

AMI Presentation

SAG March 14, 2017

NAVIGANT



Opinion **Dynamics**

What do we mean by AMI?

- Out with the old, in with the new
 - Billing Data → AMI Data = **Consumption Data**
 - Monthly → Hourly → Minute = **Time Increments**
- Accessibility
 - Old world: manual reads once/month (approximately)
 - New world: Real time
 - In both worlds data needs cleaning before use

How do evaluators use energy consumption data?

- Program Level
 - Time series regression analysis of whole facility consumption data
- Site-Specific
 - Calibrate engineering models to site-specific consumption patterns

Evaluation Approaches

- TRM
 - Program savings, algorithms, and inputs to algorithms defined and deemed
- Custom
 - Specific custom-like projects rely on statistical analyses leveraging consumption data
 - (e.g., Custom, Data Centers, RCx, Industrial Systems)
- Behavioral
 - Programs using Experimental Design, e.g., Home Energy Reports, evaluated using regression analysis of consumption data.

AMI In a TRM World

- How does AMI data fit in a TRM-driven program?



How can evaluators use AMI data moving forward?

- Energy consumption data has been in the EM&V tool kit for years
- However, AMI data provides opportunities to:
 - Conduct regression analysis with greater statistical power via more observations
 - Estimate coincidence factors for demand savings for energy efficiency programs
 - Ability to calibrate engineering results based on whole-house level data
 - Potentially identify changes in equipment-specific energy use signatures within whole-facility AMI data (in the future)
- May have greater opportunities in the future with different program designs

Real-time Results?

- AMI data may not always provide faster results, depends upon:
 - When data is provided
 - How the program is designed (e.g., exogenous factors such as weather, participant characteristics, household characteristics and occupancy patterns) that affect energy use need to be controlled for in any model
- Faster results require thoughtful design and frequency of data ingestion to establish relationship between energy use and other parameters

