Introduction

• Welcome to today’s webinar.
• This webinar is being recorded & will be distributed to attendees
• Please ask questions in the Q&A box and we will answer as many as possible at the end of the presentation

Nick Dreher
Policy Director
Midwest Energy Efficiency Alliance

MEEA

At MEEA, we leverage our unique position as the Midwest’s trusted resource on energy efficiency policy and programs to help identify, understand, and implement cost-effective strategies that provide economic and environmental benefits.

MEEA is a non-profit membership organization with 160+ members, including:

- Electric & gas utilities
- State & local governments
- Academic & Research institutions
- Energy service companies & contractors
Introduction: State Policy Scenarios

Overview of the state policy decisions that were explored in this study
Missed Opportunities for EE in the Midwest

**Illinois** – Adopted Regressive Policy – *Industrial Exemption*

**Policy:**
- FEJA (2015)

**Reference Case**
- **What-if:** No Exemption

**Policy Scenario**
- **Actual:** Large C&I Exemption

**Policy Case**
- **Reference Year:** 2016
Missed Opportunities for EE in the Midwest

**Indiana** – Adopted Regressive Policy – *Repealed EERS & Industrial Opt-Out*

**Policy:**
- SB 340 (2014)

**Reference Year**
- 2013

**Reference Case**
- What-if: Kept the EERS & no opt-out

**Policy Scenario**
- Policy Adopted
- Not Adopted

**Policy Case**
- Actual: Repealed EERS & allowed opt-out

**Impacts**
- 2019
Missed Opportunities for EE in the Midwest

**Indiana** – Adopted Regressive Policy – *Repealed EERS & Industrial Opt-Out*

**Policy:**
- SB 340 (2014)

**Reference Year**
- 2013

**Reference Case**
- What-if: Kept the EERS & no opt-out

**Policy Case**
- Actual: Repealed EERS & allowed opt-out

**Policy Scenario**
- Not Adopted
- Adopted

**Impacts**
- 2019

Reference

Case

What-if: Kept the EERS & no opt-out

Actual: Repealed EERS & allowed opt-out

Policy Case

Policy Scenario

Not Adopted

Reference Year

2013

Policy Adopted

Policy: SB 340 (2014)
Missed Opportunities for EE in the Midwest

**Iowa** – Adopted Regressive Policy (Electric) – **Budget Cap**

**Policy:**
- SF 2311 (2018)

**Reference Year:** 2018

**Policy Case**
- What-if: No budget cap

**Reference Case**
- Actual: 2% budget cap on EE

**Impacts – 2019**
Missed Opportunities for EE in the Midwest

Iowa – Adopted Regressive Policy (Gas) – Budget Cap

Policy:
- SF 2311 (2018)

Reference Year:
2018

Reference Case:
What-if: No budget cap

Policy Scenario:
Actual: 2% budget cap on EE

Policy Case:
Policy Adopted

Impacts – 2019

Budget Cap

Not Adopted
Missed Opportunities for EE in the Midwest

Missouri – Averted Regressive Policy – **Staff Recommendations for EE Cuts**

**Policy:**
- MO PSC Staff recommendations in recent utility plan dockets

**Reference Year**
- 2021

**Policy Scenario**
- Not Adopted

**Policy Case**
- What-if: Staff EE cuts were followed

**Actual:** EE programs as approved

**Impacts – 2021**
Missed Opportunities for EE in the Midwest

Ohio – Adopted Regressive Policy – Repealed EERS & Industrial Opt-Out

**Policy:**
- SB 310 (2014)
- HB 6 (2019)

**Reference Year** 2014

**Policy Case**

**Reference Case**

What-if:
- Kept EERS & no opt-out

**Policy Scenario**

**Actual:**
- Repealed EERS and allowed opt-out

Impacts – 2021
Missed Opportunities for EE in the Midwest

Wisconsin – Did Not Adopt Progressive Policy – Funding Increase

**Policy:**
- Governor Evers’ 2020 budget proposal

**Reference Year** 2019

**Reference Case**
- Actual: funding not increased

**What-if: Proposed funding increase was adopted**

**Policy Case**

**Policy Adopted**

**Impacts – 2021**
Today’s Presenter

Kenji Takahashi
Senior Associate
Synapse Energy Economics
Missed Opportunities - Impacts of Recent Policies on Energy Efficiency Programs in Midwestern States

MEEA Webinar

November 4, 2021
Kenji Takahashi

With assistance from: Tim Woolf, David While, Danielle Goldberg, Shelly Kwok, Andrew Takasugi, and Jenny Marusiak
Synapse Energy Economics

• Founded in 1996 by CEO Bruce Biewald

• Leader for public interest and government clients in providing rigorous analysis of the electric power and natural gas sectors

• Staff of 40+ includes experts in energy, economic, and environmental topics

• Synapse's nationally recognized energy efficiency team has deep experience in all 50 U.S. states, the District of Columbia, and six Canadian provinces.

• We assist clients with analyzing costs, energy savings, avoided costs, cost-effectiveness, potential studies, rate and bill impacts, price suppression effects, economic and job impacts, and the regulatory policies used to promote and support energy efficiency resources.
Contents

• Background and scope of work
• Study methodologies
• Scenario development
• Energy and peak Impacts
• Lost net benefit Impacts
• Macroeconomic impacts
• Affordability implications
Recent Midwestern Regressive Policies
Background

Regressive Energy Efficiency Policies

• Several states across the Midwest have adopted or proposed various policies concerning ratepayer-funded energy efficiency programs through regulatory orders and legislative actions.
  • Limiting program funding
  • Exempting large business customers
  • Repealing energy efficiency resource standards or targets
  • Failing to adopt progressive energy efficiency policies

Selected Midwest states for our study
Scope of Study

Synapse assessed the impacts of recently adopted or proposed energy efficiency policies for six selected Midwestern states: namely Illinois, Indiana, Iowa, Missouri, Ohio, and Wisconsin

• Cost-effectiveness
• Emissions and health impacts
• Macroeconomic impacts
• Affordability implications
Key Findings

- Regressive policies in the region (or the failure to adopt a progress policy in the case of Wisconsin) caused enormous, missed opportunities for:
  - energy savings
  - emissions savings
  - economic and health benefits
  - job creation
Study Methodologies
## Cost-Effectiveness Analysis Framework

<table>
<thead>
<tr>
<th></th>
<th>UCT</th>
<th>TRC Test</th>
<th>SCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Utility System Impacts</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Gas Utility System Impacts</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Other Fuel Impacts</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Participant Impacts</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Participant costs</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Participant non-energy impacts</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Societal Impacts</td>
<td>-</td>
<td>-</td>
<td>✓</td>
</tr>
</tbody>
</table>

Notes: UCT: Utility Cost Test; TRC: Total Resource Cost; SCT: Societal Cost Test
Utility Avoided Costs - Electric

- **Avoided energy costs**: approximately $27 to $36 per MWh in 2022
  - Day-ahead hourly locational marginal price data (2017-2019) for each applicable pricing zones from PJM, SPP, and MISO markets

- **Avoided capacity costs**: approximately $45 to $83 per kW-year (or $110 to $177 per MW-day) in 2022
  - PJM’s capacity auction prices through 2022

- **Avoided transmission and distribution (T&D) costs**: $62 per kW-year in 2022
  - An average value based on our survey of avoided T&D costs in Iowa, Illinois, Minnesota, Missouri, and Wisconsin

- **Avoided RPS compliance costs**: $1.3 to $3.4 per MWh in 2022
  - The current REC prices and RPS requirements in Illinois and Ohio

- **Demand reduction-induced price effect (DRIPE)**:
  - 0.5 percent price reduction per 1 percent load reduction over 5 years
  - Adjusts the effects for market hedging
Utility Avoided Costs – Electric (cont.)

Average electric avoided costs ($ per kWh)

<table>
<thead>
<tr>
<th>State</th>
<th>Avoided energy</th>
<th>Avoided capacity</th>
<th>Avoided T&amp;D</th>
<th>DRIPE</th>
<th>RPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Iowa</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Ohio</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Indiana</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Missouri</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Illinois</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>
Utility Avoided Costs - Gas

• Avoided costs of natural gas
  • Primarily based on MidAmerican’s avoided cost estimates

• Avoided costs of wholesale natural gas
  • $3 per MMbtu in 2020, increases to $7.8 per MMBtu by 2045

• Avoided costs of transmission and distribution systems
  • $96 per peak MMBtu (or $2.7 per annual MMbtu), increases to $135 per peak MMBtu (or $10.5 per annual MMBtu) by 2045
  • Uses a peak-to-annual savings factor based on MidAmerican’s program data
## Non-Energy Impacts (NEI)

### NEI Values for Electric and Gas energy efficiency Programs (% of total benefits)

<table>
<thead>
<tr>
<th></th>
<th>Electric energy efficiency</th>
<th>Gas energy efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RES</strong></td>
<td>15%</td>
<td>11.3%</td>
</tr>
<tr>
<td><strong>C&amp;I</strong></td>
<td>10%</td>
<td>7.50%</td>
</tr>
</tbody>
</table>

Sample NEI values by state, with Massachusetts values for illustration.

<table>
<thead>
<tr>
<th>NEI</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MA</td>
</tr>
<tr>
<td>By participant NEI</td>
<td></td>
</tr>
<tr>
<td>Unit</td>
<td>S/Unit</td>
</tr>
<tr>
<td>Comfort</td>
<td>27.18</td>
</tr>
<tr>
<td>Productivity/O&amp;M</td>
<td></td>
</tr>
<tr>
<td>Health and safety</td>
<td></td>
</tr>
<tr>
<td>Asset value</td>
<td></td>
</tr>
<tr>
<td>Low-income adder</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td>Portfolio adders</td>
<td>10%</td>
</tr>
</tbody>
</table>
Societal Impacts

• Avoided emissions from power plants
  • CO$_2$, SO$_2$, NO$_x$, and PM$_{2.5}$
  • U.S. EPA’s Avoided Emissions and Generation Tool (AVERT) and Rocky Mountain Institute’s (RMI) Utility Transition Hub
  • Conservative methane emission leak rate of 1.42 percent from natural gas supply based on EPA’s current estimates.

• Social costs of carbon (SCC) emissions
  • The SCC values recommended by the recent AESC (Avoided Energy Supply Component) study for New England states. The values are based on the estimates by New York State’s Department of Environmental Conservation (Obama EPA’s guidelines with a lower discount rate).
  • Increases from $118 per ton in 2021 to $290 per ton by 2050

• Avoided health damage costs
  • Avoided criteria pollutants (SO$_2$, NO$_x$, and PM$_{2.5}$) from AVERT
  • EPA’s CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA)
Macroeconomic Impacts

Analytical approach to macroeconomic analysis

Inputs
- Avoided Utility-System Costs
- EE Participant Bill Savings
- EE Program Costs

Responding (+jobs)
- Class Bill Impacts
- Participant Costs

Avoided Utility Spending (-jobs)
- Avoided Gas CC CapEx
- Avoided Gas CC O&M
- Avoided Gas T&D CapEx

Energy Efficiency Spending (+jobs)
- Supply Chain Impacts
- Direct Labor Impacts
Affordability Implications

• Rate impacts
  • Estimates the expected rate impacts of EE investments (% of the current rate) based on the estimated EE spending as well as the estimated changes in sales and revenue requirements due to the EE programs

• Bill impacts
  • Estimates average bill impacts for all customers by sector for each scenario

• Participation impacts
  • Assesses how program participants would change between the Policy Case and Reference Case scenarios
  • Study results represent illustrative examples
Scenario Development
State Scenario Development

• Policy Case:
  - For all the six states except Wisconsin, the energy efficiency program policies/laws assumed under the Policy Case are regressive policies that have been adopted or proposed. Most of these policies are effective today.

• Reference Case:
  - The Reference Case assumes that the policies we studied were never enacted, with the exception of Wisconsin and Missouri where the Reference Cases represent the current policy environments.
  - The energy savings under this case are higher than the Policy Case for each state except Wisconsin, which shows the opposite results; the Policy Case for this state assumes the acceptance of the recent budget proposal to increase the program budget, whereas the reference case reflects Wisconsin’s failure to adopt
## Summary of Energy Efficiency Program Scenarios

<table>
<thead>
<tr>
<th>State</th>
<th>Policy</th>
<th>Reference year (RY)</th>
<th>Policy impact year (PIY)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electric EE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>Large C&amp;I exemption</td>
<td>2016</td>
<td>2019</td>
</tr>
<tr>
<td>Indiana</td>
<td>Repeal of EERS and large C&amp;I opt-out</td>
<td>2013</td>
<td>2019</td>
</tr>
<tr>
<td>Iowa</td>
<td>2% budget cap</td>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td>Missouri</td>
<td>PSC Staff’s EE proposal</td>
<td>2021</td>
<td>2021</td>
</tr>
<tr>
<td>Ohio</td>
<td>Repeal of EERS and large C&amp;I opt-out</td>
<td>2014</td>
<td>2021</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Proposed 2021 budget</td>
<td>2019</td>
<td>2021</td>
</tr>
<tr>
<td><strong>Gas EE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iowa</td>
<td>1.5% budget cap</td>
<td>2018</td>
<td>2019</td>
</tr>
</tbody>
</table>
Example of Two Scenarios – Indiana

Reference Case

Policy Case

-160 GWh (0.21% of sales)

Source: EIA 861 data combined with data provided by MEEA
Example of Two Scenarios – Ohio

Source: data compiled by MEEA

-1,790 GWh (1.4% of sales)
Energy and Peak Impacts
Annual Energy Impacts due to the Policy Case

- Illinois: -0.09%
- Indiana: -0.21%
- Iowa: -0.50%
- Missouri: -0.67%
- Ohio: -1.39%
- Wisconsin: 0.78%
Annual Peak Load Impacts due to the Policy Case

- Illinois: 18 MW
- Indiana: -29 MW
- Iowa: -35 MW
- Missouri: -85 MW
- Ohio: -278 MW
- Wisconsin: 61 MW
Lost Net Benefit Impacts
Lost Net Benefits for Illinois, Indiana, and Iowa – UCT and TRC Perspectives

[Bar chart showing net benefits for Illinois, Indiana, Iowa - electric, and Iowa - gas.]

- Illinois: -44
- Indiana: -82
- Iowa - electric: -104
- Iowa - gas: -72
- TRC: Net Benefit

www.synapse-energy.com | ©2021 Synapse Energy Economics Inc. All rights reserved.
Lost Net Benefits for Illinois, Indiana, and Iowa – TRC with Social Cost of Carbon (SCT)

- Illinois: -61
- Indiana: -196
- Iowa - electric: -276
- Iowa - gas: -166

TRC: Net Benefit  Social Cost of Carbon
Lost Net Benefits for Illinois, Indiana, and Iowa – TRC with SCT and Health Impacts

Note: Iowa - gas: health cost impacts were not estimated; Indiana: health cost impacts are currently under review.
Lost Net Benefits for Missouri, Ohio, and Wisconsin – UCT and TRC Perspectives

- Missouri: UCT: $201 million, TRC: $163 million
- Ohio: UCT: $976 million, TRC: $962 million
- Wisconsin: UCT: $267 million, TRC: $222 million
Lost Net Benefits for Missouri, Ohio, and Wisconsin – TRC with Social Cost of Carbon (SCT)
Lost Net Benefits for Missouri, Ohio, and Wisconsin – TRC with SCT and Health Impacts

- Missouri: TRC: Net Benefit = -940
- Ohio: TRC: Net Benefit + Social Cost of Carbon = -2,730
- Wisconsin: TRC: Net Benefit = 868

Legend:
- TRC: Net Benefit
- Social Cost of Carbon
- Health Costs - Low
- Health Costs - High
Illustrative Net Societal Impacts from Residential Programs per Customer due to the Policy Case

Note: Iowa - gas: health cost impacts were not estimated; Indiana: health cost impacts are currently under review.
Macroeconomic Impacts
Iowa - Lifetime Macroeconomic Results

• Results in 124 fewer full-time jobs and $6 million less income
Ohio - Lifetime Macroeconomic Results

- Results in 5,460 fewer full-time jobs and $300 million less income
Affordability Implications
Annual Average Rate Changes under the Policy Case relative to the Reference Case

- Illinois
- Indiana
- Iowa - electric
- Iowa - gas
- Missouri
- Ohio
- Wisconsin

% Rate Change
-1.4%  -1.2%  -1.0%  -0.8%  -0.6%  -0.4%  -0.2%  0.0%  0.2%  0.4%  0.6%

RES  C&I
Annual Average Bill Changes under the Policy Case relative to the Reference Case

% of Annual Bill

-0.6% -0.4% -0.2% 0.0% 0.2% 0.4% 0.6% 0.8% 1.0%

Illinois Indiana Iowa-electric Iowa-gas Missouri Ohio Wisconsin

RES C&I
## Illustrative Program Participation Impacts

### Indiana

<table>
<thead>
<tr>
<th>Utility</th>
<th>Case</th>
<th>Program Name</th>
<th>Participants</th>
<th>% Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duke</td>
<td>Policy Case</td>
<td>Low Income Weatherization</td>
<td>205</td>
<td>-93%</td>
</tr>
<tr>
<td>Duke</td>
<td>Reference Case</td>
<td>Low Income Weatherization</td>
<td>3,000</td>
<td>-</td>
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</tbody>
</table>

### Iowa (electric EE)

<table>
<thead>
<tr>
<th>Utility</th>
<th>Case</th>
<th>Program Name</th>
<th>Participants</th>
<th>% Impact</th>
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</thead>
<tbody>
<tr>
<td>MidAmerican</td>
<td>Policy Case</td>
<td>HVAC</td>
<td>3,986</td>
<td>-78%</td>
</tr>
<tr>
<td>MidAmerican</td>
<td>Reference Case</td>
<td>HVAC</td>
<td>17,896</td>
<td>-</td>
</tr>
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</table>

### Iowa (gas EE)

<table>
<thead>
<tr>
<th>Utility</th>
<th>Case</th>
<th>Program Name</th>
<th>Participants</th>
<th>% Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>MidAmerican</td>
<td>Policy Case</td>
<td>High Efficiency Furnace</td>
<td>5330</td>
<td>-56%</td>
</tr>
<tr>
<td>MidAmerican</td>
<td>Reference Case</td>
<td>High Efficiency Furnace</td>
<td>12,972</td>
<td>-</td>
</tr>
</tbody>
</table>

### Missouri

<table>
<thead>
<tr>
<th>Utility</th>
<th>Case</th>
<th>Program Name</th>
<th>Participants</th>
<th>% Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ameren Missouri</td>
<td>Policy Case</td>
<td>Single Family Low-Income</td>
<td>15</td>
<td>-97%</td>
</tr>
<tr>
<td>Ameren Missouri</td>
<td>Reference Case</td>
<td>Single Family Low-Income</td>
<td>487</td>
<td>-</td>
</tr>
</tbody>
</table>

### Ohio

<table>
<thead>
<tr>
<th>Utility</th>
<th>Case</th>
<th>Program Name</th>
<th>Participants</th>
<th>% Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEP Ohio</td>
<td>Policy Case</td>
<td>Appliance Recycling</td>
<td>0</td>
<td>-100%</td>
</tr>
<tr>
<td>AEP Ohio</td>
<td>Reference Case</td>
<td>Appliance Recycling</td>
<td>18,230</td>
<td>-</td>
</tr>
</tbody>
</table>

### Wisconsin

<table>
<thead>
<tr>
<th>Utility</th>
<th>Case</th>
<th>Program Name</th>
<th>Participants</th>
<th>% Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on Energy</td>
<td>Policy Case</td>
<td>Home performance with Energy Star</td>
<td>53,290</td>
<td>100%</td>
</tr>
<tr>
<td>Focus on Energy</td>
<td>Reference Case</td>
<td>Home performance with Energy Star</td>
<td>26,645</td>
<td>-</td>
</tr>
</tbody>
</table>
Thank you!

Kenji Takahashi | ktakahashi@synapse-energy.com | (617) 453-7038
• NICK SLIDE(S) – HOW WE ARE USING INFO, EDUCATION & OUTREACH, ETC.
Questions

• Please ask questions in the Q&A box and we will try to answer as many as we can in the time remaining
Supplemental slides
Report: Ohio and other states losing millions from rollbacks of energy efficiency standards

A bipartisan Ohio bill would be a first step to recouping savings, say advocates. But huge losses from House Bill 6 would remain.

by Kathleen M. Kowalski
October 4, 2021

Source:
High-level Cost-effectiveness Results
High-level Cost-effectiveness Results

[Graph showing cost-effectiveness results for different states, with labels for UCT: Avoided costs per kWh, UCT: CSE ($/kWh), and UCT: BC ratio.]
## Summary of energy efficiency program scenarios

<table>
<thead>
<tr>
<th>State</th>
<th>Policy</th>
<th>Reference year (RY)</th>
<th>Policy year (PY)</th>
<th>Major scenario assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electric EE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>Repeal of the Energy Efficiency Resource Standards (EERS) and large C&amp;I opt-out</td>
<td>2013</td>
<td>2019</td>
<td>RY: 2013 savings for all sectors with current performance on peak savings (kW/MWh), measure life and costs of saved energy; PY: 2019 savings</td>
</tr>
<tr>
<td>Iowa</td>
<td>2% budget cap</td>
<td>2018</td>
<td>2019</td>
<td>RY: 2018 data; PY: 2019 data</td>
</tr>
<tr>
<td>Missouri</td>
<td>Staff's energy efficiency program proposal (not adopted)</td>
<td>2021</td>
<td>2021</td>
<td>RY: 2021 approved program; PY: staff proposal</td>
</tr>
<tr>
<td>Ohio</td>
<td>Repeal of EERS and large C&amp;I opt-out</td>
<td>2014</td>
<td>2021</td>
<td>RY: 2019 savings for RES and COM and 2014 savings for IND sector; PY: no energy efficiency impact</td>
</tr>
<tr>
<td><strong>Gas EE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iowa</td>
<td>1.5% budget cap</td>
<td>2018</td>
<td>2019</td>
<td>RY: 2018 data; PY: 2019 data</td>
</tr>
</tbody>
</table>
Missouri - Lifetime Macroeconomic Results

- Results in 783 fewer job-years and $43 million less income
Illinois - Lifetime macroeconomic results

• Results in 235 fewer full-time jobs and $15 million less income
Indiana - Lifetime Macroeconomic Results

• Results in 260 fewer full-time jobs and $14 million less income
Wisconsin - Lifetime Macroeconomic Results

- Results in 1,530 more full time jobs and $85 million more income
Iowa (gas EE) - Lifetime Macroeconomic Results

- Results in 410 fewer full-time jobs and $20 million less income
Illinois - Lost net benefits of the Policy Case relative to the Reference Case

Impact of large customer exemption policy in Illinois

Note: the utility system impacts includes $14 million net lost benefits to non-program participants.
Indiana - Lost Net Benefits of the Policy Case relative to the Reference Case

Impact of the large customer opt-out policy and the repeal of the EERS in Indiana

Note: the utility system impacts includes $21 million net lost benefits to non-program participants.
Iowa - Lost net benefits of the Policy Case relative to the Reference Case

Impact of the budget cap policy on the electric EE programs in Iowa

Note: the utility system impacts includes $25 million net lost benefits to non-program participants.
Iowa (gas EE) - Lost Net Benefits of the Policy Case relative to the Reference Case

Impact of the budget cap policy on the gas EE programs in Iowa

Note: the utility system impacts includes $8 million net lost benefits to non-program participants.
Missouri - Lost Net Benefits of the Policy Case relative to the Reference Case

Impact of the PSC staff’s proposal on the electric EE programs in Missouri

Note: the utility system impacts includes $70 million net lost benefits to non-program participants.
Ohio - Lost Net Benefits of the Policy Case relative to the Reference Case

Impact of the repeal of the EERS on the electric EE programs in Ohio

Note: the utility system impacts includes $290 million net lost benefits to non-program participants.
Wisconsin - Net Benefits of the Policy Case relative to the Reference Case

Impact of the proposed budget increase on the electric EE programs in Wisconsin

Note: the utility system impacts includes $56 million net lost benefits to non-program participants.