



Energy Efficiency Evaluation in the Southeast

Evaluation Issues and Examples

Presented at the 2013 ACEEE National Conference on Energy Efficiency as a Resource

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September 23, 2013

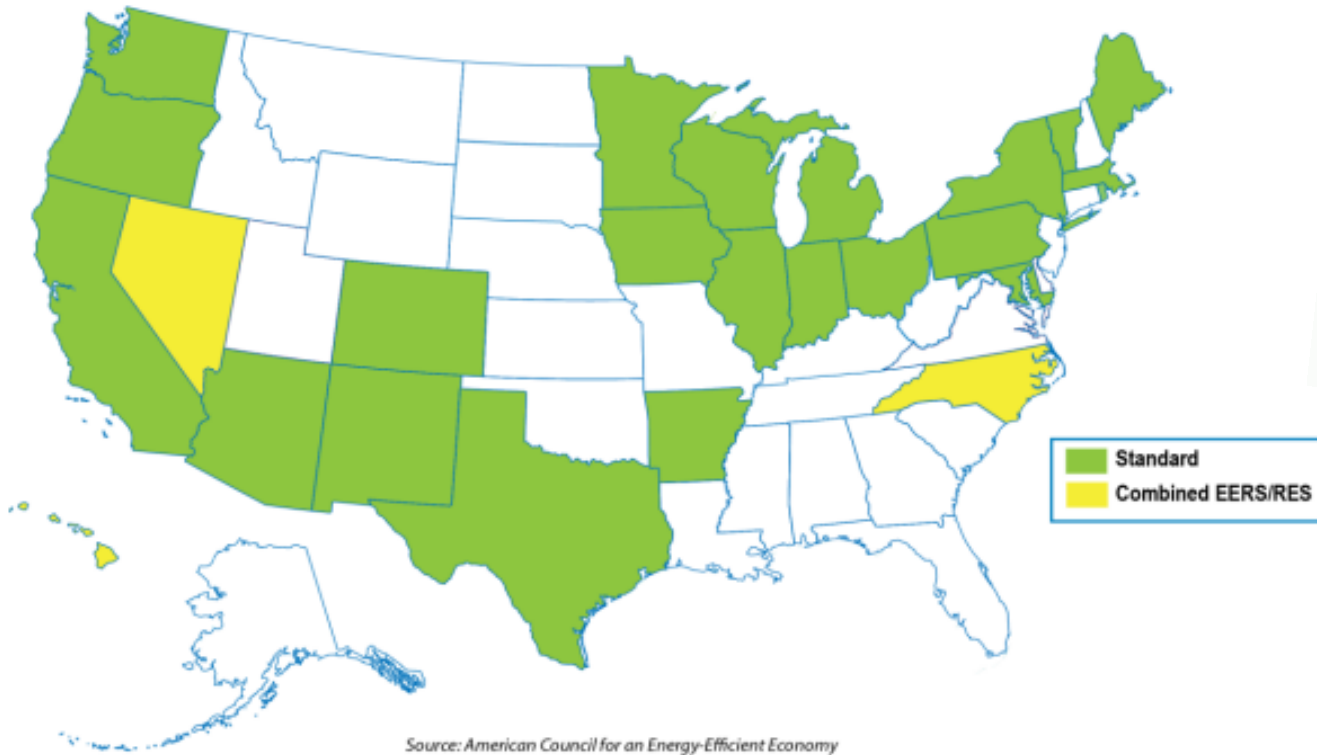


Getting Grounded—National & Regional View

State Energy Efficiency Resource Standards (EERS)

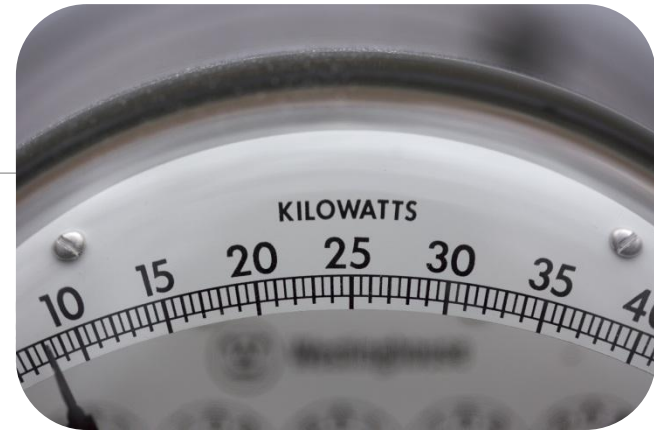
July 2013

EERS Policy Approaches by State (As of July 2013)



Why Evaluate?

- Verify the energy efficiency resource is **REAL**
- ID magnitude and persistence of impacts
- Power system planning input with confidence
- Provide **rigorous, independent assessments** of program performance...allowing comparison to their supply-side counterparts
- Support the delivery of safe, reliable, efficient and sustainable energy supply



Close the loop - evaluations teach and programs learn!

The Core – Two Questions

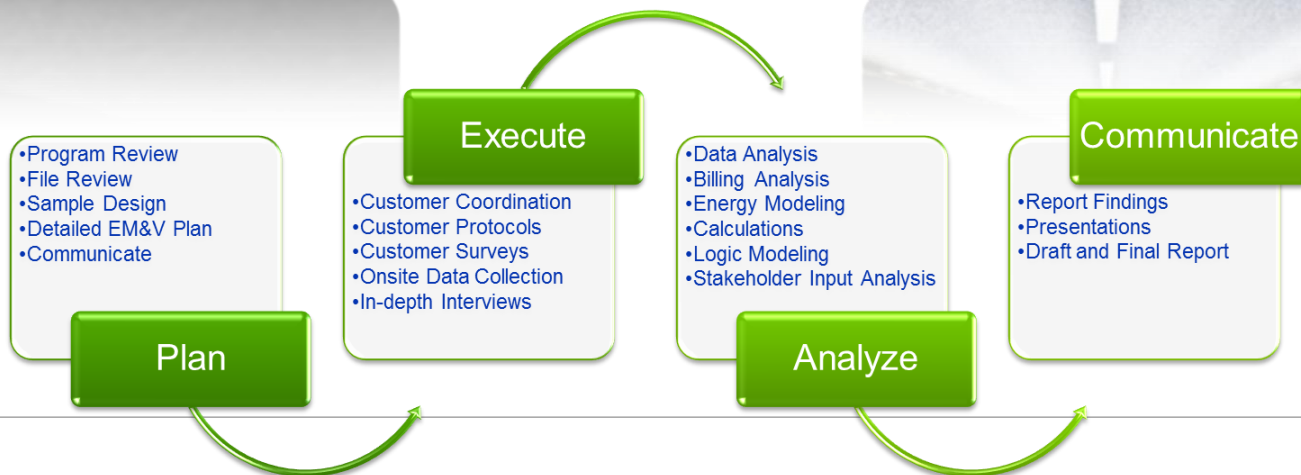
Retrospective

What has been accomplished?



Prospective

What can this program do in the future?

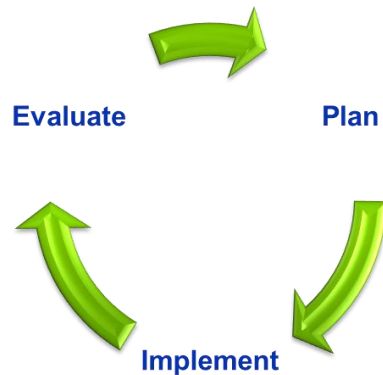




Examples

Southeast Evaluation Examples

- Doing more than we thought with the same investment - **high performance virtual power plant**
- Verified original planning estimates
- Closing the loop & informing programs



Do-It-Yourself
energy evaluation

Multi-Year Ongoing Effort in TVA Region

■ Now:

- Energy Right Solutions for Business and Industry
- Heat Pump Program
- DR - EnerNOC

■ Coming Soon:

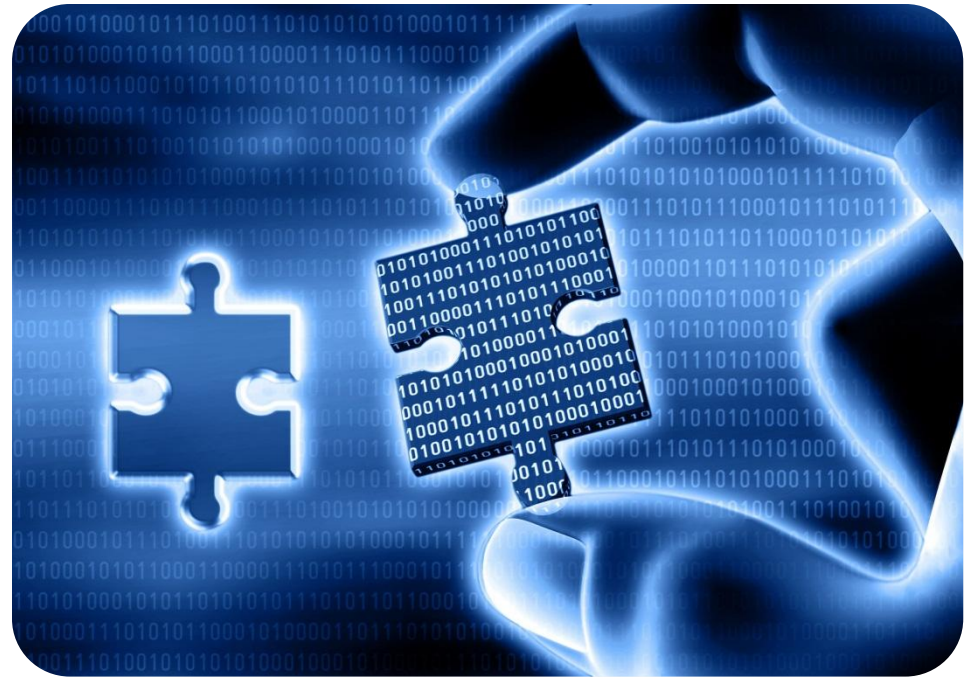
- New Homes
- Manufactured Homes
- Green Power Providers



META Challenges

Big Programs have Big Challenges

- Data Variations
- Stakeholder Coordination
- Communication
- Education



Targeted Local Power Company Jurisdiction Evaluation

- Sustainable New Homes
- Pre-Paid Metering
- Grid Smart Appliances
- Behavioral Demand Response
- Billing Data Analysis



Evaluation Issues in the Southeast

*Distributed nature
lowers risk*



Risk

Complexity



*Human element
increases complexity*

- **New** EM&V is new here – little infrastructure or familiarity

Didn't we already do an inspection or verification?



- **Scary**: The skeptics...

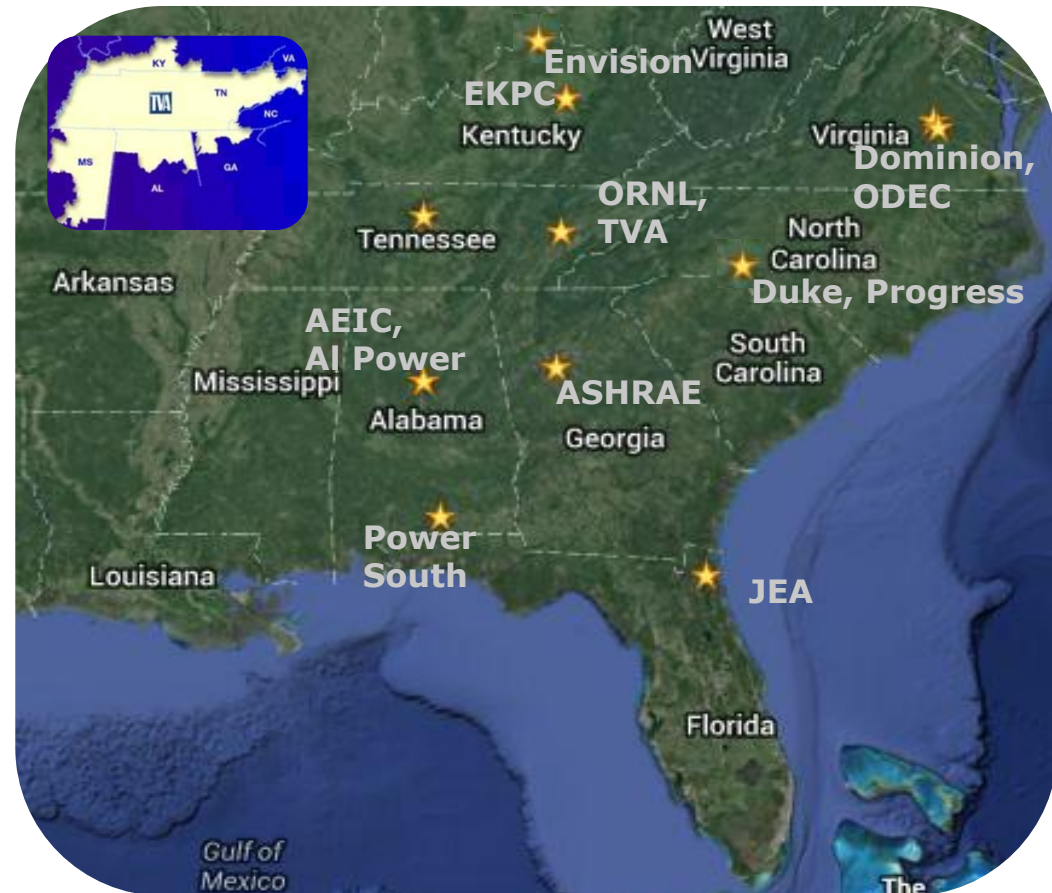
Why are you looking at my billing records? ...asking me all these questions?

- **Intense**: High level of rigor



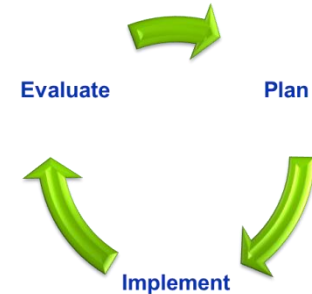
DNV KEMA Sustainable Use Services in the Southeast

- Evaluation, Load Research, Planning, End-Use Metering
 - Oak Ridge National Laboratory
SEP & EECEBG National Evaluations
 - Tennessee Valley Authority
 - Dominion Resources
 - Alabama Power
 - JEA
 - PowerSouth (G&T for AL, FL)
 - East Kentucky Power Cooperative
 - ODEC (G&T for MD, DE, VA)
- Analytics/Education/Training
 - ASHRAE
 - AEIC
 - Duke Envision Center (Erlanger, KY)
- Program Implementation
 - Duke (Progress)



Predicting the Future

- Program evaluation will continue to grow
 - TVA sees more targeted localized programs
 - More state and utility directed EM&V in the Southeast
- End-use metering
- Load research
- Distribution planning
- Educating stakeholders



Building trust in the EE resource

Questions?



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