IPA Integrated Resource Planning Workshop #1: Scenarios
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Question 1

Do the proposed scenarios reflect a reasonable range of the most impactful and most uncertain drivers? If not, what key drivers or assumptions should be added, removed, or modified?

AIC agrees that load growth and policy represent the appropriate primary axes of uncertainty for the IRP. The proposed scenarios capture a meaningful range of plausible futures across these dimensions. AIC offers three observations on the current set of proposed scenarios:

First, AIC believes the matrix would benefit from a more stringent net-zero scenario or sensitivity. The proposed net-zero case defines "net zero" as balancing in-state fossil generation against clean exports, effectively allowing continued in-state emissions so long as they are offset by out-of-state exports. This sets up several different potential conditions that could be all simultaneously be true: (1) IL could continue heavily emitting in its own communities justified based on exports of wind and nuclear, (2) IL could export clean energy jobs elsewhere, (3) Many states could claim 'net-zero' based on net-exports but effectively rely on other states to continue emitting CO2 and other emissions to meet their claims. A stricter formulation would require that in-state emissions reach zero on a real basis, with "net" limited to verified carbon capture, renewable fuels, or equivalent in-state abatement. There could be potential to allocate some in-state emissions to a portion of IL's natural carbon sinks, but that would require additional assumptions. This stricter net-zero case would provide a more meaningful test of what a true decarbonization pathway requires in terms of resource mix and cost. AIC finds the provided answer from Workshop #1 that the 'net-zero' scenario as the most stringent policy case as incomplete and unclear and seeks further clarification on how a true net-zero scenario that reflects all states doing their respective part for decarbonization could be completed in this IRP.

Second, load flexibility and load growth should not be treated as fully independent dimensions. Electrification is itself a key enabler of demand-side flexibility: as more end uses shift to electricity, the volume of controllable, shiftable load on the system increases. Electric resource penetration (e.g., heat pumps, electric water heaters, EVs) are a critical and correlated input to total resource flexibility – Only a high electrification scenario can reflect high flexibility on the basis of relevant resource penetration. A high-electrification scenario should therefore assume greater flexibility potential, while a low-electrification scenario should reflect a more constrained flexibility potential in terms of available flexible kW. Decoupling these assumptions risks producing scenarios that are internally inconsistent.

Third, the Advanced Technology Acceleration scenario should reflect a steeper cost decline trajectory for advanced nuclear than what was presented in Workshop #2. The premise of this

scenario is that emerging technologies are deployed at greater scale and on faster timelines. Under those conditions, the resulting increase in deployed units would accelerate learning-driven cost reductions, and the nuclear cost curve should reflect that dynamic rather than applying the same trajectory used in the base case.

Question 2

Are there additional scenarios that should be considered to better capture plausible future outcomes? If so, which of the current proposed scenarios would you remove? If so, which of the current proposed scenarios would you remove?

The key future scenario that is not yet included would cover a more aggressive decarbonization policy case - e.g., true zero emission electricity sector under pinned by the government and public spending on subsidies that would be required. This could be reflected in high electrification of appliances and vehicles anticipated in select cases, but also including the subsidies and costs associated with driving these results (e.g., inclusion of appliances subsidies into the cost of the VPPs and flexible capacity).

AIC believes that the policy axis of the scenario framework would benefit from three clearly defined decarbonization pathways:

- First, an accelerated decarbonization scenario with a strict net-zero definition, where in-state emissions must reach real zero (with “net" limited to verified abatement such as CCS or renewable fuels, not offset by out-of-state export accounting) accompanied by enhanced subsidies and policy support.
- Second, a base case reflecting existing law, including current CEJA timelines and CRGA provisions.
- Third, a delayed decarbonization scenario with relaxed or extended emissions reduction timelines and reduced policy constraints.

The current proposed net-zero scenario does not fulfill the role of a true accelerated pathway. As proposed, the current set scenario structure allows in-state fossil generation to continue so long as clean energy exports offset those emissions on a net accounting basis. While this is a valid case to study, it does not answer the question of what Illinois would need to do to achieve real zero in-state net emissions. Structuring the policy axis around these three distinct postures would provide a clearer and more decision-relevant range of futures for portfolio evaluation. In short, we can only have a true net-zero future if each state or governing entity commits to its part and does not rely on ‘net clean energy exports’ and the state of Illinois, ratepayers, and citizens deserve to understand the potential and implications of the strict net-zero scenario/conditions. For reference, CEJA mainly defines 100% ‘clean energy’ framework rather than a ‘net-zero’ framework that aims for offset-based logic.

Although elements of the second and third cases are included in E3's existing set up, the accelerated decarbonization scenario is not. It would be prudent and valuable to understand whether the state can meet many of its ambitions (even if not legislatively mandated across all sectors) and what cost and timeline are realistically associated.

Question 3

What data sources, studies, or inputs should be used to inform key scenario parameters?

We recommend several studies related to electrification are valuable, such as AGA's recent study on residential and commercial appliances. National Lab of the Rockies (formerly NREL) has useful studies that can bound renewable build-outs based on setbacks and other parameters.

Question 4

Do these load scenarios capture a reasonable range of the most impactful drivers? If not, what specific drivers of load are missing?

AIC generally agrees that the proposed low, base, and high load cases capture a reasonable range. The Company offers two comments:

First, the load forecast should incorporate the effects of climate change moving forward. It was not clear how this would be integrated for both volumetric and peak effects on the electric system – Inclusion of HDD and CDD changes for instance is part of standard utility econometric forecasting. The frequency and severity of extreme weather events has been increasing, with direct implications for peak demand, load shape, and system stress conditions. Relying solely on historical weather data to project future load risks understating the demand conditions the system will need to meet in the future. AIC recommends that at least the high load case reflect climate-adjusted weather assumptions, or that a climate sensitivity be applied across scenarios.

Second, large load assumptions should remain grounded in reality, particularly in the near-term ahead of the mid-2030s. The near-term load forecast should be built bottom-up from identified projects with a realistic filter for attrition, permitting timelines, and commercial risks, rather than treating interconnection queue activity as equivalent to realized demand. In the longer term, a wider range is appropriate given uncertainty. The forecast should guard against common pitfalls such as double-counting load that appears in multiple pipeline sources, overstating the realization rate of announced projects, and underestimating how macroeconomic shifts, technology change, or efficiency gains could reduce future demand relative to current projections. AIC is developing its own large load forecast grounded in these principles and would be happy to share it with E3 and the ICC to help inform the process.

Question 5

For this study, sensitivities are defined as changes to a single input or assumption within a given scenario. Please suggest 1-3 sensitivities that you believe are particularly valuable to test. For each sensitivity include:

-Which input should be varied (resource cost, interconnection timelines, etc.)

-What scenario the sensitivity should be applied to

AIC suggests the following sensitivities for consideration. These are intended to test assumptions that cut across scenarios and could materially affect portfolio outcomes:

First, federal tax credit and tariff policy: vary the timing and availability of ITC, PTC, and associated bonus credits (e.g., domestic content) across resource types, including solar, wind, gas, and storage. Trade tariff assumptions should also be tested, as the current tariff regime could persist, intensify, or be substantially rolled back, both under this administration or after it. Given the material impact of tariffs on equipment and input costs, this is a significant source of uncertainty for portfolio economics. For example, if the agencies and E3 are set to maintain aggressive assumptions such as safe-harbor on energy storage through 2039, condensed availability timelines would be a powerful sensitivity to avoid indexing on certain technologies underpinned by policy in the latter period of the IRP.

Second, climate change impacts on demand and supply. AIC recommends that the agencies and E3 apply a sensitivity reflecting increased frequency and severity of extreme weather events on both peak demand patterns and resource availability, if these effects are not already embedded in the load forecast scenarios. AIC would be interested to offer E3 and the agencies guidance on how to do so.

Third, fuel prices should be a core sensitivity. The company proposes to test high and low natural gas price trajectories, applied to at least the core policy planning scenarios, to isolate the impact of commodity price uncertainty on resource selection.

AIC recognizes that the final selection of sensitivities involves trade-offs with modeling complexity and welcomes further discussion with E3 and the ICC on prioritization.

Question 6

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