IOU Energy Efficiency Programs Collaborative

Christine Herbert
October 3, 2018
Energy Efficiency Implementation Project Meeting
SPEER

**Our purpose** is to advance the understanding and adoption of energy efficiency as a low-cost energy resource, and to design, implement, coordinate, and support regional projects to promote high energy performance and clean distributed energy in the built environment.
Winter Weather Impacts on Load by Customer Type

Thursday, Nov. 16, 2017
7:15 a.m.
ERCOT Load: 36,795 MW
Temperature in Dallas: 63°

Wednesday, Jan. 17, 2018
7:15 a.m.
ERCOT Load: 65,904 MW
Temperature in Dallas: 15°

>29,000 MW of weather-sensitive load -- 44% of peak

- Customer class breakdown is for competitive choice areas; percentages are extrapolated for municipals and co-ops to achieve region-wide estimate
- Large C&I are IDR Meter Required (>700kW)
- Hourly integrated demand values
Summer Weather Impacts on Load by Customer Type

Thursday, March 24, 2016
5:00 p.m.
ERCOT Load: 33,597 MW
Temperature in Dallas: 62°

Thursday, Aug. 11, 2016
5:00 p.m.
ERCOT Load: 71,093 MW
Temperature in Dallas: 106°

>37,000 MW of weather-sensitive load -- 53% of peak

- Customer class breakdown is for competitive choice areas; percentages are extrapolated for municipals and co-ops to achieve region-wide estimate
- Large C&I are IDR Meter Required (>700kW)
- Hourly integrated demand values
Benefit - Built Environment
For Customers

– Comfortable
– Affordable
– Durable
– Controllable/ manageable
– Clean energy – zero emissions
Benefit - Energy Market

- Reduce Peak Demand
- Grid reliability to support growing population
- Lower Peak Demand affects customer pricing – individually and collectively
- Reduce infrastructure cost – T&D
- Lowest Cost – Cleanest Resource
Programs Incent

• Low energy cost – good time to invest
• Low energy cost – longer ROI for customer
• Programs provide information to support good behavior/purchasing choices
• Incentives support local businesses and reach the smaller customers
• Provides low income opportunities
Achievements

Average of $120 million spent per year by all IOU’s in Texas

- Saving the equivalent of around $400 million each year in future energy and capacity costs
- 400 MW of peak demand savings per year
- 500,000 MWh of total energy savings per year (0.24% of sales)

With the states new building codes/standards – focus on existing buildings.

EPRI study comparison with other States/Utilities?
States Targeting 100% of 2018 Economic Potential Through Utility Programs

- Arizona
- Connecticut
- Hawaii
- Illinois
- Iowa
- Maine
- Massachusetts

- Michigan
- Minnesota
- Ohio
- Oregon
- Rhode Island
- Vermont
- Washington
### Bottom 10 Performing States

#### Estimated Percent of Economic Potential Captured

<table>
<thead>
<tr>
<th>State</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Texas</td>
<td>22%</td>
</tr>
<tr>
<td>Wyoming</td>
<td>20%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>19%</td>
</tr>
<tr>
<td>Florida</td>
<td>17%</td>
</tr>
<tr>
<td>Delaware</td>
<td>16%</td>
</tr>
<tr>
<td>Kansas</td>
<td>11%</td>
</tr>
<tr>
<td>Alabama</td>
<td>10%</td>
</tr>
<tr>
<td>Virginia</td>
<td>8%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>8%</td>
</tr>
<tr>
<td>Alaska</td>
<td>4%</td>
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</tbody>
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Texas IOU Energy Efficiency Collaborative

Participating Organizations

- Air Conditioning Contractors of America
- Alliance for Retail Markets
- CenterPoint Energy
- CLEAResult
- Direct Energy
- EnerChoice
- Energy Foundation
- Environmental Defense Fund
- Frontier Energy
- Good Company Associates
- Houston Advanced Research Center
- Lime Energy
- Oncor
- Public Citizen
- Sierra Club
- Tetra Tech
- Texas Advanced Energy Business Alliance
- Texas Office of Public Utility Counsel
- TexEnergy
Discussion to Identify What is Possible

• Stand-alone energy goal separate from the demand goal
  – No changes to the demand goal
• Modify energy goal to be a percent of annual sales
  – Average savings across IOUs is currently 0.24%
  – Suggest reasonably achievable energy goal of 0.5% of annual energy sales
Cumulative MWh Savings Scenarios, using a 2017 baseline
Texas Residential and Commercial Markets

- Cumulative Energy Savings, MWh

- BAU
- EPRI Economic Potential
- Energy Goal at 0.5% per year
- EPRI Economic Potential, IOU Portion

Years: 2018 to 2040
Cumulative Energy Savings: 0 to 70,000,000 MWh
Cumulative Percent of Sales Scenarios, using a 2017 baseline
Texas Residential and Commercial Markets

Cumulative Energy Savings Percent


- **BAU**
- **EPRI Economic Potential**
- **Energy Goal at 0.5% per year**
- **EPRI Economic Potential, IOU Portion**
Current Avoided Costs

Are there other elements that need to be included in Avoided Cost?

- Avoided Cost of Capacity = $80/kW in 2018
  
  Based overnight cost of a new conventional or an advanced combustion turbine

- Avoided Cost of Energy = $0.03757/kWh in 2018
  
  Based on the load-weighted average price of energy for summer and winter in all four load zones in the state.
Demand savings compared to spending, by utility

- Sharyland
- Centerpoint
- AEP Central
- SWEPCO
- Oncor
- TNMP
- AEP North
- XCEL
- El Paso
- Entergy

- Percent of 2017 Demand Goal Achieved
- 2018 EECRF Percent of Cost Cap
- Demand Goal
Collaborative Discussion

What would it take to increase the energy goal?

Administrative changes
Program changes
Increased Participation – REP s and ESCOs
Cost/Cost-effectiveness changes

Can it be done through Rule?
Percent difference a 0.5% energy goal would be from energy savings achieved in 2017, by utility
## Timing

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Discussed</th>
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<tbody>
<tr>
<td><strong>EEIP</strong></td>
<td>Annual</td>
<td>3 per year</td>
</tr>
<tr>
<td><strong>Plans</strong></td>
<td>Annual</td>
<td>3-year – allow period of “open enrollment” for new programs</td>
</tr>
<tr>
<td><strong>Goal</strong></td>
<td>Annual</td>
<td>Aligned with Plan</td>
</tr>
<tr>
<td><strong>Avoided Cost</strong></td>
<td>Annual - 60 days ahead</td>
<td>Rolling 5-year avg. - established year ahead</td>
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<tr>
<td><strong>Cost-effectiveness</strong></td>
<td>1-year</td>
<td>3-year to allow for ramp up of new programs</td>
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Costs and Cost Caps

How much EE costs as percent of bill?

The average Texas resident:

- $0.10 per kilowatt-hour average cost
- 1,171 kWh per month average consumption
- $128.50 average monthly electric bill
- or $1,542 annually.

EE cost is about 1% at cap. IOUs are currently spending less than the cap. (Oklahoma Utilities get lost contribution to fixed costs and incentive so, cost cap is equal to $2.40 per customer per month.)
Other Considerations

• Would current bonus be aligned with new goals to keep the utilities whole?
• Rural adder of 15% - not effective.
• Develop tiered values for peak measures?
• Could some measures be compensated for both summer and winter peak reduction?
Added Flexibility in Programs

• Consider cost-effectiveness based on portfolio, rather than per program.

• Allow REPs to pass through incentives to increase customer retention and enable area-wide marketing.

• Hire third party to provide consumer marketing without conflict of interest?
Achieve Increased Participation

- IOU consistent programs that allow multi-service area participation? Eliminate marketing costs
- Work with REPs to create simple, customer access to programs
- Tiered or increased incentives
- Financing programs or on-bill repayment
Low-income and Hard-to-reach Differences

Current requirement is 10% of program spending ($)
And 5% of demand savings (kW) required.

Program Cost-effectiveness:

- LI: Federal NEAT tool threshold is based on customer cost effectiveness.
- HTR: incentives based on UCT like other programs

- Adjust income thresholds
- Address cost effectiveness limitations
Demand Response Programs

How much DR is the market delivering?

- Summer Peak – added load 37,000MW
- ERCOT Programs include 2,242 ERS and Responsive Reserves
- REPs – using price responsive DR, which are contributing on 4CP days with TOU, Peak Rates, Block and Index Pricing

IOU Load Management provides incentives to achieve 282 MW - Not called for summer peak since 2011
Research Potential

Request for Information (RFI) for new programs and technologies

• Provide aggregated data for multifamily to encourage targeted programs that address split incentive

• New programs to utilize Data Access by 3rd parties

• New programs to reach off-peak customers (schools and churches)

• REP specific program design
Contact

Next SPEER IOU Collaborative meeting scheduled for Oct. 18 from 1-4pm in Austin.

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