Enhancing Custom Commercial & Industrial Programs and Customer Experience through Fuel Blind Screening

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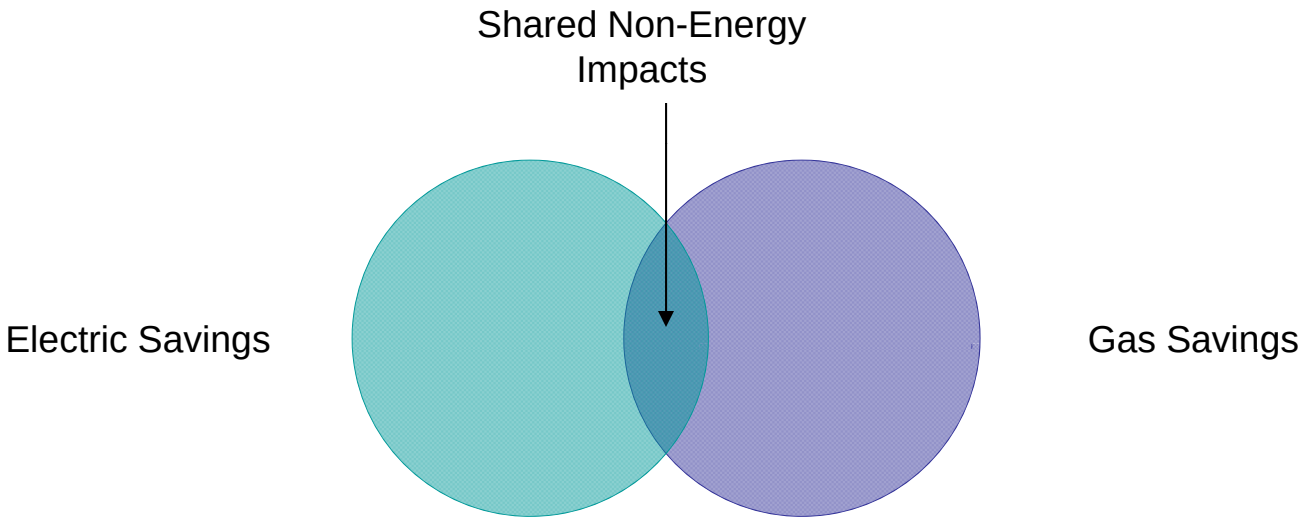
Agenda

- What is fuel blind screening?
- What set the stage for a fuel blind screening tool?
- Obstacles
- Proposed Solution
- Benefits of Tool
- Outcomes

What is Fuel Blind Screening?

- Testing for cost-effectiveness using all related savings and costs, regardless of the type of utility implementing the energy efficiency measure
- Includes costs and benefits that are classified as non-energy impacts

What is Fuel Blind Screening?



What Set The Stage?

- Green Communities Act, 2008
  - Electric & Gas Distribution companies must seek and implement all energy efficiency measures that are cost effective and cheaper than supply
  - Must keep administrative costs minimized

What Set the Stage?

- 2010-2012 Statewide Three Year Energy Efficiency Plan
  - Ambitious statewide savings goals to reduce consumption by 2.4% and 1.16% of electric and gas sales, respectively
  - Plan calls for complete integration of gas and electric energy efficiency implementation as a crucial step in achieving goals

Obstacles

- While Program Administrators seemingly integrated on front-end, internal processes were still disconnected and separate
  - Separate Screenings
  - Different Tools
  - Non-Energy Impacts
  - Combined Heat & Power (CHP) Projects
  - Cost Allocation Flaws

Obstacles

- Separate Screenings
  - Before Plan not many joint projects done
  - Joint projects would be screened separately by each Program Administrator
  - Data intensive, time-consuming and costly
- Different Screening Tools
  - Each PA used its own tool to test for cost effectiveness
  - Inconsistent

Obstacles

- Non-Energy Impacts
  - Difficult to quantify for custom projects so were largely ignored in Plan
- CHP Projects
  - One type of project where (typically) negative gas costs and O&M costs were quantifiable. Crucial to incorporate these costs to screen correctly

Obstacles

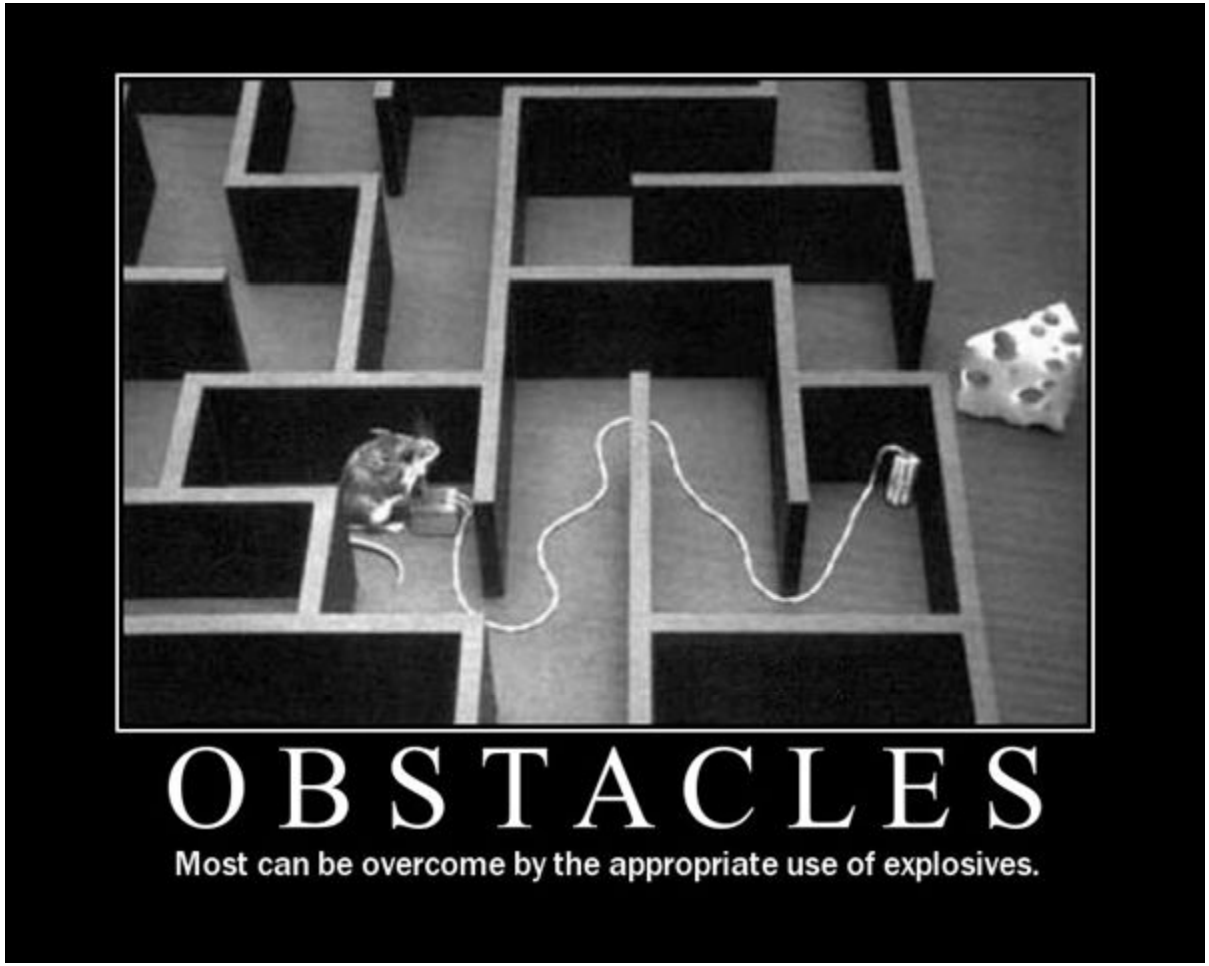
- Cost Allocation Flaws
  - When joint projects did arise, PAs would typically allocate costs by converting kilowatt-hours or therms saved into annual MMBTUs
  - Flawed because the benefit-cost ratio is based on the lifetime value of benefits, not annual energy savings
  - Allocating costs based on annual MMBTU savings could mistakenly overburden or create non-cost effective projects for one of the two PAs

Obstacles

- Cost Allocation Example
  - Let's assume a joint project arises that has 500,000 annual MWh of electric savings and 10,000 annual therms of gas savings
  - 10 Year Life

Method	Cost Allocation
500,000 MWh = 1,706 MMBTUs 10,000 therms = 1,000 MMBTUs	**63%** **37%**
500,000 MWh = $472,088 10,000 therms = $70,514	**87%** **13%**

Obstacles


OBSTACLES
Most can be overcome by the appropriate use of explosives.

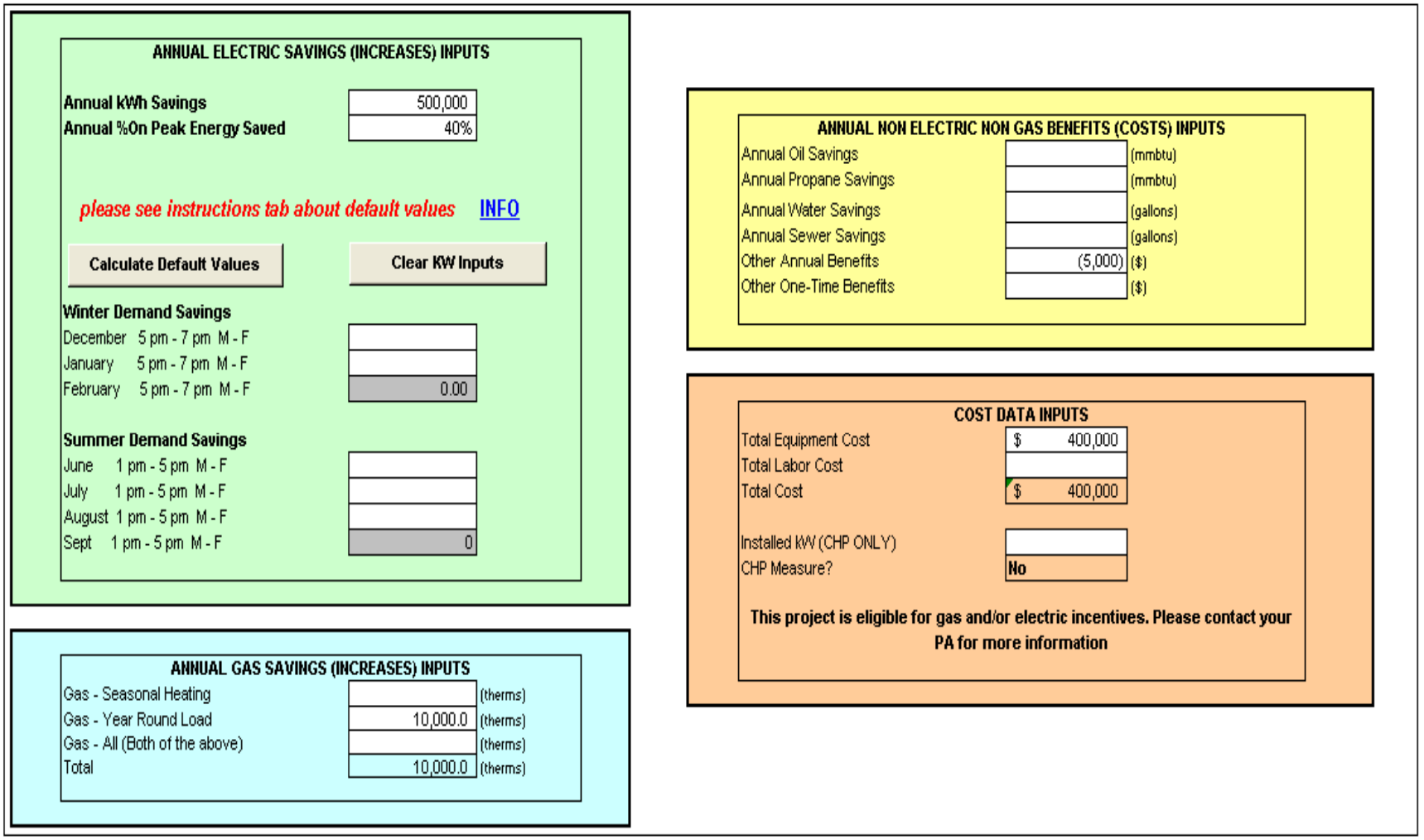
Proposed Solution

- One statewide, fuel blind screening tool for custom projects
  - Can handle PA specific values
  - Consistent methodology
  - Correct allocation of costs
  - Allows for positive and negative values
  - Allows for non energy impacts

Proposed Solution

- Use of a statewide tool facilitated by:
  - Statewide Plan with vetted measures, measure lives and incentive structures
  - Common use of Avoided Cost Study
  - Required use of the Total Resource Cost Test
  - Statewide arena for garnering support and approval
  - Incentive mechanism that rewards PAs for all benefits realized by energy efficiency

Proposed Solution



ANNUAL ELECTRIC SAVINGS (INCREASES) INPUTS

Annual kWh Savings	500,000
Annual %On Peak Energy Saved	40%

please see instructions tab about default values INFO

Calculate Default Values | Clear KW Inputs

Winter Demand Savings

December 5 pm - 7 pm M - F	
January 5 pm - 7 pm M - F	
February 5 pm - 7 pm M - F	0.00

Summer Demand Savings

June 1 pm - 5 pm M - F	
July 1 pm - 5 pm M - F	
August 1 pm - 5 pm M - F	
Sept 1 pm - 5 pm M - F	0

ANNUAL GAS SAVINGS (INCREASES) INPUTS

Gas - Seasonal Heating		(therms)
Gas - Year Round Load	10,000.0	(therms)
Gas - All (Both of the above)		(therms)
Total	10,000.0	(therms)

ANNUAL NON ELECTRIC NON GAS BENEFITS (COSTS) INPUTS

Annual Oil Savings		(mmbtu)
Annual Propane Savings		(mmbtu)
Annual Water Savings		(gallons)
Annual Sewer Savings		(gallons)
Other Annual Benefits	(5,000)	($)
Other One-Time Benefits		($)

COST DATA INPUTS

Total Equipment Cost	$ 400,000
Total Labor Cost	
Total Cost	$ 400,000
Installed kW (CHP ONLY)	
CHP Measure?	No

This project is eligible for gas and/or electric incentives. Please contact your PA for more information

Proposed Solution

Tool Outputs

BCR
Annual & Lifetime Savings
Proposed Incentives
Payback periods
Cost Allocation

TRC BCR:	1.24	
ELECTRIC INDICES		
LIFETIME MWH	5,000	
LIFETIME kW-YEARS	-	
ELECTRIC UNITS	5,000	
	CALCULATED VALUES	**AUTHORIZED VALUES**
ELECTRIC INCENTIVE	$ 125,000	
$/ ANNUAL kWH:	$ 0.25	$ -
$/UNIT:	$ 25.00	$ -
GAS INDICES		
LIFETIME THERMS	100,000	
GAS INCENTIVE	$ 15,000	
$/ANNUAL THERM	$ 1.50	$ -
PAYBACKS WITHOUT INCENTIVE		
ELECTRIC	6.64	
GAS	3.54	
TOTAL	5.96	
	CALCULATED	**AUTHORIZED**
TOTAL INCENTIVE:	$ 140,000	$ -
ELEC PAYBACK	4.25	6.64
GAS PAYBACK	2.52	3.54
PAYBACK W/INCENTIVE	3.87	5.96
DUAL FUEL COST ALLOCATION		
ELECTRIC INCENTIVE	$ 125,000.00	$ -
ELECTRIC BENEFITS		87%
GAS INCENTIVE	$ 15,000.00	$ -
GAS BENEFITS		13%

Benefits

- Aligns internal processes with statewide integration efforts
  - Consistent screening results regardless of which PA a customer may be dealing with
- Provides customer with information about non energy benefits
- Reduces overall screening time and reduces costs to conduct studies

Outcomes

- PAs began to utilize tool mid-to-late 2011
  - Feedback has been generally positive
  - Joint projects highlighted in public forum to show benefits of gas and electric integration
- Case Study: Greater Lawrence Sanitary District
  - National Grid Electric & Columbia Gas joint project
  - PAs were able to split the cost of the study needed to identify all possible energy conservation measures and split the incentive payout
  - Saved 259,000 therms and 4,000,000 kilowatt-hours
  - Customer received $1,125,000 incentive

Save the Date

May 15-17, 2012	AESP's Spring Conference Baltimore, MD
Oct. 15-17, 2012	AESP's Fall Conference Long Beach, CA
Jan. 28-31, 2013	AESP's 23rd National Conference Orlando, FL

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