000 natural gas customers
- Annual use per residential customer: 752 therms

Electric resource mix

- 54% hydro
- 31% natural gas
- 12% coal
- 3% biomass

Background: 34-Year Commitment to Energy Efficiency



Historical Background Energy Efficiency, was:

Acquire lower cost resources to benefit all customers (IRP implementation)

Customer assistance

- Reduction in participating customers' bills
- Allows customers to have some control in a higher energy cost environment

Regulatory obligation **and** sensibility

Reduced pressure on, or alternatives for, the capital budget

Carbon reduction and environmental focus

Now includes an RE and EE Requirement:

I-937 is not only “about wind”

“Each qualifying utility shall pursue all available conservation that is cost-effective, reliable, and feasible.”

“Beginning January 1, 2010...”

“...shall pay an administrative penalty to the state of Washington in the amount of fifty dollars for each megawatt-hour of shortfall.”

Background: Energy Conservation Programs Exceeded all Targets in 2011

Our Focus – Best Delivery Mechanism

- Standard Offers (“Prescriptive”) for residential & small commercial customers
- Custom (“Site Specific”) for C&I customers
- Low Income through community action agencies
- Regional through the NW Energy Efficiency Alliance
- Special projects—RFPs, Pilot Programs, etc.
- Promotion of Codes and Standards

Examples of Energy Efficiency Services

Residential:

8 Commercial rebates provided to all eligible customers. Rebate agency applied.

Avoided \$1.2M penalty under I-937

Commercial:

Account Executive coordinates DSM engineering “site visit” for commercial customers:

“You can reduce your bill by 15% if you install the following upgrades and Avista will provide a \$15,000 financial incentive”

Our Results

27,000 Rebates

1,600 Projects

\$23 million in customer incentives

The “Bar Was Raised” (or, Redefined) in 2009

Increased “spend” regionally

- Washington’s RPS
- National trend

Focus on Avista’s natural gas decoupling pilot in Washington

Desire for Impact Evaluation, Process Evaluation, and Market Effects Evaluation

...towards regulators reviewing and comparing consistently-reported evaluation information from their jurisdictional utilities



“Didn’t ya hear? To save energy we have to keep the thermostat at 1,100 degrees instead of 1,200 degrees!”

New Regulatory Perspectives

2010 Washington EM&V Collaborative

Idaho Memorandum of Understanding with the IPUC Staff and Avista, Idaho Power, and Rocky Mountain Power

Washington “I-937” (RPS) compliance through specific WUTC Conditions

- Electric and Natural Gas Integrated Resource Plan (Chapter 3 and Conservation Potential Assessments)
- Annual DSM Business Plan
- Evaluation, Measurement and Verification (EM&V) Framework
- EM&V Annual Plan
- Washington Biennial Conservation Plan

Working Towards Defining EM&V Frameworks

What are the evaluation objectives, metrics?

What cost effectiveness tests will be used?

What are the evaluation principles that drive the effort?

What are the baselines against which savings are determined?

Performance determined on basis of net or gross savings?

What is included in net savings?

What is the reporting “boundary”

How are savings estimates applied – looking back/going forward?

What impact evaluation approaches will be used and how will they be selected?

What are the schedules for implementing EM&V and reporting?

What are the data management strategies?

What are expectations for savings determination certainty (confidence and precision)?

How much money will be spent on evaluation?

What is balance between or level of impact, market and process evaluations?

Who will conduct the evaluations and how is independent evaluation defined?

Six Types of Evaluations

Evaluation Category	Phase at Which Implemented	Evaluation Type	Assessment Level
Formative	Pre-program Planning Phase	Market Assessment (includes characterization, baseline)	Market, Portfolio, Program
		Potential or feasibility	Portfolio, Program, Project
	Implementation Phase - ongoing	Process	Portfolio, Program
Outcomes	Implementation Phase – ongoing and/or ex-post	Impact	Program, Project, Measure
		Market Effects Evaluation	Market, Portfolio
		Cost Effectiveness	Portfolio, Program, Project

EM&V 2012 Plan (and 2012 DSM Annual Plan)

EM&V Framework

- Primary document that lays out EM&V principles, metrics, allowable approaches, net versus gross savings issues, reporting requirements, schedules, and the roles and responsibilities of various entities.
- *This is perhaps the principle document that all stakeholders can focus on and provide high level input – the ‘forest versus the trees’ of EM&V.*

Annual Portfolio EM&V Plan

Evaluation Activity-Specific Detailed Research Plans

Site Specific M&V Plans

Benefits to Avista

Enabling analysis for improved:

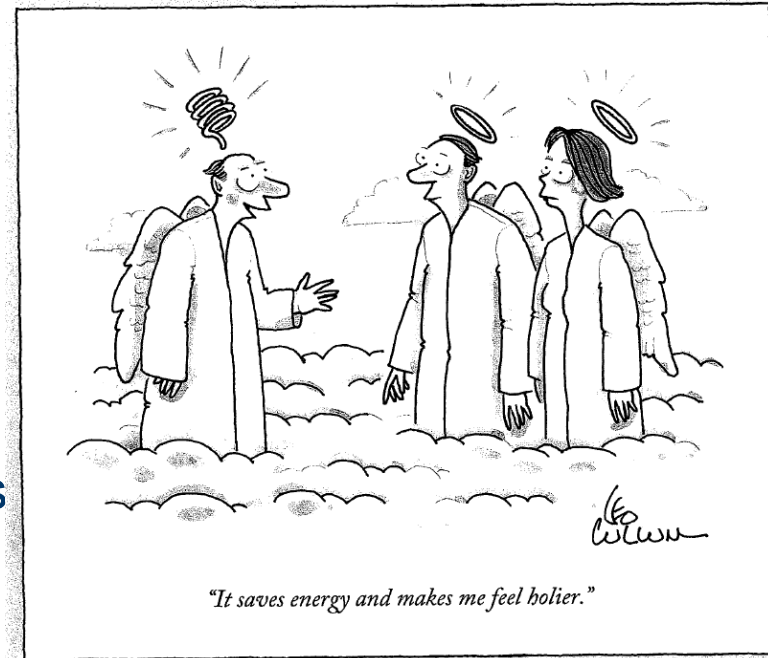
- Planning
- Reporting

Conducting process evaluations allows Avista to serve customers more

Having better evaluation and better information and analysis that:

- Establishes a strong set of savings planning estimates -- (TRM)
- Improves an already good relationship with regulators by providing data and effectively planning customer programs

Comparing our results with other utilities and other regions, allowing leveraging of others' work



Third Party Engagement

Third party consultants can be important if Stakeholders see value in the added cost

- Cons. Potential Assessment (Global Energy Partners)
- EM&V (The Cadmus Group)
- Independent facilitation (Milepost Consulting)

“Outside eyes” (e.g., a guiding consultant) can anticipate future issues if brought into the process early (Steve Schiller and Chris Ann Dickerson)

Established entities such as the Pacific Northwest’s Regional Technical Forum

An Example

Individual Evaluations	Evaluation Type	Budget Allocation (WA/ID system)	Workgroup
Independent Impact/Process Evaluation of CY 2011 Natural Gas	Impact/Process	\$200,000	External Evaluator (Cadmus)
Independent Impact/Process Evaluation of CY 2011 Electric	Impact/Process	\$690,000	External Evaluator (Cadmus)
Evaluation of Non-Res Calculators for consistency with TRM	Process	\$20,000	External Evaluator (Cadmus)
CFL Mail Distribution Impact/Process	Impact	\$45,000	External Evaluator (Cadmus)
Heat Pump Furnace Analysis	Impact	\$15,000	External Evaluator (Cadmus)
Non-Participant Spillover Quantification for Res/Non-Res	Impact	\$30,000	External Evaluator (Cadmus)
Non-Res Marketing Research	Market	\$17,000	External Evaluator (Cadmus)
Natural Gas Conservation Potential Assessment	Market	\$150,000	External (Global)
Total Budget for Individual Evaluations		\$1,167,000	

Conclusions

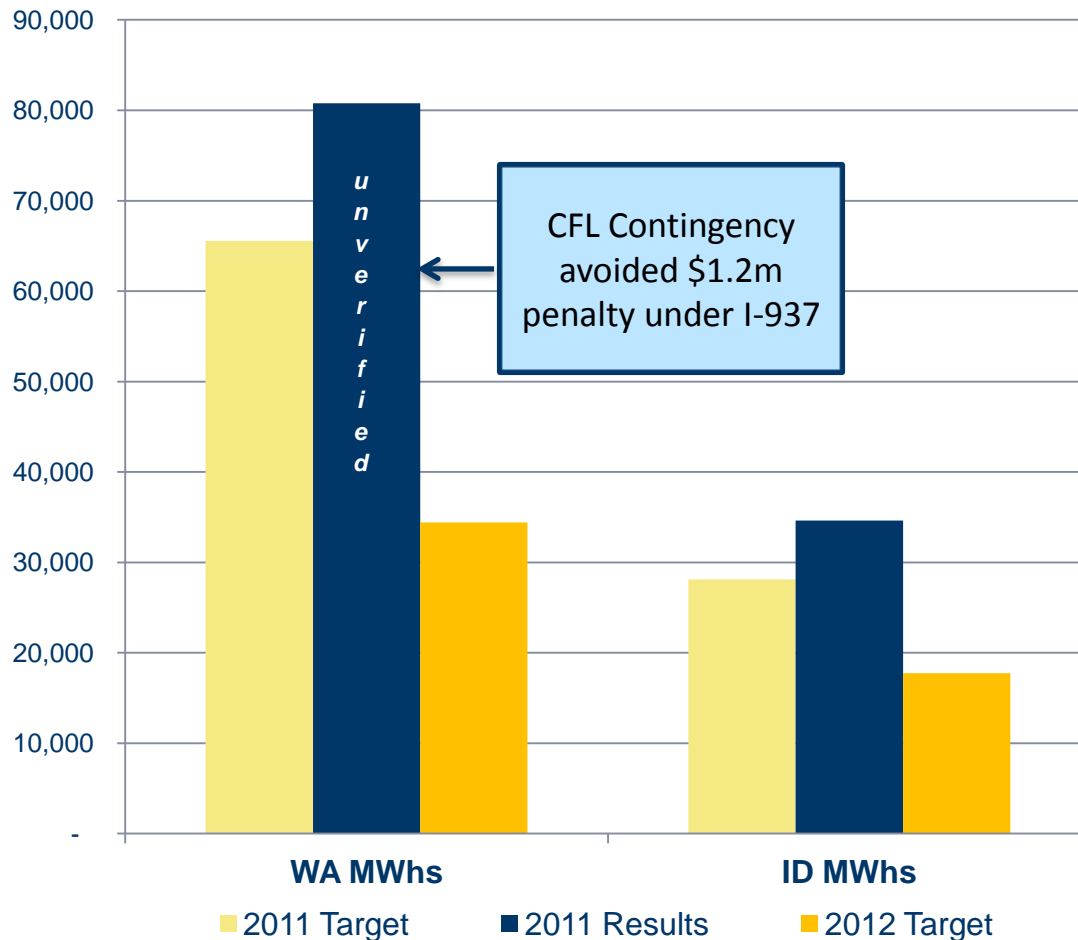
Meaningful story for every kWh and therm saved by measure and program...with transparent and accessible documentation

- All stakeholders satisfied that the EM&V policy and technical (i.e., quantitative methods) components are appropriately planned for company implementation and reporting

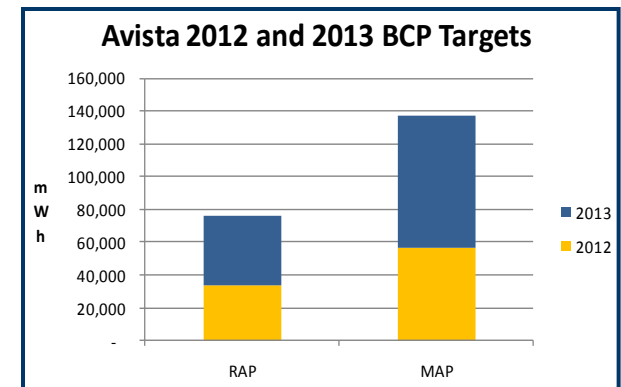
Having more effective EM&V allows Avista to provide more consistent and effective:

- Regulatory compliance through documented benefits
- Program planning through feedback
- Energy resource planning through documented savings projections
- Customer service and satisfaction through providing effective efficiency measures and documenting customer value

Provides Counting of Energy Efficiency Performance, Informs Future Targets and Improves Customer Programs



- 2012 targets reflect low end of a range
- 2012 targets were developed by an independent consultant
- WUTC requested use of Avista IRP targets for 2012, rather than NW Council targets as used for 2011



For Details and More Information

Go to www.everylittlebit.com and click on “About Energy Efficiency:

2012 DSM Business Plan

EM&V Framework

EM&V 2012 Plan

Electric & Natural Gas IRPs (with Cons. Pot. Assess.)

WA Elec. 2012-2013 Biennial Conservation Plan (BCP)

WUTC “BCP” Order (outlining conditions)

Idaho DSM Memorandum of Understanding

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