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MPS Development and Utilization in Indiana

IRP CONTEMPORARY ISSUES WORKSHOP #2

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On Behalf of Citizens Action Coalition

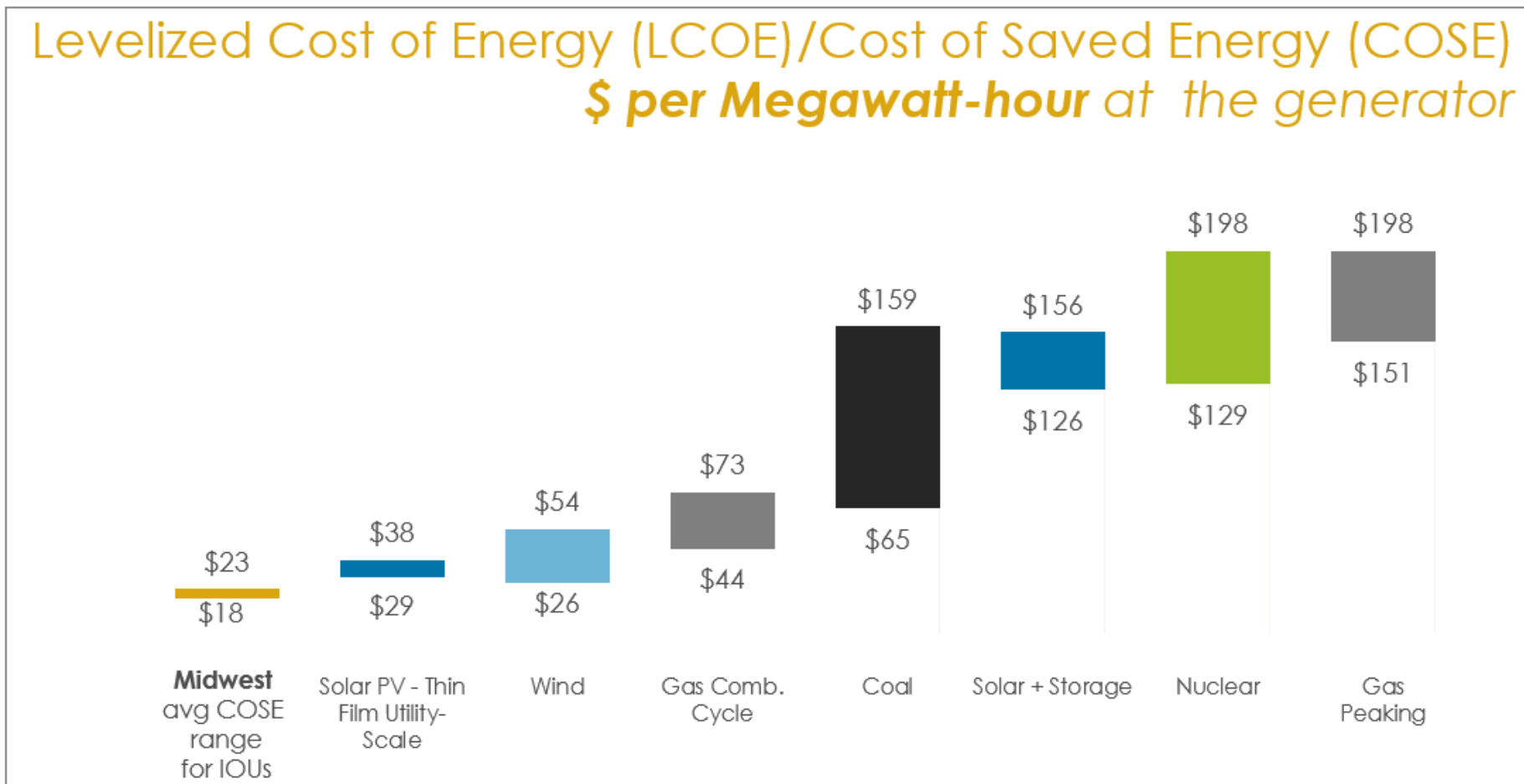
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Role of Market Potential Studies

- Market potential studies are widely used to inform the parameters, funding levels, and savings goals for energy efficiency programs.
- Findings from an MPS needs to be viewed carefully, particularly when used to inform and direct long-term policy objectives.
 - In the context of IRP modeling, an MPS with overstated or understated energy savings potential may affect resource optimization and selection.
- **EFG believes that market potential studies are often overly conservative.**
 - An MPS with unrealistically low savings / high costs can result in under selection of EE during IRP modeling, leading to higher costs for ratepayers.
- EE is the lowest cost resource for Indiana utilities and ratepayers.

Long-Term Cost of Electricity Resources

Levelized Cost of Energy (LCOE)/Cost of Saved Energy (COSE)
\$ per Megawatt-hour at the generator



MPS Collaboration Through OSB

- Collaborative process allows for input at key stages throughout
 - Predictable comment and response timeframes
 - Opportunity for dialogue
- An open MPS model is important to provide transparency
 - Understand how numerous assumptions affect savings potential
 - Reach agreement on reasonableness of specific inputs
- Input must be evaluated based on technical merits
 - New measures and technologies
 - Calculations and methodologies
 - Use of TRMs and studies from other jurisdictions

MPS Data Needs

Load Forecast

- MPS load forecast should align with IRP

End-use Disaggregation

- Should strive to minimize the amount of load allocated to “miscellaneous.”

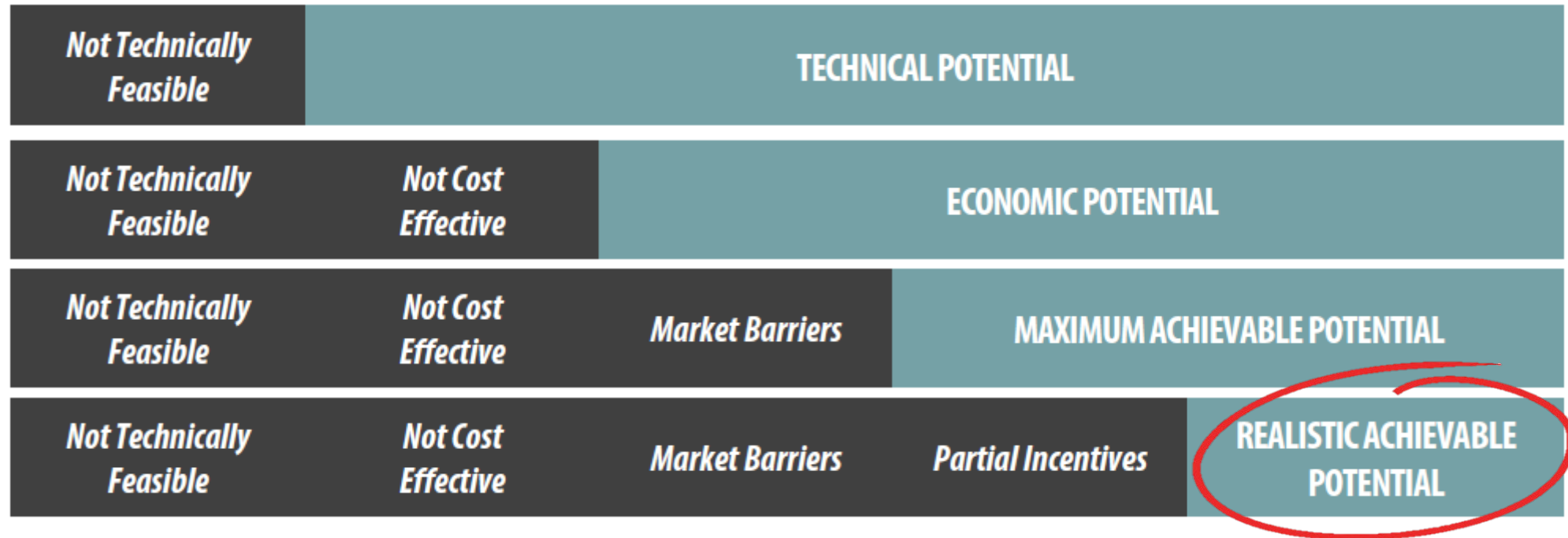
Market Surveys: Appliance Saturation, Willingness to Participate (WTP)

- Important that these resources be current since they inform baselines, adoption rates and saturation levels.
- WTP survey design should include information about non-financial benefits.

Measure Costs & Savings

- Costs and savings should be incremental (unless a measure is a retrofit) and reflect current market conditions.
- Measures that are expected to change in cost/savings should include multiple variations.

Types of Energy Efficiency Potential



Realistic achievable potential (RAP) is typically used as an input to IRP modeling and DSM planning.

Issues with Achievable Potential

- Includes constraints based on current program incentive levels, participation, market awareness, program design, and utility motivation.
 - Current program activities are based on previous policy decisions, not what is achievable in the future.
- The name “achievable” suggests that anything beyond this level is unachievable, which is not true.
- With a maximum or enhanced achievable potential, higher incentive levels will eliminate measures that are marginally cost effective.
 - Instead, incentives should be set at the maximum level while still passing UCT.

What Can Make an MPS Overly Conservative?

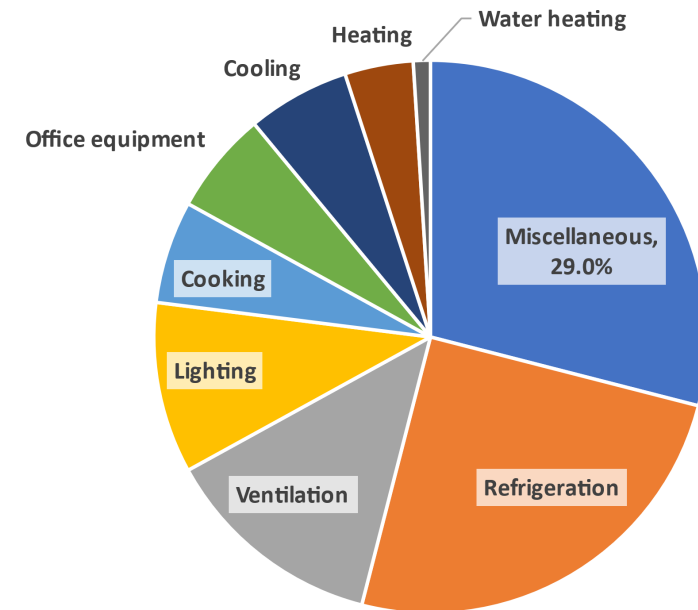
- Failure to account for emerging technology and/or technology improvements
- Outdated cost and savings assumptions
- Emphasis on “replacement on burnout” measures, while ignoring early replacement
- “Achievable” potential that is constrained by current program designs
- Inability to account for program strategies that can increase participation
- Lack of granularity within an end-use disaggregated load forecast
- Economic screening at measure level, rather than program or sector

Emerging Technology in Addition to Existing Measures

- Emerging technologies are energy saving products that are not yet commercialized or are in the early stages of adoption.
- Potential studies frequently fail to consider emerging technologies even though future potential may be significant.
 - For example, nearly **half of the efficiency savings** in the Northwest Power and Conservation Council's Draft Seventh Power Plan were from efficiency measures not included in the Council's sixth plan published just five years prior.
- Indiana potential studies typically cover 20-year timeframes and may be used to inform DSM Plans that are still years away.

End-use Disaggregation

- With a “top-down” methodology, the load forecast is disaggregated into various end-use categories.
- These end-use shares define the available load from which MPS measures can capture energy savings.
- When “miscellaneous” or “other” is large, a significant share of the load is ignored since few MPS measures are categorized as “miscellaneous.”



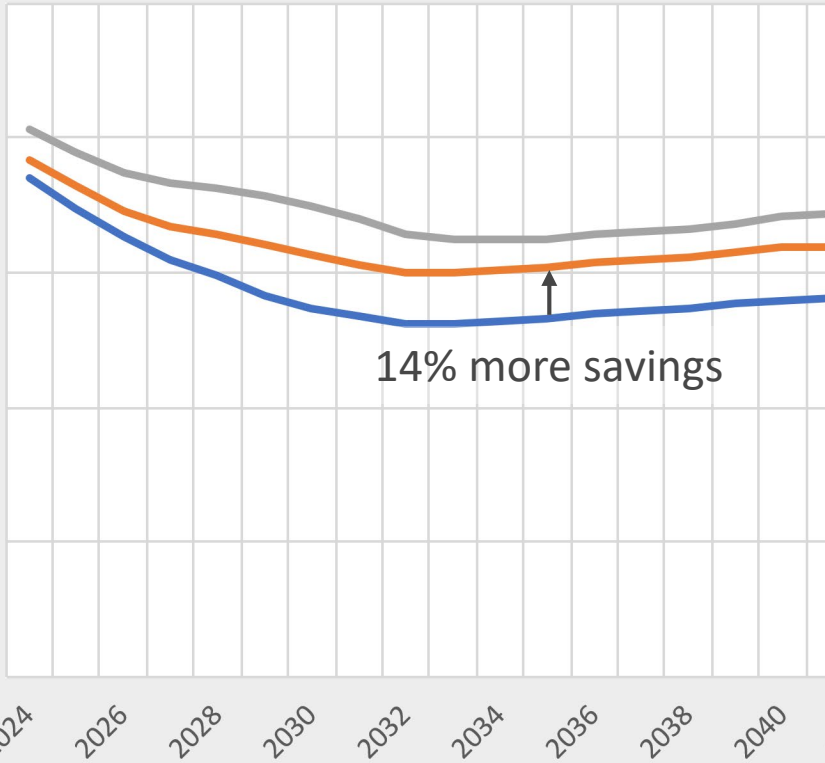
Improving Indiana Market Potential Studies

Collaboration through the OSB has resulted in:

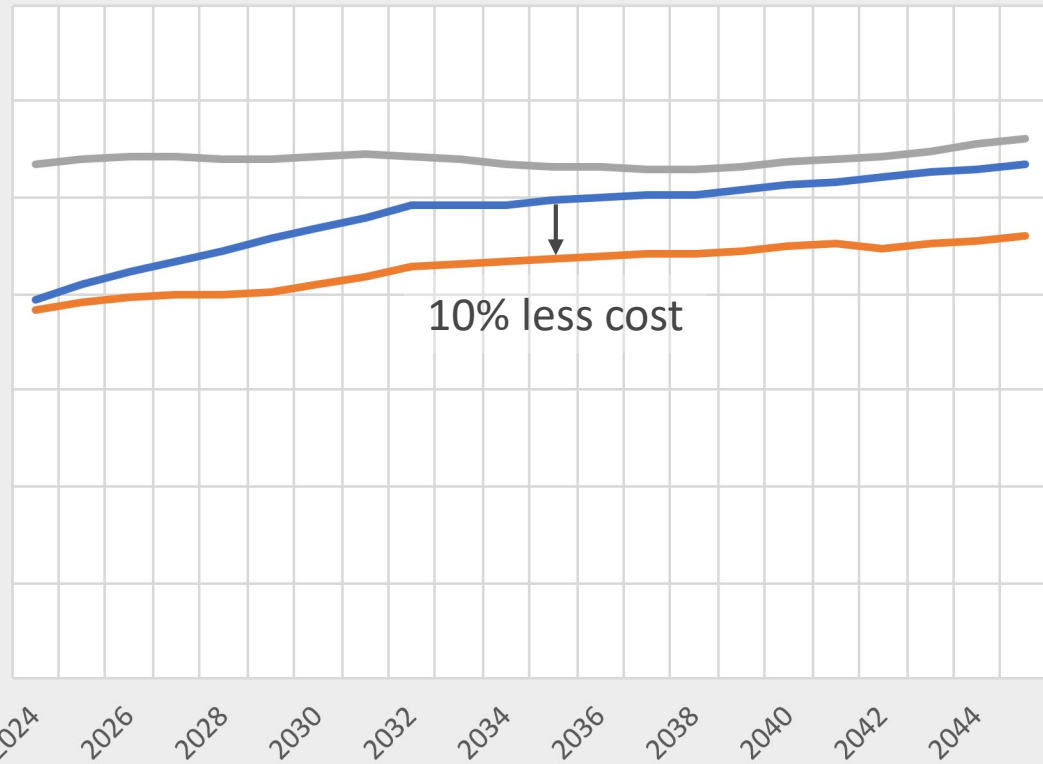
- Expanded EE and DR measure lists
- Refined end-use disaggregation
- Revised Willingness to Participate (WTP) survey questions
- Use of more current reference values for measure savings
- Measure costs that are aligned with actual program experience
- Refined awareness factors and adoption curves
- Compilation of custom scenarios for IRP input

Impact of Expanding Measures Beyond Base Portfolio

Duke Energy Indiana MPS Annual Savings



Duke Energy Indiana MPS Cost per Lifetime Savings



- Base
- Expanded Measures
- Increased Spending

MPS Recommendations

1. Encourage continued OSB collaboration and use of open MPS models.
2. Minimize constraints based on current programs.
 - All known measures and technologies should be included.
 - Future potential should not be limited by current customer awareness.
 - Historic incentive levels should include a floor of 40-50% of incremental cost.
3. Collaborate on ways to account for emerging technology.
4. Continue efforts to update the Indiana TRM (v2.2 published in 2015).
5. Evaluate MPS cost effectiveness at program or sector level.
6. Create IRP bundles that better align with portfolio composition.