ENERGY STAR. The simple choice for energy efficiency.

Introducing…

AGENT DAVID PUDLEINER

Cover: Building Energy Analyst, ICF

Previous Missions:

- Improved the energy efficiency of vaccine warehouses in Tunisia
- Created an energy efficiency roadmap for Uganda
- Estimates energy efficiency program potential for U.S. utility clients including ComEd, Entergy Louisiana, and Cleco

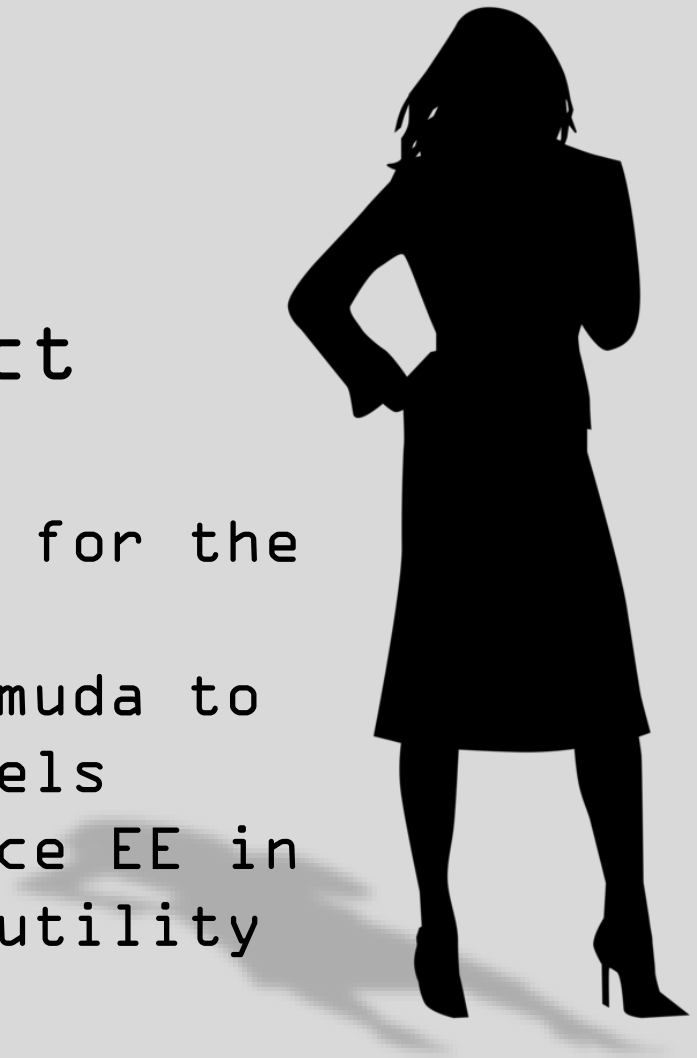
Introducing…

AGENT ELLEN ZUCKERMAN

Cover: Arizona Senior Associate, Southwest Energy Efficiency Project

Previous Missions:

- Audited and analyzed multifamily buildings for the Association for Energy Affordability (AEA)
- Studied, tagged, and measured squid in Bermuda to help collect data for squid population models
- Works with consumers and business to advance EE in Arizona through state legislature, public utility commission, and utility advisory boards



Introducing…

AGENT ABI DAKEN

Cover: Government Bureaucrat, EPA ENERGY STAR Program

Previous Missions:

- Led development of first ENERGY STAR product category to be certified through in-field energy performance - ENERGY STAR Smart Thermostats
- Manages ENERGY STAR criteria development for water heating, heating and cooling, and pool pumps
- Lead for optional connected criteria for all ENERGY STAR product categories

MAUREEN MCNAMARA

Mission Director

What we know…


Technologies w/ large or untapped savings potential
WHERE
ENERGY
SAVINGS?
More effective program approaches
Improved cost effectiveness screening
CLASSIFIED

Large savers & untapped potential

Technologies w/ large or untapped savings potential

LIGHTING:

- Remaining lighting potential
- Differentiated strategies for advanced markets (e.g., specialty and underserved populations)

LAUNDRY:

- Larger per unit savings from ENERGY STAR Most Efficient dryers (28% savings over Federal standard) and new clothes washer specification (28% energy and 33% water savings compared to 2018 Federal standard)

WATER HEATERS:

- Heat pump water heaters savings* = 2020 kWh (annual)

EMERGING TECH:

- Room a/c with inverter technology (≥ 25% savings)

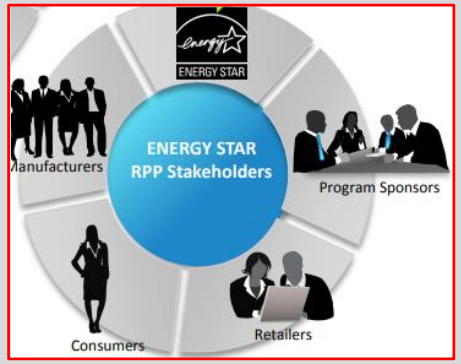
*Estimate for a 3 person household.

More effective program approaches

Several ongoing initiatives aim to increase program uptake while reducing costs:

- ESRPP most ambitious example — retail-based market transformation program encompassing multiple product categories that change as markets mature
- Distributor focused midstream approaches promising for HVAC and water heating

More effective program approaches



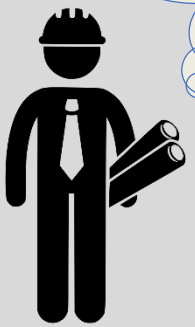
MIDSTREAM PROGRAM DESIGNS AND INCENTIVES

- Leverage trade allies (distributors, contractors, retailers, etc.) to promote and sell efficient (pre-qualified) equipment to their customers.
- Depending on program model, may or may not, require that part or all of the incentive is passed on to the consumer.

While volumes increase, opportunities decrease for direct customer engagement

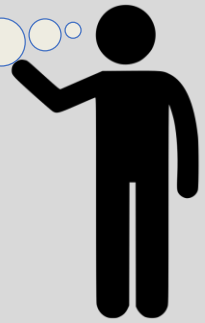
Easier for contractors to upsell efficiency – makes the transaction more natural

Midstream incentives are not always lower. HVAC contractors find they still need higher incentives to upsell higher SEER ACs



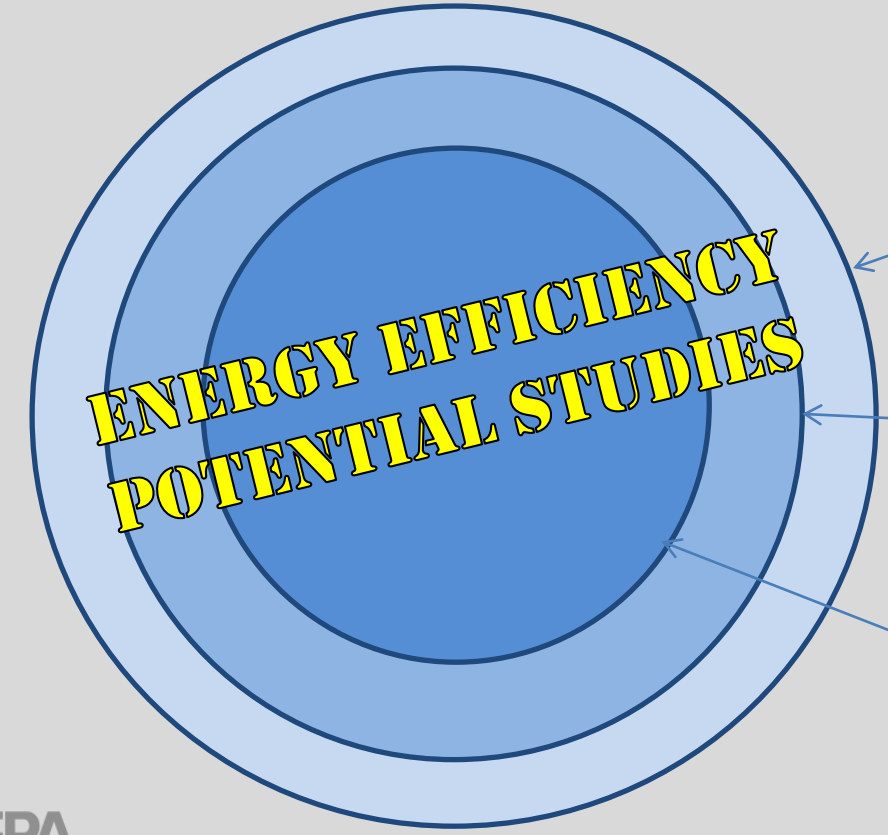
Reduced transaction costs/hassle factor

Success is based on talking to distributors and listening to how they run their business



Identifying candidates…

- How do utilities estimate how much energy efficiency is available to invest in?



Technical potential is typically considered the *complete* adoption of all measures analyzed in applications where they were deemed *technically* feasible from an *engineering* perspective.

Economic potential refers to the technically feasible measures that are *cost effective* when compared to supply-side alternatives and tested using one or more cost-effectiveness tests.

Achievable potential refers to the amount of savings that would occur in response to specific program funding and measure incentive levels.

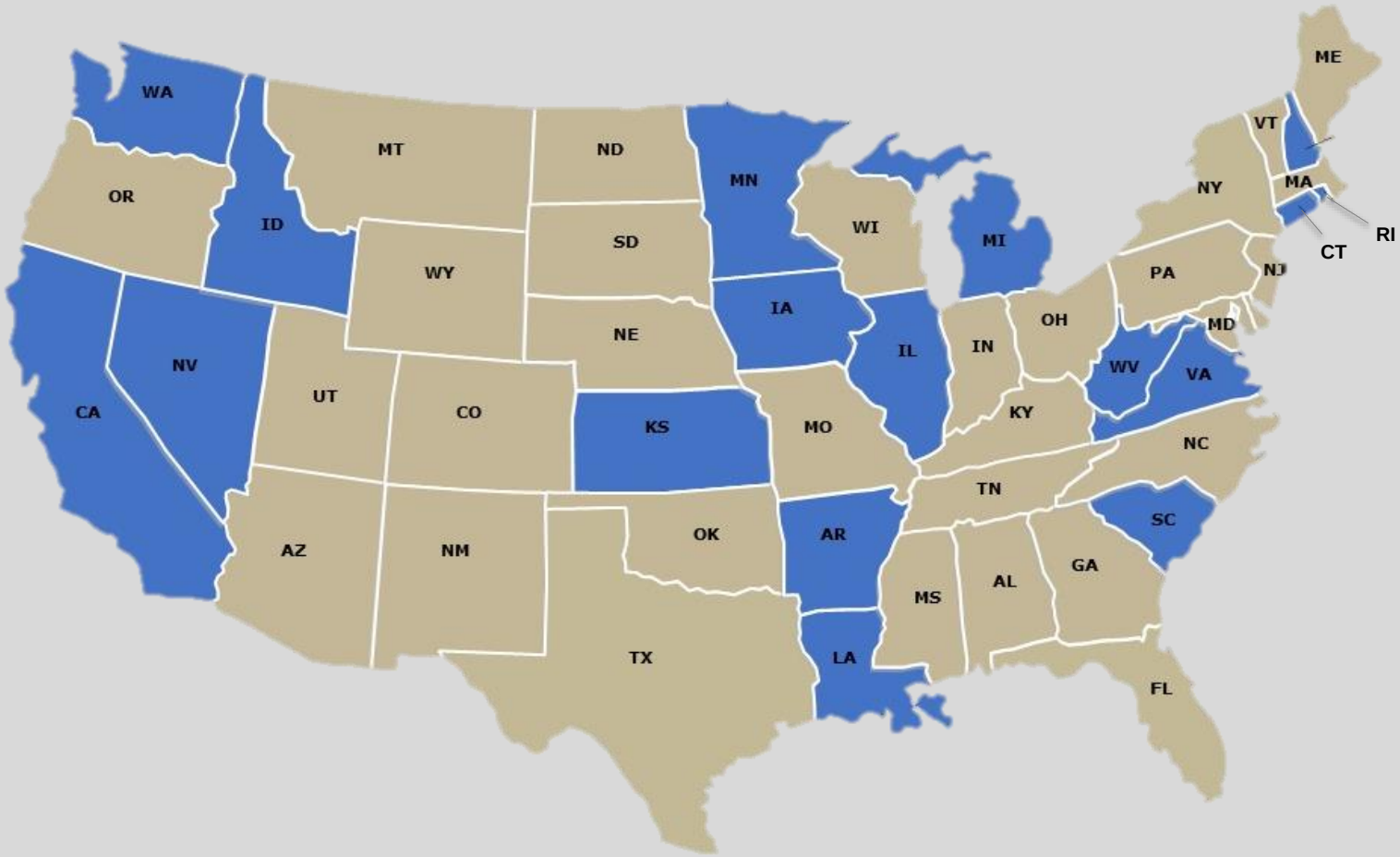
Source: DNV-KEMA, "Xcel Energy Minnesota DSM Market Potential Assessment: Final Report – Volume 1", 2010 and the National Action Plan for Energy Efficiency.

HOW UTILITIES SCREEN FOR COST EFFECTIVENESS & WHY IT MATTERS

- Most utilities rely on one or more **benefit-cost tests** developed decades ago in California to screen programs and measures for cost effectiveness
  - Principles are not uniformly applied across the country – what benefits and costs are included, and how they are derived also inconsistent
  - May be applied at the measure, program, or portfolio level
  - Has implications for how much energy efficiency is invested in and what measures/programs screen cost effective

- Recently, a group of long-time practitioners developed the National Standard Practice Manual to reflect current experience and best practice and guide jurisdictions on how to:
  - Develop a primary cost effectiveness test that meets the applicable goals of the jurisdiction
  - Select appropriate costs and benefits to include and account for hard-to-monetize costs and benefits

"HEAT MAP" OF INTEREST IN BENEFIT-COST REFORM



Source: http://www.neep.org/blog/staying-cool-nspm-states-wade-deeper-waters?utm_source=NEEP+Master+List&utm_campaign=e5df6f691a-EMAIL_CAMPAIGN_2018_02_07_COPY_01&utm_medium=email&utm_term=0_d09b004d10-e5df6f691a-224807153c

CASE STUDY: RHODE ISLAND

- Commission requirement to apply B/C principles:
  - Treat EE as a resource
  - Incorporate energy policy goals
  - Include hard to quantify impacts
  - Treat benefits and costs symmetrically
  - Be forward looking
  - Be transparent

TEST	TRC	RI B/C Test
B/C Ratio	1.7	2.76

- Benefits and costs included:
  - Electric energy benefits
  - Electric generation capacity benefits
  - Electric transmission and distribution capacity benefits
  - Natural gas benefits
  - Fuel benefits
  - Water and sewer benefits
  - Non energy impacts
  - Price effects (DRIPE)
  - CHP benefits (includes reliability benefits)
  - Non embedded GHG reduction benefits
  - Economic development benefits
  - Utility costs
  - Participant costs

Your mission, should you choose to accept it:

FIND THE NEXT DECADE OF ENERGY EFFICIENCY PROGRAM SAVINGS