

**Comments of CAC on CenterPoint's First 2022-2023
IRP Stakeholder Workshop**

Submitted to CenterPoint on September 1, 2022

Comments on CenterPoint’s First 2022-2023 IRP Stakeholder Workshop

Citizens Action Coalition of Indiana (“CAC”) submits these comments on the materials presented and issues discussed during CenterPoint’s August 18, 2022, Integrated Resource Plan (“IRP”) stakeholder workshop.

1 General Stakeholder Process

CAC appreciates CenterPoint’s “Commitments for 2022/2023 IRP.” We look forward to working constructively with CenterPoint throughout this process to achieve an IRP that will provide beneficial outcomes to CenterPoint’s customers.

Thank you for agreeing to facilitate technical workshops with stakeholders like CAC that execute non-disclosure agreements (“NDAs”). CAC also appreciates the schedule shared by CenterPoint that includes time tables for sharing information with stakeholders at regular intervals throughout the process.

CAC would also like to request that CenterPoint:

- Provide to CAC the full bid proposals received in response to its 2022 request for proposals at its earliest convenience.
- Use an online data sharing platform (e.g., Drop Box, Sharefile, etc.) to provide IRP data files to stakeholders who have executed NDAs.
- Provide direct and clear responses to stakeholder input, such as through additional calls or as part of the technical conferences, so that stakeholders can have an understanding of how their feedback was considered.
- Commit to providing its data inputs and modeling files to stakeholders on a schedule that permits stakeholders to provide feedback and gives CenterPoint sufficient time to be able to incorporate that feedback.

2 Objectives and Measures

CAC thanks CenterPoint for providing these draft metrics early in the process to allow time for stakeholder input and response. CAC has the following concerns and recommendations about the draft Objectives and Measures identified by CenterPoint:

- **Environmental Sustainability:** Best practice is to use total (absolute) CO₂-equivalent emissions, not CO₂ intensity, as the metric for measuring impacts to climate. CO₂ intensity does not indicate whether greenhouse gas (“GHG”) emissions are increasing or decreasing. Total GHGs – not the rate of GHG emissions – is what is causing harm to the climate system. If the rationale for using intensity is the ability to compare the electrification portfolios, there are at least two options available to address that concern. One is to enforce an emissions reduction constraint in any electrification based portfolio so that total emissions drop even as load is increased. This would be consistent with the rationale for the electrification – to reduce carbon emissions. Another option is to evaluate the electrification portfolios only against each other. CAC strongly recommends using cumulative CO₂-equivalent emissions over the IRP period as the measure for the Environmental Sustainability objective.

Comments on CenterPoint's First 2022-2023 IRP Stakeholder Workshop

- **Fuel Price Risk:** CAC believes none of the identified metrics would sufficiently measure the risk of different portfolio options to CenterPoint's customers associated with fuel price volatility. Since CenterPoint passes through all fuel costs to its customers, the risk of fuel price spikes is borne entirely by the customer. Therefore, it is critically important that CenterPoint evaluate how various portfolio options compare on the amount of fuel price risk associated with the selected resources. Portfolios that rely more on meeting customer energy needs using technologies that rely on volatile fuel prices are riskier to customers than portfolios that rely less on fuels that have volatile costs. CAC recommends that CenterPoint adopt a Rate Stability objective with three metrics (cost certainty, cost risk, and lower cost opportunity) that NIPSCO used in its most recent IRP. In the alternative, CenterPoint could adopt a "Fuel Price Risk" objective with an associated measure of "Proportion of annual energy generated by resources that rely on fuels that have volatile costs," where fuels with volatile costs includes both coal and natural gas.
- **Reliability:** CAC wishes to better understand what objective CenterPoint will set for this metric and how it will assign "Spinning Reserve/Fast Start Capability" to resources. The stated measure is "% of Portfolio MW's that offering spinning reserve/fast start", but the percentage is not given and it is not clear if that % might change relative to other metrics of the portfolio such as load. CAC's goal in better understanding this metric is to ensure that it is appropriately including the reliability attributes that clean energy solutions can offer. In addition, now that FERC has approved the changes to MISO's thermal accreditation methodology, CAC would strongly recommend that those changes be included in addition to the seasonal reserve margin requirements.
- **Equity:** Given the high proportion of low-income ratepayers in CenterPoint's service territory and the disproportionate impact of emitting industries on its service territory, we would recommend a two-part equity metric that looks at low-income cost burdens and emissions exposure. We would propose the following:
 - First, a metric that measures whether emitting units in each portfolio are located in low-income and/or communities of color and how those overlap with other emitters in Southern Indiana. An example of this as it relates to peaker plants in New Mexico is given below.

Comments on CenterPoint's First 2022-2023 IRP Stakeholder Workshop

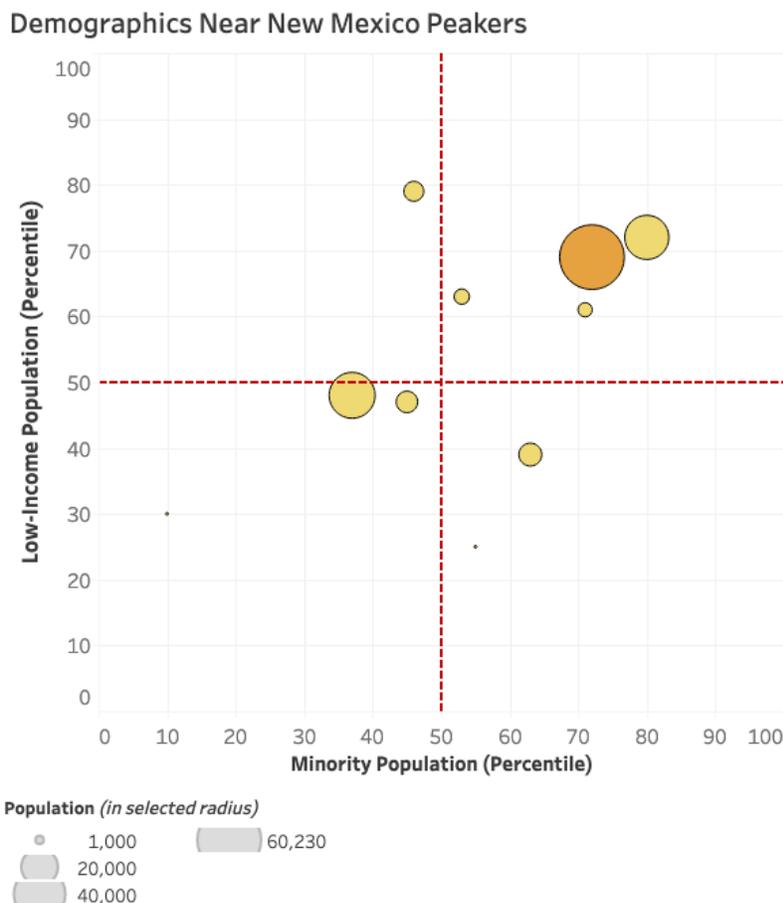


Figure 1. Demographics Near New Mexico Peaker Plants¹

The circle size indicates the population within a given radius of the plant and the color, in this case, distinguishes between peakers at their own site versus those co-located with a combined cycle plant. For CenterPoint's purposes, we would recommend keeping the low-income and community of color axes, but changing the color coding to reflect the fuel burned at emitting units. We would note that a similar graph, but for all fuel types, could be used to identify some of the positive and negative impacts as well as the equity of those impacts of replacement generation once those locations are identified.

- Second, a metric that looks at the cost burden by census tract and could account for the bill impacts of community-solar projects that could be placed in those communities (since those are now eligible for a bonus Investment Tax Credit)

¹ <https://www.psehealthyenergy.org/our-work/energy-storage-peaker-plant-replacement-project/new-mexico/>

Comments on CenterPoint’s First 2022-2023 IRP Stakeholder Workshop

would be very useful. An example of this is given in a report looking at energy cost burdens as a percent of median household income in the state of Colorado.²

3 RFP

CAC appreciated having the opportunity to review and provide feedback on CenterPoint’s draft RFP prior to its issuance and CenterPoint’s willingness to incorporate our feedback. Given the significant volatility in markets over the past several months, as well as the enactment of the Inflation Reduction Act, which significantly changed tax credits for renewable energy and battery energy storage, we urge CenterPoint allow bidders the opportunity to update their project costs to ensure CenterPoint uses the most up-to-date information on resource costs as inputs in its IRP.

We look forward to reviewing the results of the RFP and the bid proposals submitted.

4 Environmental Update

Given the large cost increase in NOx allowances in 2022, CAC would appreciate hearing additional clarification on how CenterPoint will estimate the cost of NOx allowances in its IRP modeling. What NOx prices will CenterPoint use for future years, and how many purchases of allowances will CenterPoint need to make in future years?

5 DSM

5.1 Energy Efficiency “EE”

5.1.1 Market Potential Study “MPS”

CenterPoint engaged GDS Associates, Inc. (“GDS”), in January 2022 to perform a “refresh” of the most recent CenterPoint Market Potential Study (“MPS”), which was completed in 2019. Due to the nature of the refresh, the opportunities for stakeholder review and input were more limited compared to a full MPS. GDS and CenterPoint provided updates on the MPS development process periodically, but infrequently, at Oversight Board “OSB” meetings. While CenterPoint and GDS were generally receptive to feedback provided during OSB meetings, CAC would have preferred more frequent updates with opportunities for formal review and comment. The draft MPS results were shared publicly by CenterPoint at the IRP Public Stakeholder Meeting held on August 18, 2022, prior to CAC having the opportunity to review or comment on the draft findings. At this time, several CAC concerns remain outstanding regarding the treatment and bundling of EE resources within the IRP.

² See PDF page 26 of https://www.psehealthyenergy.org/wp-content/uploads/2022/01/Colorado-Energy-Affordability-Study_Full-Report.pdf

Comments on CenterPoint’s First 2022-2023 IRP Stakeholder Workshop

The MPS, once completed, will quantify the technical, economic, maximum achievable, realistic achievable, and program potential savings for the years 2025 through 2042. Each of these MPS scenarios is described as follows:

- **Technical Potential** is the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end users to adopt the efficiency measures. Technical potential is only constrained by factors such as technical feasibility and applicability of measures.
- **Economic Potential** refers to the subset of the technical potential that is economically cost-effective, based on screening with the utility cost test (“UCT”) as compared to conventional supply-side energy resources.
- **Achievable Potential** is the amount of energy that can realistically be saved given various market barriers. Achievable potential considers real-world barriers to encouraging end users to adopt efficiency measures; the non-measure costs of delivering programs (for administration, marketing, analysis, and EM&V); and the capability of programs and administrators to boost program activity over time. Barriers include financial, customer awareness and willingness to participate in programs, technical constraints, and other barriers the “program intervention” is modeled to overcome. The potential study evaluated two achievable potential scenarios:
 - **Maximum Achievable Potential** (“MAP”) estimates achievable potential on paying incentives equal to up to 100% of measure incremental costs and aggressive adoption rates.
 - **Realistic Achievable Potential** (“RAP”) estimates achievable potential with CenterPoint paying incentive levels (as a percent of incremental measure costs) closely calibrated to historical levels but is not constrained by any previously determined spending levels.

5.1.2 MPS Cost-Effectiveness Screening

The MPS economic potential cost-effectiveness screening was performed as described below by GDS:

The UCT considers electric energy, capacity, and transmission & distribution (T&D) savings as benefits, and utility incentives and direct install equipment expenses as the cost. Consistent with application of economic potential according to the National Action Plan for Energy Efficiency, the measure level economic screening does not consider non-incentive/measure delivery costs (e.g. admin, marketing, evaluation etc.) in determining cost-effectiveness. Apart from the low-income segment of the residential sector, all measures were required to have a UCT benefit-cost ratio greater than 1.0 to be included in economic potential and all subsequent estimates of energy efficiency potential.

Comments on CenterPoint's First 2022-2023 IRP Stakeholder Workshop

Utility non-incentive costs were included in the overall assessment of cost-effectiveness in the RAP and MAP scenarios. Non-incentive costs were calibrated to recent CenterPoint levels by sector and program and applied on a per-first year kWh basis.

A notable inconsistency with the IRP is that the MPS does not consider the avoided cost of carbon regulation. Multiple IRP scenarios, as presented by CenterPoint at the August 18 IRP Stakeholder Meeting, include carbon regulation. Had the MPS included a similar assumption for future carbon regulation, the UCT scores for all measures would have improved, thereby enabling additional measures (or programs) to be considered cost-effective. This inconsistency results in a smaller amount of savings being available for selection within the IRP.

5.1.3 MPS Forecasted Cost and Savings

CenterPoint has not yet made available to CAC the MPS modeling files nor the MPS IRP bundling. As such, we are unable to provide any comments on the reasonableness and accuracy of the MPS assumptions and calculations. During MPS development with other Indiana utilities, these resources have been made available to CAC and other stakeholders at multiple stages throughout the development process, and certainly before any draft results are shared publicly.

5.1.4 MPS Bundles for IRP Modeling

Energy Efficiency resources will be bundled and inputted into the IRP according to the following process, as provided by GDS at the August 18 IRP Stakeholder meeting:

1. EE Inputs will align with RAP Potential (*but adjusted from gross to net savings*)
2. EE Inputs will be provided over three vintages
 - a. 2025-2027 (3 years)
 - b. 2028-2030 (3 years)
 - c. 2031-2042 (12 years)
3. For 2025-2027, EE Inputs will be bundled to closely resemble program offerings
 - a. For remaining vintages, EE inputs will be aggregated at the sector level
4. EE Costs will include utility costs (incentives and non-incentive costs)
 - a. Costs will be adjusted to recognize value of avoided lifetime T&D benefits

Based on discussions with CenterPoint and GDS during an IRP planning meeting held on August 2, CAC was under the impression that CenterPoint would be modeling bundles of savings from the MPS RAP scenario *and* the MPS MAP or an alternative “enhanced” version of RAP with elevated incentive levels. Instead, EE bundles were constructed only from the MPS RAP scenario. With this approach, MAP savings (or an “enhanced” version of the RAP) will be excluded from the IRP model entirely, and therefore will not be a selectable resource within Aurora and will not be allowed to compete with other resource options. This approach is problematic since it imposes limits on future EE potential based on existing program design, budget, and incentive levels. As a result, the MPS forecast as modeled in the IRP will not be independent of existing program constraints such as incentive budget.

5.1.5 Emerging Technology

CAC anticipates that the MPS analysis will include a limited number of emerging technology measures, consistent with the 2019 CenterPoint MPS and with studies completed by GDS for other Indiana utilities. For example, in another recent Indiana MPS, GDS included 32 measures (18 residential, 14 commercial & industrial) that were designated as emerging technology. CAC commends the inclusion of emerging technologies in an MPS, however, the relatively small number of measures results in a very limited impact. Many of the emerging technology measures included by GDS in other studies failed to pass the economic screen and therefore did not contribute to the achievable potential.

The nature of new emerging technology is such that high initial costs tend to fall as production volume and market adoption increase. The MPS analysis makes no accommodation for any emerging technology to be included in the later years of the analysis if/when the measure becomes cost-effective. New technologies are regularly being introduced, and many utility programs contribute to the market readiness of these emerging technologies through pilot programs and incentives. Failure to account for these technologies results in a conservative and unrealistic view of the potential savings.

As a point of comparison, the Consumers Energy 2021 Electric Energy Waste Reduction Potential Study, completed by Cadmus, evaluated over 200 emerging technology measures which were characterized and included in the model.³ Ultimately, 170 unique measures were included in what Consumers Energy refers to as the “Transformational Scenario.” The impact of this scenario was significant on the estimate of future achievable potential, as shown in Figure 2 below.⁴ In years 3 through 9, emerging technologies account for roughly 20% of the achievable potential. In the later years of the Consumers Energy study, emerging technologies account for roughly two-thirds of the achievable potential. These results plainly demonstrate the significance of emerging technologies and highlight the importance of adequately accounting for them in a market potential study.

³ MPSC Case No. U-21090, Consumers Energy Co. Witness Garth, Exhibit A-81 available at https://www.michigan.gov/mpsc/-/media/Project/Websites/mpsc/workgroups/EWR_Collaborative/2022/Consumers-Energy-Electric-EWR-EE-Potential-Study-w-TransTech-Scenario-20210610.pdf

⁴ Presentation by Consumers Energy, “Creating a Transformational Path to the Future of Energy Efficiency, Together!,” available at https://www.michigan.gov/mpsc/-/media/Project/Websites/mpsc/workgroups/EWR_Collaborative/2022/Transformational-EWR-Together_CE_20220719-final.pdf

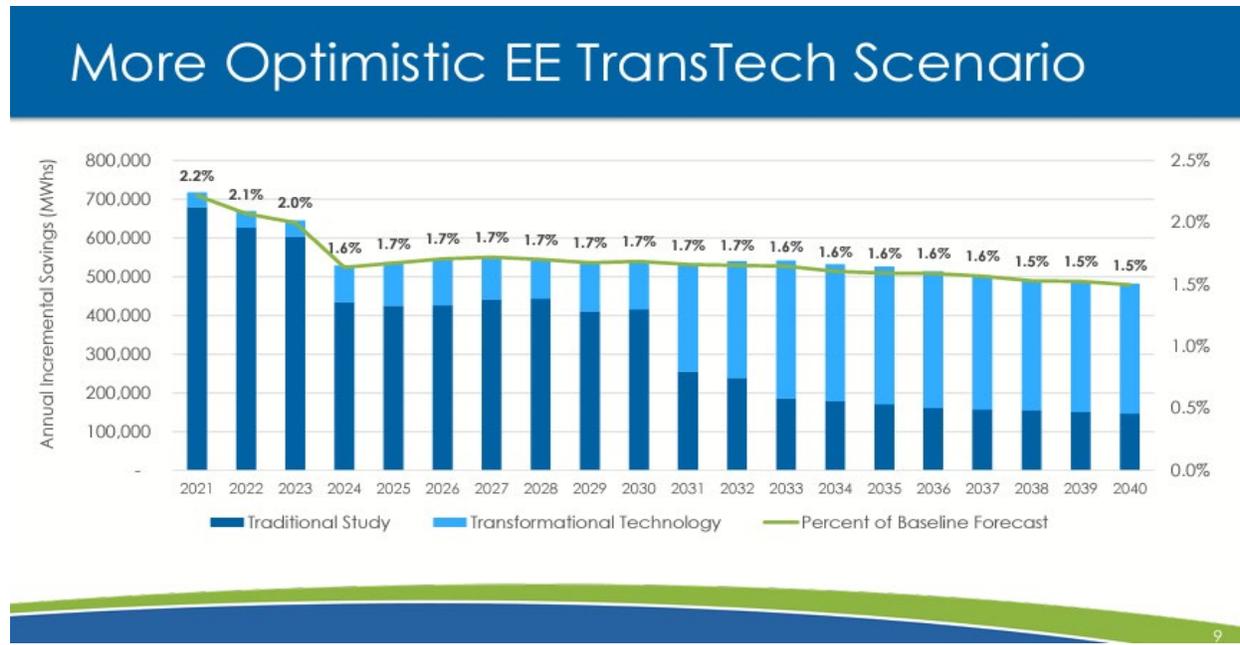


Figure 2. Consumers Energy Transformational Scenario

5.1.6 Demand Response

During a July 13, 2022 meeting with CenterPoint to discuss demand response, CAC asked that CenterPoint/GDS use the same methodology employed for the AES MPS to develop additional demand response options. CAC outlined several reasons why relying on an RFP to characterize DR opportunities would result in little to no meaningful data to use. For example, there is no meaningful DR aggregator community in southern Indiana, and industrial customers could not be expected to be experts in demand response programs themselves. To date, CenterPoint has not responded to this request, and we would reiterate its importance to ensuring that all cost-effective resources are available in the IRP modeling.

6 Load and Commodity Forecasts

6.1 Load Forecast

CAC appreciates CenterPoint's and Itron's presentation to stakeholders of its draft load forecasting methodology before finalizing the load forecast for the 2022-2023 IRP. CAC asks for clarity on the following items ahead of the preparation of the final load forecast:

1. How these data were calibrated to CenterPoint's electric service territory;
2. Have shorter weather periods been evaluated – e.g. 10-year or 15-year historical temperature data?;
3. Transparency on how the EIA electric vehicle forecast will be incorporated into the total energy and peak demand forecasts.; and
4. Whether Itron will incorporate the Inflation Reduction Act tax credits for electric vehicles.

In addition, CAC would like to understand the approach that will be used to forecast industrial load. Will Itron be responsible for that analysis, or will CenterPoint substitute its own forecast as it did in the previous IRP? If the latter, what will CenterPoint's methodology be, and what data will it rely upon?

6.2 Commodities Forecasts

CAC is extremely concerned that the reference case forecasts for natural gas and coal pricing are underestimating the costs of these fuels, as well as their price volatility. The natural gas and coal price forecasts assume a rapid return to low commodity pricing in 2023-2024, followed by a gradual increase in fuel prices, with no significant volatility, from 2025-2042.

The reference case fails to consider the current, record-high prices for both coal and natural gas and overall volatility in pricing that is an attribute of the status quo with these fuels. In that context, sustained high fuel costs are possible, yet it does not appear that CenterPoint will be modeling this. For instance, the U.S. is continuing to expand LNG capacity, which will result in increased exports of natural gas in the future as the U.S. provides larger quantities to places like Europe. The natural gas industry has also proven extremely reluctant to expand production despite high prices due to investor pressures to bring spending down. Likewise, coal mining companies are not opening new mines to meet short-term increased demand due to projected long-term industry decline, and coal transportation problems could continue to hamper deliveries, continuing upwards pressure on coal costs. The near-term natural gas and coal price forecasts predicting dramatic declines in prices therefore lacks credibility under current recognized market dynamics and should be rectified.

Comments on CenterPoint’s First 2022-2023 IRP Stakeholder Workshop

6.2.1 Natural Gas

All but one of the vendors is forecasting well below the current spot price for natural gas, which is currently approximately \$9.04/MMBtu (see Figure 3).⁵ Henry Hub futures are currently trading at approximately \$5.00/MMBtu and above through first half of 2024. CAC recommends that CenterPoint update the Henry Hub projections to align more closely with the expected market conditions in the near term. CAC would also appreciate clarity on the methodology used to average the forecasts of the four vendors. For example, are the prices derived from a simple or weighted average?

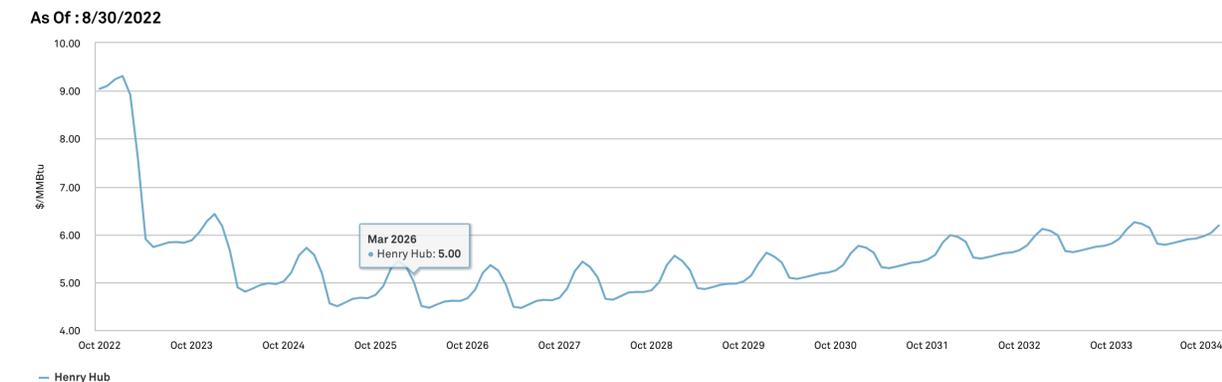


Figure 3. Henry Hub Natural Gas Futures as of 8/30/22

Two of the four coal price forecasts for the 2022-2023 IRP currently project coal prices to be below \$3.00/MMBtu for the majority of the forecast horizon. Average weekly Illinois Basin coal traded at \$8.04/MMBtu for the week of 8/26/2022.⁶ By comparison, CenterPoint states its price for coal in 2022 was approximately \$5.00/MMBtu. Three of the coal price forecasts do not exceed \$3.00/MMBtu for most, if not all, of the planning horizon. CAC recommends CenterPoint update its coal price forecast to reflect the current state of coal prices.

The forecast for MISO Capacity prices has only two vendors. These forecasts start from different points, however, both forecasts converge on the same point over the forecast horizon. This may give less value to averaging these vendors. CAC ask for clarity on the limited number of vendors for MISO Capacity price forecasts as compared to other commodity projections presented at the stakeholder workshop. If additional forecasts are not available to CenterPoint, CAC recommends that CenterPoint consider scenario analysis rather than the averaging two forecasts. In either event, it may make the most sense to price capacity sales only in the production cost runs, so that the capacity price does not unduly influence the resource build.

⁵ CME Group. *Henry Hub Natural Gas*. <https://www.cmegroup.com/markets/energy/natural-gas/natural-gas.html>. August 30, 2022.

⁶ *Coal Markets*. EIA. <https://www.eia.gov/coal/markets/#tabs-prices-2>. August 31, 2022.

7 Resources

During the August 18, 2022, stakeholder meeting, CenterPoint presented several thermal and non-thermal resource options that would be modeled as new supply side resources in EnCompass. For new supply side resource options, we recommend that:

1. CenterPoint consider the resource screening analysis to determine if some of the new thermal options, such as supercritical or ultra-supercritical coal with CCS, be offered as a resource in the capacity expansion model.
2. Reflect the tax credits outlined in the Inflation Reduction Act (“IRA”).
3. Consider modeling longer duration Lithium-Ion battery storage resources in addition to 4-hour storage resources given the tax credits for standalone battery resources under the IRA.

We would also recommend that in future workshops CenterPoint discuss any resource constraints that will be applied in EnCompass in addition to the declining ELCC values for renewable and battery storage resources that were noted on slide 77 of the stakeholder workshop. Will CenterPoint impose any annual or cumulative build limitations as constraints in its modeling? If so, what are those constraints?

8 Stochastic Modeling

It is our understanding from the information provided in the stakeholder workshop that CenterPoint is planning on replicating the stochastic modeling approach that was used in the 2020 IRP. Given the differences between Aurora and EnCompass, we had several follow-up questions to better understand how the stochastic modeling will be conducted:

1. How many stochastic iterations will be performed in EnCompass?
2. Will the stochastic modeling be applied to the production cost runs only?
3. What topology will be modeled in EnCompass? Will 1898 and CenterPoint be modeling a larger footprint than the CenterPoint system?
4. In the 2020 IRP, the stochastic modeling included capital costs as a stochastic variable but only in areas outside of the CenterPoint system. Is the plan to include capital costs as a stochastic variable? If so, we would strongly encourage CenterPoint remove this variable from the analysis because capital costs are uncertain, e.g., the impact of expanded tax credits are not volatile so it would very difficult to develop an appropriate probability distribution. We would recommend that capital costs be addressed through scenarios or sensitivities.

9 Reference Case

ACE Proxy and Carbon Price

CAC requests additional information on how the CO₂ ACE Proxy will be modeled in the IRP once that information is available. CAC observes that many utility IRPs are modeling the impacts of potential future climate policy through a forecast of escalating carbon prices included in their reference case.

10 Potential Scenarios

10.1 High Regulatory

CAC believes coal prices would be higher (not the same as in the reference case) in a high-regulatory environment. Environmental regulations would likely add costs. While demand for coal might be lower, providing downwards cost pressure, the industry will also be reducing supply by closing mines and reducing output, and transportation issues could persist, which will create upwards cost pressures.

In addition, because this scenario seems to be a high *environmental* regulatory scenario, we do not think that the cost of EE is likely to go up much. A comprehensive environmental policy would not just reduce carbon emissions, but also *incentivize* carbon reducing technologies. The recently passed Inflation Reduction Act is an example of this. While it did not include a carbon constraint, part of the Act's purpose is to reduce the cost of carbon abating technologies including on the demand-side. CAC believes the EE cost should at least be static in this scenario, if not go down and additional EE ought to be available to select (see Section 5).

10.2 FERC Order 2222 Scenarios

Will CenterPoint clarify if it will take efforts to incorporate Distribution System Planning into its IRP planning? FERC Order 2222 permits distribution-level resources (DER) to serve as wholesale capacity on a potentially unprecedented scale. This could have significant impacts on bulk-level system planning, which has been the traditional focus of the IRP process. CAC recommends that CenterPoint incorporate DSP into IRP planning as the penetration of DER increases. In particular, CAC would recommend that CenterPoint examine ways that FERC Order 2222 could encourage or bring additional value to low-income programs, energy efficiency programs, increased customer- and community-sited DER and other behind-the-meter programs across the service territory.

CAC encourages CenterPoint to evaluate the following in 2022 IRP:

- Identify current capacity hosting limits at the substation level
- Evaluate how much distributed capacity could be added at each substation without thermal or voltage violations
- Evaluate three scenarios:
 - Base Case in which the current level of solar and battery DER penetration is held constant,

Comments on CenterPoint's First 2022-2023 IRP Stakeholder Workshop

- Mid Case, in which the current level of solar and battery DER increases to the capacity hosting limit, and
- High Case, in which the current level of solar and battery DER increases by 25% above the capacity hosting limit.
- Estimate the potential attributes of increased DER participation:⁷
 - Avoided capacity value,
 - Energy and ancillary value,
 - Avoided transmission value, and
 - Voltage support value.

If it is not possible to identify a hosting capacity limit, then CAC would welcome an alternative proposal from CenterPoint that would enable the testing of differing levels of DERs. The cost of those DERs should reflect only the utility cost and account for participation impacts of the IRA.

⁷ Zhou, Ella; Hurlbut David, and Xu, Kaifeng. *A Primer on FERC Order No. 2222: Insights for International Power Systems*. NREL. September 2021.
<https://www.nrel.gov/docs/fy21osti/80166.pdf>