

Designing Pilots and Acceptance Criteria for EM&V2.0 Tools

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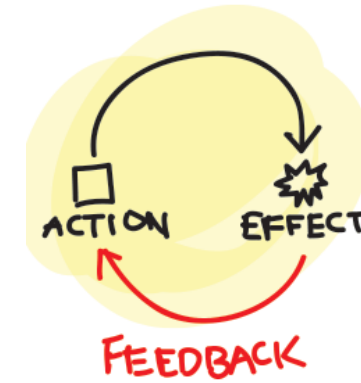
The Purpose of Pilots: Testing the EM&V2.0 Value Proposition

What did participants in the June Forum webinar say about EM&V2.0?

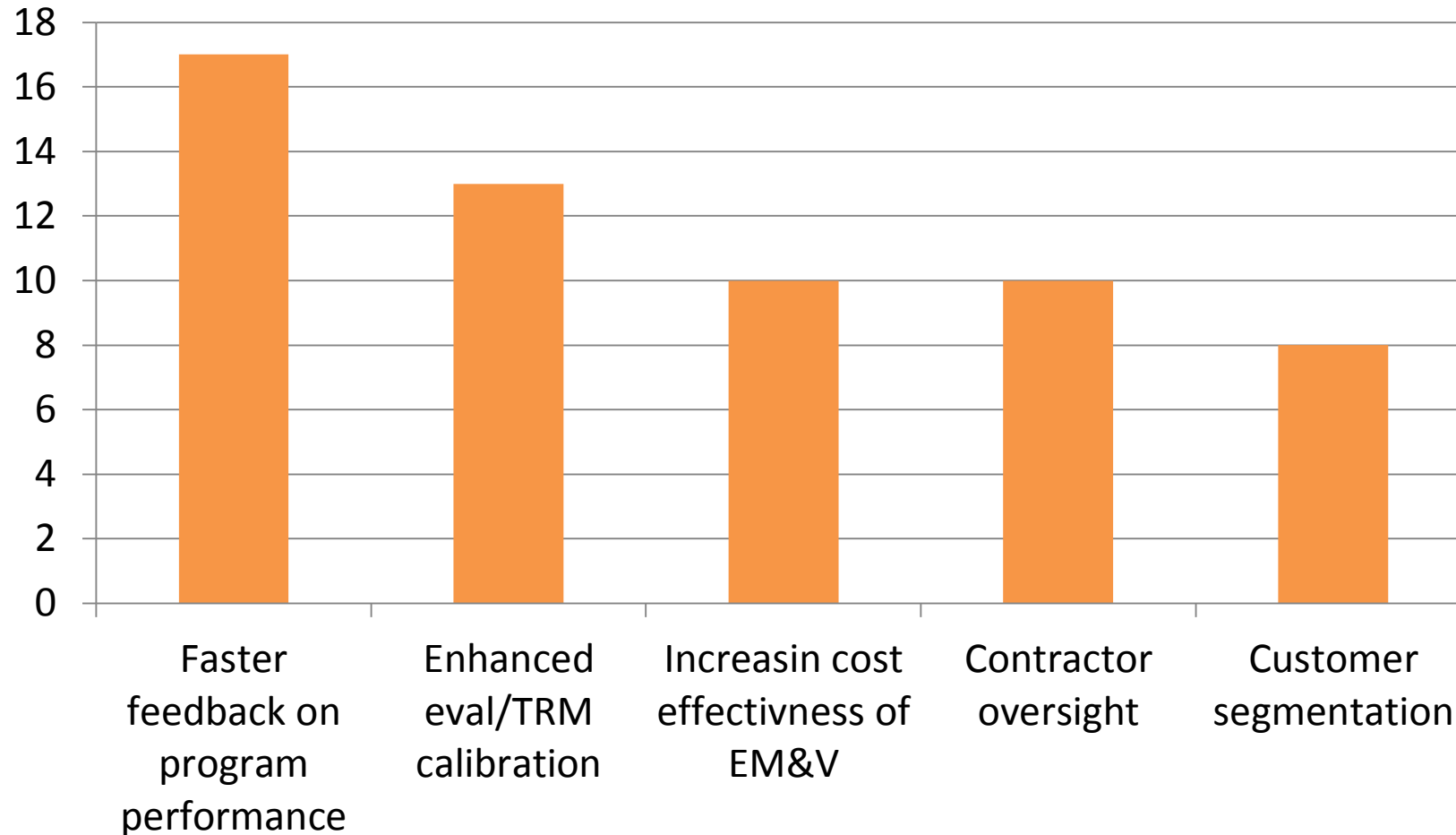
- Is it clear how EM&V 2.0 tools can support evaluation?
 - 21 yes, 3 no
- Are you interested in exploring 2.0 tools and methods in your work?
 - 12 yes, 2 maybe
- Are you interested in participating in commercial pilot design or implementation?
 - 7 yes, 4 maybe
- Are you involved in, or going to be involved in any programs that rely on an existing use baseline?
 - 6 yes, 2 maybe, 4 no

What are the potential benefits of M&V2.0? What is the value proposition?

- Increase visibility, quickly obtain ongoing and interim savings feedback
 - Increase savings and enhance customer experience
- Automate parts of the process that computers do well, streamline data acquisition and processing
 - Target and segment customers
 - Reduce time and cost to quantify savings
 - Maintain/improve accuracy in final savings
 - Increase throughput, number of projects going through the pipeline



What are the biggest [potential] benefits of EM&V2.0 tools? Results from June Forum webinar poll:



What do we know based on research, industry work to date?

- Proprietary commercial tools are generally as accurate (or more so) as industry standard models for existing use baselines
- Case studies are beginning to *provide some evidence for some elements* of the value proposition
 - Often focus on benefits to program administrators
 - Often not addressing use of tools to claim/evaluate savings
 - May or may not be public, difficult to synthesize across cases
- Encouraging results when commercial 2.0 tools applied to *historic* program data for gross savings estimation
 - Low levels of uncertainty at building and aggregate level
 - Generalizations still premature, different info available in each case

What additional value might pilots provide?

- Does value proposition prove out?
- Whether multiple pilots give consistent results
- Where 2.0 methods work well, do not work well, and associated project characteristics
- How practitioners can use 2.0 tools to complement professional expertise, maintain accuracy, speed results, with fewer resources
- ...



Residential vs commercial 2.0 tools

- Currently more market offerings for commercial, industrial than for residential
 - M&V often bundled with analytics for site operational efficiency
- C&I- whole building and submeter-based, also calibrated simulation
- Residential – comparison group and building-level
- NEEA published inventories on tools for commercial, industrial, however market constantly evolving



Group brainstorm activity

Based on what you know and would like to know about M&V2.0 tools, what questions should a pilot answer?

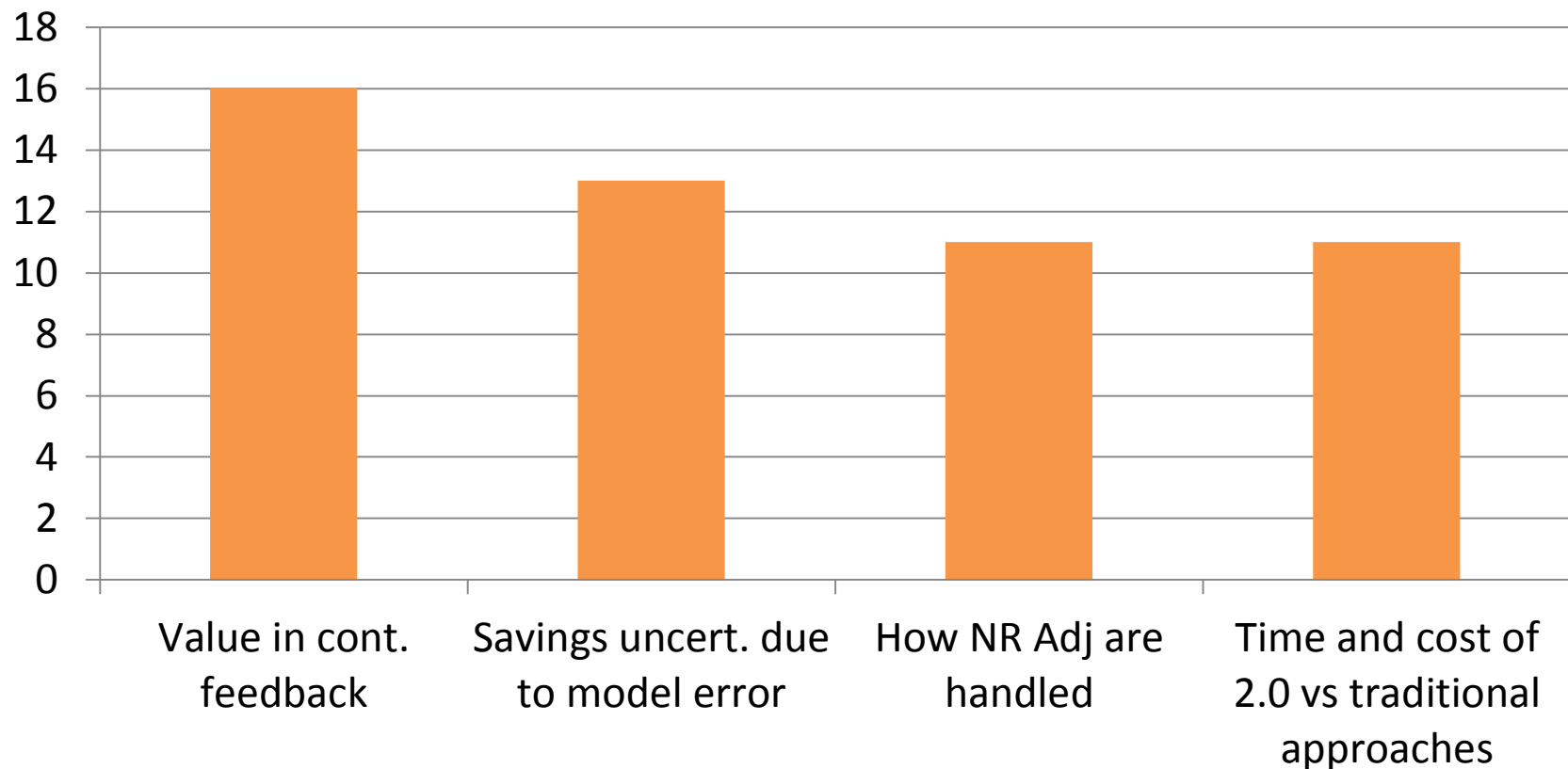
Assume:

1. Audience and pilot partners = program implementation, administration, evaluation, and regulation
2. Pilots are conducted in real-world commercial or residential buildings

Specify:

Applicability to commercial, residential, or both

What should commercial pilots aim to evaluate? Results from June Forum webinar poll:



Notes from the Field

Residential Case Studies and Pilots

Tim Gulterman, Director of Quantify Solutions

EnergySavvy at a glance

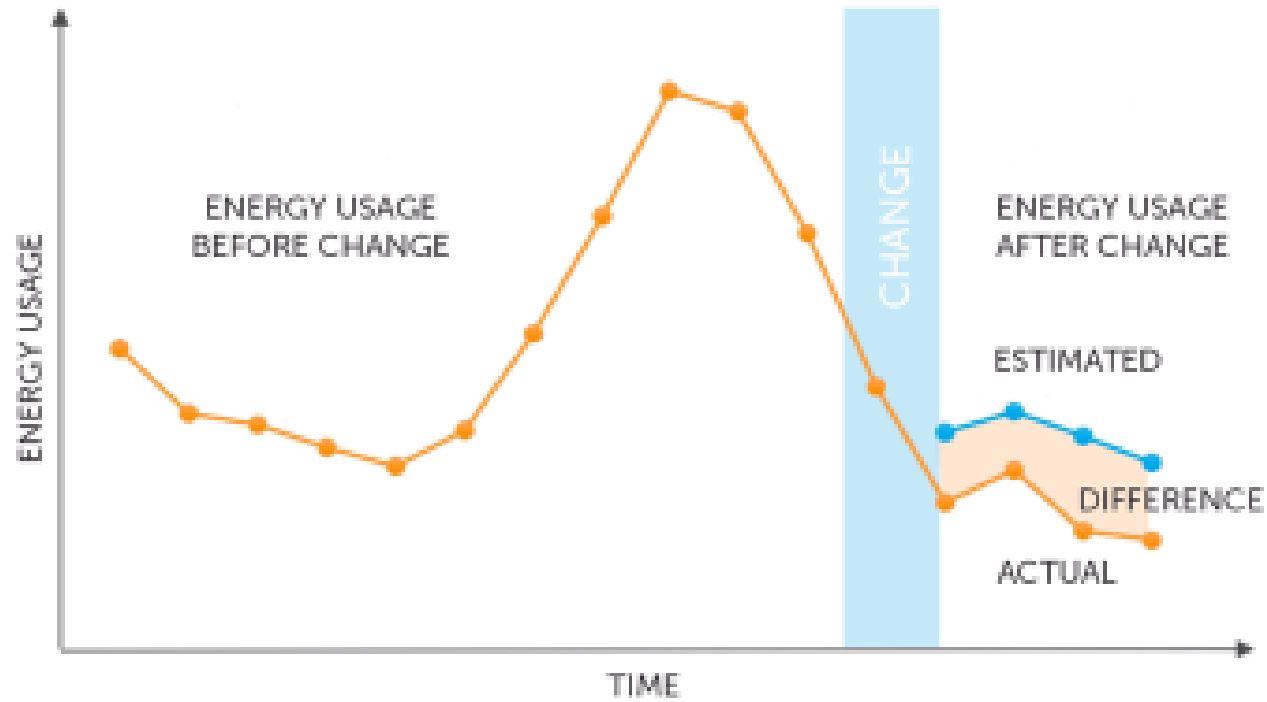
Cloud software for the utility industry



Quick Facts

- 30+ utility/DSM clients
- 100% cloud software
- Seattle & Boston offices
- Founded in 2008
- M&V 2.0: 6 clients (8 programs)

M&V 2.0: How it Works



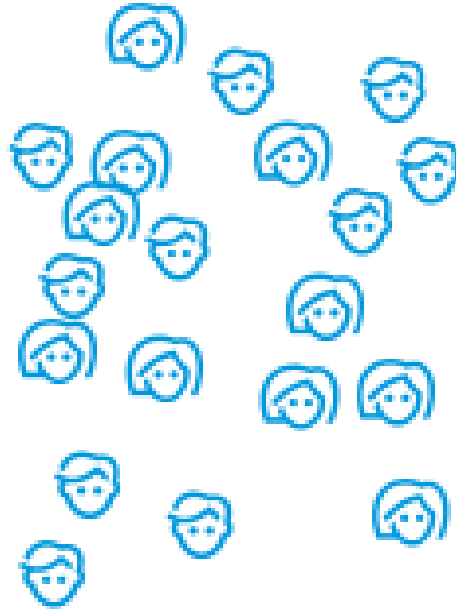
EnergySavvy's M&V 2.0 / Program Optimization in Action

Utility Location	Program Type	M&V 2.0	Program Optimization	Objectives
APS	Res Weatherization			Contractor Scorecard/ Intelligent QA/QC
APS	Res HVAC		✓	
Midwest	Res Behavioral			Pilot to determine ability to enhance the effectiveness of energy efficiency programs by increasing the timeliness and accuracy of impact estimates while reducing the cost of impact evaluation
Midwest	Res HVAC and water heating	✓		
Ameren Missouri	Res HVAC	✓	✓	Pilot to determine if M&V 2.0 software could (1) enhance evaluation through timely insights, and (2) drive program improvement through targeted QA/QC
Northeast #1	Res HVAC (gas-only)	✓		EnergySavvy and traditional EM&V firm collaborating on multi-year evaluation effort
Northeast #2	Res HVAC, weatherization and lighting	✓	✓	Pilot to assess value to (1) manage contractor performance through metered savings scorecards and granular insights, and (2) inform planning and evaluation
PSEG Long Island	Res HVAC and lighting	✓	✓	Pilot to determine if (1) M&V 2.0 software could provide indicative results compared to known outcomes utilizing bimonthly consumption data, and (2) provide quicker insight into program activity and analyze customer data in new ways



aps

Case Study: Arizona Public Utilities



Challenge

Managing a large network of contractors

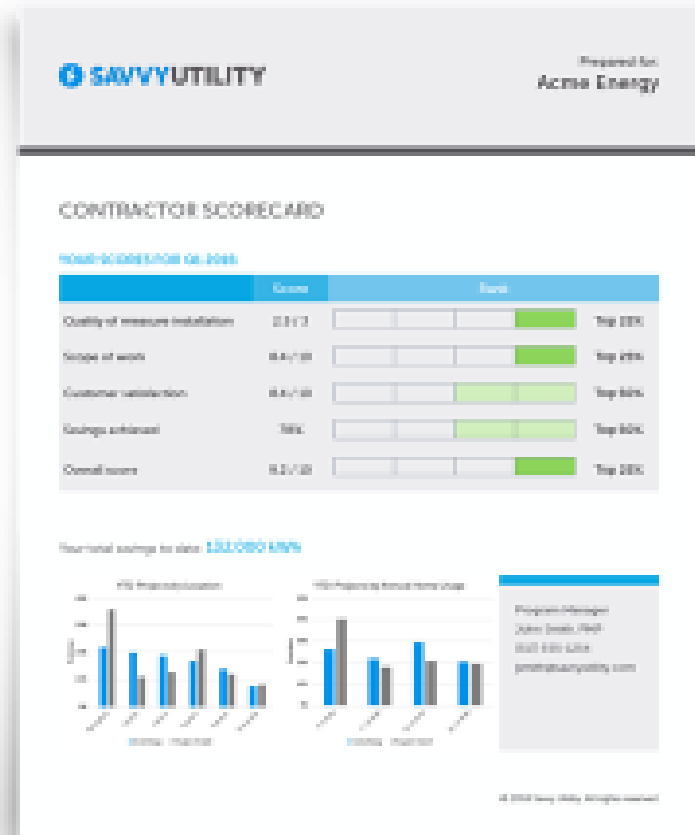
Solution

Monitor performance of individual contractors

60+
independent
contractors

Continuous monitoring of
programs and contractor
performance

aps Case Study: Contractor Scorecard



Challenge

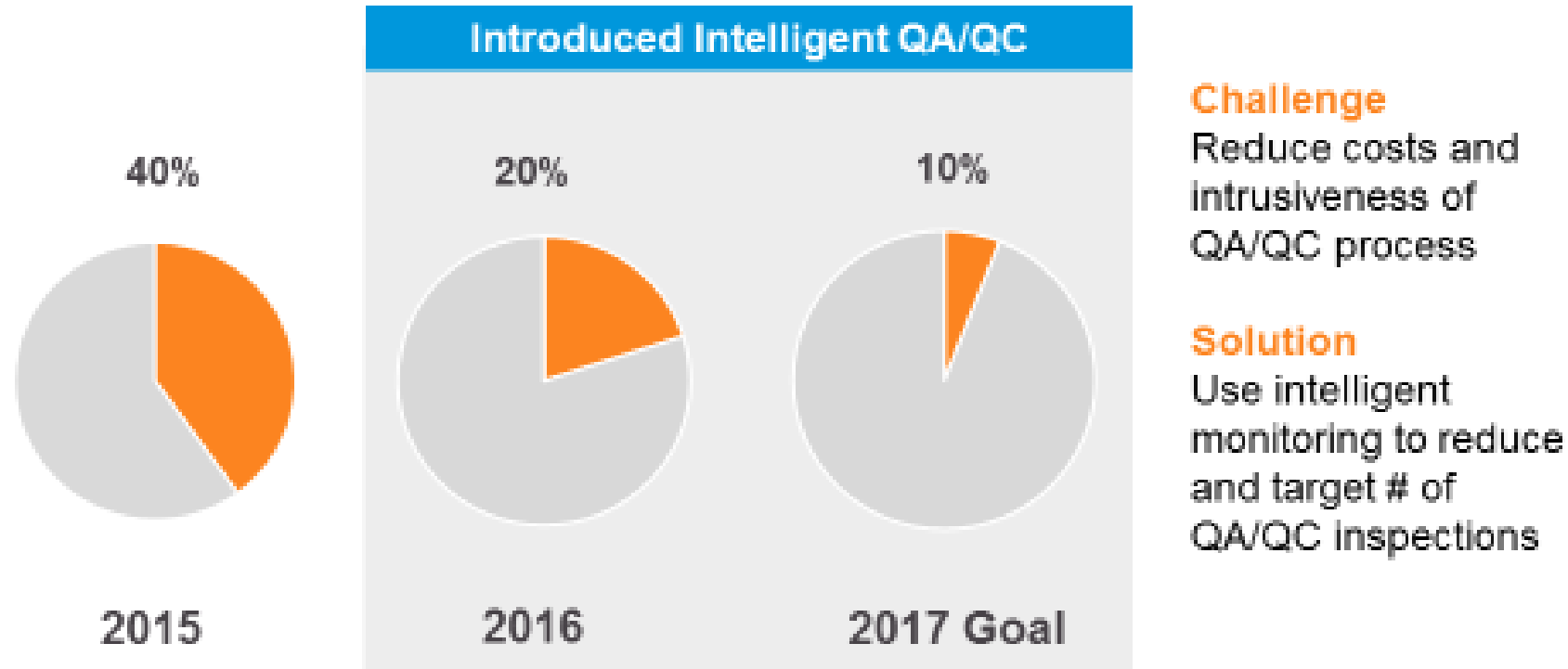
Contractors are unaware of their project performance

Solution

Issue scorecards to contractors to communicate performance of projects



aps Case Study: Attic Inspections



APS shifted approximately 25% of the overall inspection budget to directly improve the program.

**All percentages are the percent of total annual projects (assumes 2,000 projects/year)*



Can M&V 2.0 match the existing results in less time w/ bimonthly data?



An Example of Integrated Evaluation

EnergySavvy & EM&V firm jointly evaluating Res HVAC program



Thank You

ENERGYSAVVY

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