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Witness: Jaclynn N. Simmons

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PACIFICORP d/b/a PACIFIC POWER & LIGHT COMPANY,** **Respondent.**	**DOCKET UE-210829**

EXHIBIT TO TESTIMONY OF

JACLYNN N. SIMMONS

ON BEHALF OF STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Rocky Mountain Institute's – Planning to Harness the Inflation Reduction Act: A Toolkit for Regulators to Ensure Resource Plans Optimize Federal Funding

August 21, 2024

RMI

Planning to Harness the Inflation Reduction Act

A Toolkit for Regulators to Ensure Resource Plans Optimize Federal Funding

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About RMI

RMI is an independent nonprofit, founded in 1982 as Rocky Mountain Institute, that transforms global energy systems through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all. We work in the world's most critical geographies and engage businesses, policymakers, communities, and nongovernmental organizations to identify and scale energy system interventions that will cut greenhouse gas emissions at least 50 percent by 2030. RMI has offices in Basalt and Boulder, Colorado; New York City; Oakland, California; Washington, D.C.; and Beijing.

Table of Contents

Executive Summary

The Inflation Reduction Act (IRA) is a monumental investment in the American energy economy that fundamentally changes the underlying assumptions and solution options in electric utilities' long-term integrated resource plans (IRPs).

Resource plans, while often not decisional, are a critical fact base to inform utility decisions. As such, it is important to integrate the funding opportunities presented by the IRA into planning processes. Failing to do so increases the risk that the inaccurate assumptions and solutions lead to ill-informed investment decisions and unnecessary costs to customers.

Since the IRA was passed in August 2022, utilities and regulators have started to develop approaches to understand how the bill has changed their prior assumptions in various venues and decisions.

This resource is a practical guide for regulators and utilities that want to optimize the benefits of the IRA in resource planning practices to maintain reliable, least-cost electric service for customers in their state or service territory.

An ideal utility plan post-IRA will achieve the following "North Stars":

- ☑ **Load and distributed energy resource (DER) forecasting**: The plan evaluates multiple future load scenarios that are informed by updated customer adoption rates of building electrification, electrified transportation, and solar and storage; updated energy efficiency projections; industrial investments with the potential to drive increases in load; and the demand flexibility potential of new and existing load.

- ☑ **Resource and financing costs:** The plan includes resource cost assumptions that reflect opportunities to leverage tax credit bonuses and adders and low-cost financing.

- ☑ **Unit Retirement and replacement studies:** The plan evaluates Energy Infrastructure Reinvestment (EIR) funding opportunities and, when applicable, can serve as the basis for a planning-informed proposal for low-cost financing for retirement and replacement.

- ☑ **Additional policy objectives:** The plan is informed by stakeholders who are part of affected groups that are intended to benefit from IRA funding (e.g., energy communities, labor groups, low-income customers) and includes clear metrics for achieving specific policy objectives using IRA programs.

- ☑ **Candidate Utility-Scale resources:** The plan uses updated assumptions on the cost and operation of both available and emerging technologies that are eligible for tax credits, adders and bonuses, and low-cost financing.

- ☑ **Candidate demand-side resources and programs:** The plan evaluates the potential of aggregated DERs to meet resource adequacy needs and assesses and includes customer DERs and specific community projects that could be supported through IRA grant programs as candidate resources.

- ☑ **Transmission and regional resources:** The plan quantitatively analyzes opportunities for transmission expansion and reconductoring to connect to resources across a broader area and enable faster interconnection of new resources, based on availability of low-cost financing and other transmission-specific provisions in the IRA.

- ☑ **Scenario development and evaluation**: The plan includes sensitivities or scenarios that incorporate uncertain or contingent outcomes related to the IRA.

- ☑ **Procurement:** The plan is not isolated, but rather integrates learnings from procurement, and serves to inform future procurement.

In cases where it is not to possible reach aspirational "North Stars", the smaller, incremental actions detailed in the report can serve as stepping stones to improved plans.

Regulators hold a key role in ensuring utility plans are updated to maximize IRA benefits for their customers.

Commissions can take the following actions:

Proactive actions	After plans are filed	Ongoing actions
• Set expectations that utilities maximize IRA benefits across all investments • Provide specific up-front guidance on how utilities can include the IRA in resource planning • Proactively explore IRA's potential impact in your state before the utility files plans	• Inquire about and draw attention to IRA incentives • Track how utilities are utilizing the opportunities presented by the IRA	• Build internal commission capacity to evaluate IRA provisions and opportunities • Coordinate with other agencies • Strengthen planning practices that facilitate optimizing IRA benefits

This resource contains the following sections:

- **Part 1: Navigating Resource Planning under the IRA** offers guidance on what to expect from electric utilities as they incorporate the IRA, for different IRP elements. It includes both "North Stars" to aspire to as well as incremental actions or the minimum steps that all utilities should take.
- **Part 2: What Regulators Can Do** details actions regulators and staff can take to guide utilities, with potential options to pursue before, during, and after an IRP process, informing their future orders.
- **Appendix A**: **Questions Regulators Can Ask to Utilities to Aid Evaluation and Review of IRP's Incorporation of the IRA** provides specific questions PUCs and stakeholders can use to better understand a utility's approach to harnessing the IRA on behalf of their customers.
- **Appendix B: Reg Lab Toolkit of Key IRA Provisions** offers a snapshot of the top provisions most likely to affect IRPs.

This resource is a product of months of collaboration between regulators, industry experts, and RMI staff through RMI's first **Regulatory Collaborative (Reg Lab)** cohort. We hope the insights gleaned from facilitated discussions can inform the broader community of regulators and resource planners as they adapt planning to a post-IRA world.

Introduction

Unprecedented Opportunity Requires Unprecedented Action

The Inflation Reduction Act (IRA) profoundly altered the course of the electricity sector when it was signed into law in 2022. The IRA could amount to upward of $400 billion dollars of federal funding through tax credits, loans, and grants[1] — investments that are poised to lower the cost of modernizing the electricity sector to meet the needs of the 21st century; support the transition to cleaner and cheaper resources for electricity supply; create and onshore skilled and high-paying jobs; and address some of the injustices energy and environmental justice communities have faced in this country for more than a century.

Much of the IRA's expected benefits will only be realized if the stakeholders in the energy industry fully leverage the IRA. The jurisdictions where utilities, regulators, state energy officials, and other energy stakeholders act decisively to ensure that funding from the IRA is being used will see the greatest benefit.

State regulators are increasingly realizing their role in enabling IRA implementation in their states. While the IRA provisions promise great benefit to customers, utilities — the primary intended users of IRA funding — may not have sufficient incentives to maximize these potential benefits without regulatory guidance.

Much of the electric industry still operates within a regulatory framework that was designed for the challenges of the early 20th century; traditional regulation creates a perverse incentive known as "capex bias," which encourages utilities to pursue large, expensive capital investments such as new coal and gas-fired power plants, which initially provided power to a growing body of ratepayers. However, today, cheaper alternatives abound, and electric power is nearly universal, so continued capex bias incentivizes utilities to build more expensive systems than necessary, overlooking operating expenses like demand-side resources, including customer energy efficiency, and grid-enhancing technologies (GETs) that act as energy efficiency for the grid.

Without changes to the regulatory framework, utilities lack incentives to pursue cost-effective solutions that do not support their bottom line and can be hostile to competition.[2] This, in combination with the fact that the IRA's provisions are mostly "carrots" (rewards) with few "sticks" (punishments), means that the electric utility industry, and other stakeholders, will have to be vigilant to ensure that utilities pursue all meaningful opportunities to leverage federal funds to secure the most affordable, reliable, and equitable path toward a clean energy future.

Every element of utility regulatory purview — from resource planning and procurement to customer programs and ratemaking — is affected by the IRA.[3] This report focuses on the regulatory venue in which the IRA shows up first: the planning process.

Resource Planning: What Is at Stake

Resource planning is a critical and, in most states, regular opportunity to plot out a trajectory for reliable and least-cost electricity systems. This includes developing forecasts for energy demand and identifying portfolios of supply and demand-side resources that can meet the grid's needs in a manner that meets predetermined objectives (e.g., least cost, aligned with state policy). Requirements around planning vary

by state, but for most states that require IRPs, planning updates must happen every 2–3 years and cover up to 20 years into the future. Planning, when conducted well, enables utilities and stakeholders to grapple with the future needs of the electricity system and the trends in technology development and deployment — exploring uncertainties and their impact. In many states, the fact base established through planning processes is used to support investment decisions.

This makes planning an ideal venue for utilities to explore changes in trends and opportunities presented by the IRA. However, ensuring that IRA provisions provide as much benefit as possible to customers in alignment with regulatory goals will require adaptations to plans and planning processes. All planning post-IRA should change. Planners should interpret what has changed because of the IRA and make new, more accurate, updated assumptions and leverage the planning process to assess whether there is more proactive potential to use IRA funding to buy down costs for ratepayers on future investments.

The Role Public Utilities Commissions (PUCs) Play in Integrated Resource Plans (IRPs)

The rules and guidelines that govern utility resource planning vary significantly across states. Statutes and regulatory rules in most states provide procedural requirements for how planning should be conducted, what is included in a filed IRP, how the plan will be considered by the commission, and to what extent planning outcomes are tied to procurement decisions.

Commissions in most states have a defined role in reviewing the utilities' resource plans, although these roles vary significantly across jurisdictions. On one end, in some states like Alabama and Wyoming, commission staff review resource plans, but there is no formal approval process. In other states, commissions have a formal role in reviewing plans and providing a formal decision. For example, in Colorado, the commission will issue a written decision approving, disapproving, or ordering modifications to the utility's plan, and the utility must implement the modifications. Similarly, in South Carolina, the commission is required to open a proceeding to review IRPs, and to approve, modify, or deny the submitted plan. There are also states where the commission acknowledges or requests modifications to plans after seeking public input, including Oregon, Washington, New Mexico, Utah, and Minnesota. Importantly, in many states, the commission approval of an IRP does not extend to the investments in the filing; the regulatory review of investments comes later, upon a utility filing seeking approval for a specific plant and site, at a unique cost.[4]

The degree of engagement from the commission after a plan is filed has implications for how a commission might choose to act. In states where there is no formal role for the commission after a plan is filed, establishing clear expectations at the onset of planning is a primary avenue of influence over utilities' IRA uptake. In states with robust engagement post-filing, commissions may still choose to provide guidance up front to reduce administrative burdens from back-and-forth filings.

Early trends suggest that most utilities are not leading the charge in figuring out how to harness the benefits of the IRA in planning, thus increasing the importance of regulator and other stakeholder action. Of the 50 utilities that filed planning documents from the passage of the IRA to January 2024, 32% failed to include IRA provisions in their models, and none adequately considered the IRA's benefits and implications for their systems.[5] Given multi-year planning cycles, regulators cannot afford to wait and see if their utilities' upcoming plans will do better on their own. Failing to optimize the benefits of the IRA in planning will result in unnecessary, higher-cost resource mixes; portfolio solutions that are unprepared for the kind of load growth incentivized by the IRA; and economic and savings opportunities left on the table.

Behind the Scenes of Creating this Toolkit

This toolkit details how utilities and regulators can update and review resource plans to incorporate assumptions shifted by the IRA. The toolkit was developed through the process of working with RMI's first **Regulatory Collaborative (Reg Lab)** cohort, which brought together regulatory staff from commissions in 13 states and experts from across the industry to explore how the IRA affected electricity planning.[i] Over the course of six workshops in as many months, we broke down the IRA provisions that had a direct and indirect impact on resource planning. Given the large potential impacts of the IRA on the generation mix, the discussion primarily focused on IRPs as opposed to transmission or distribution system plans, although at times participants raised applicable issues related to those types of plans. Over the course of the discussions, RMI and a diverse set of faculty (see **Acknowledgements**) invited staff to consider the regulator's role in ensuring the IRA opportunity is optimized in their jurisdiction, and identified the menu of actions regulators can take to ensure utilities produce accurate plans post-IRA.

What We Mean by "Optimizing the IRA Opportunity"

In this report we frequently talk about "optimizing" the IRA opportunity. To optimize the IRA, we mean that the maximum possible combination of incentives, grants, and loans made available or extended by the IRA are leveraged for a jurisdiction such that the highest possible ratepayer savings and beneficial outcomes are realized — particularly for energy and environmental justice communities — while maintaining reliability standards. We do not consider "taking advantage of the IRA" as valuable for its own sake, but only in consideration of how it benefits ratepayers and creates broader societal benefits, while evaluating potential costs.

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i The focus of the Reg Lab cohort was on electricity planning for two reasons: many of the most time-sensitive provisions are focused on the electricity sector, and the practice of electricity planning is generally more advanced than gas planning. However, there are many energy efficiency and electrification grant programs and tax credits that regulators of gas utilities will need to leverage to advance the reliability and affordability of gas systems.

Resource planning touches on many interdependent inputs, uncertainties, and decisions. Similarly, the IRA is a robust package of funding that reaches into many different parts of the electricity system. This complexity makes it challenging for regulators to easily understand the opportunities to optimize IRA benefits for ratepayers. This toolkit seeks to provide needed clarity by synthesizing the many learnings and insights from the first Reg Lab cohort about what optimal integration of the IRA looks like in the planning process. We organize this toolkit as follows:

Report Section	What it includes and how it can be leveraged
Part 1: Navigating Resource Planning under the IRA	Offers guidance on what to expect from electric utilities as they incorporate the IRA, for different IRP elements. This section can support utilities in drafting an IRP, and regulators and stakeholders in reviewing an IRP for how effectively it considers IRA funding.
Part 2: What Regulators Can Do	Details actions regulators and staff can take to guide utilities, with potential options to pursue before, during, and after an IRP process, informing their future orders.
Appendix A: Discovery Questions	Provides specific questions PUCs and stakeholders can use to better understand a utility's approach to harnessing the IRA on behalf of their customers.
Appendix B: Reg Lab Toolkit of Key IRA Provisions	Offers a snapshot of the top IRA provisions most likely to affect IRPs. This section supports asking questions about specific IRA provisions and the extent to which they were considered in a plan, or proactively setting expectations based on the IRA opportunities most likely to affect a given service territory.

Part 1: Navigating Resource Planning under the Inflation Reduction Act

Accounting for the IRA Will Affect Nearly All Elements of the Electric Utility Resource Planning Process

The IRA's widespread reach across the energy and electricity economy means that its passage will affect nearly every element of resource planning. To organize the major impacts that resource plans should account for, this report leverages the common "building blocks" of integrated resource planning. Although planning policies and processes vary greatly across states and jurisdictions, these "building blocks," adapted from NARUC-NASEO Task Force on Comprehensive Electricity Planning, tend to consistently appear in resource plans across the United States.[6]

Exhibit 1 provides these "building blocks" of resource plans as well as the more granular planning elements within each block that will be affected by the IRA. The building blocks that are highlighted in green are highly affected by provisions in the IRA; those in blue are less directly affected by IRA provisions.

Exhibit 1

IRP Building Blocks and Key Planning Elements for IRA Integration

Building Blocks	Key IRA-Affected Planning Elements
Establish Assumptions	• Load Forecasting • Energy Efficiency, Demand-Side Management (EE/DSM), and Distributed Energy Resource (DER) Forecasting • Resource and Financing Costs • Unit Retirement and Replacement Studies • Additional Policy Objectives Including Local Development, Equity, and Affordability
Develop Forecasts	
Set Objectives and Scenarios	
Determine System Needs	*System needs are determined by inputs from previous steps*
Identify Solutions	• Candidate Utility-Scale Resources • Candidate Demand-Side Resources and Programs • Transmission and Regional Resources
Evaluate Solutions	• Scenario Development and Evaluation
Finalize Plan	*This step entails finalizing evaluations and making short-term action plans*
Implement	*Implementation involves procurement, which is the step where ratepayer savings from the IRA can actually be realized, but from a process perspective, is less likely to be fundamentally altered by the IRA*

Building blocks highlighted in green are highly affected by IRA provisions. Resource Planning Building Blocks are adapted from NARUC-NASEO Task Force on Comprehensive Electricity Planning.

Due to the breadth of the provisions in the IRA and the complexity of resource planning, the IRA's impact on resource plans will not be simple or straightforward, nor will it look the same across states and planning cycles. Many elements of resource planning will require considering multiple IRA provisions, and conversely IRA provisions may need consideration across multiple elements of the same plan. As an example, investment and production tax credits for zero-carbon electricity will translate directly to resource cost projections; economic selection of higher quantities of these resources will have nuanced effects on other considerations such as siting for eligibility of credit bonuses and unit retirement and replacement studies.

North Stars to Optimize IRA in Planning

In these first few years of IRA implementation, utilities, commissioners, and the broader power sector will be rapidly learning how to integrate opportunities presented by the IRA into resource planning. During these first planning cycles, guideposts for what might constitute an "ideal" resource plan that will harness the benefits of the IRA might be useful for setting expectations up front. The following section seeks to profile the ideal planning approaches for each element included in Exhibit 1.

In this report, ***North Stars*** represent aspirational but achievable actions for each resource planning element that will harness the benefits of the IRA. This report also identifies no-regrets ***First Steps*** that resource planners should take to integrate the IRA into existing planning practices. In acknowledging that IRPs are often developed and filed with timeline and staffing constraints, these first steps are intended to be accessible for resource plans and planners in most contexts.

The North Stars and First Steps are not intended to be a comprehensive nor exhaustive set of IRP best practices — instead, the focus is on integrating the IRA into resource planning.[ii] We offer these North Stars in a sequential, step by step fashion, to support resource planners in creating a resource plan that maximizes IRA benefits for their jurisdiction. Undoubtedly, best practices will emerge and evolve as more plans are filed and utilities and commissions learn from other jurisdictions.

Defining "North Stars" to Incorporate the IRA in Planning

Below, we identify North Stars and First Steps for each of the previously identified elements of resource planning. For each IRP element, we provide the following:

- **Key IRA Provisions:** Key IRA provisions that were covered in Reg Lab cohort discussions (detailed in *Appendix B*) related to this element of planning.
- **First Steps:** One to three planning activities that would provide a basic starting point to cover IRA provisions in that element of planning.
- **North Star:** One to three planning outcomes or activities that would optimally integrate IRA provisions and benefits into resource planning, building on expert presentations and staff discussions in Reg Lab.

We selectively provide a narrative description of some, but not all, of the North Stars and First Step actions. Specifically, we add more context where the impacts of the actions are likely to be significant, and/or where the linkage of the IRA provisions to the planning activity may not be as immediately clear.

ii For such best practices, see NARUC's **Comprehensive Electricity Planning Library** and Berkeley Lab's **Resource Planning & Procurement Trends** landing page, as well as Shwisberg et al, ***Reimagining Resource Planning*, RMI, 2023**.

Developing Key Assumptions, Forecasts, and Objectives

Load and Distributed Energy Resource (DER) Forecasting

Distributed Energy Resources (DERs):

We define distributed energy resources to include energy efficiency, demand flexibility including from building or industrial process control and managed electric vehicle charging, and behind-the-meter solar and storage.

The IRA includes many provisions that lower the cost of technologies that can electrify the economy. Rebates and incentives for transportation and building electrification, as well as load growth from electrifying industrial processes and new commercial activity (e.g., such as those spurred by IRA incentives for manufacturing), may drive increases in future load. Provisions that advance industries such as hydrogen production and direct air capture also represent potentially significant sources of electric load; they may also come with attendant demand flexibility and expectations for clean energy procurement by owners that also affect utility plans.

On the other hand, incentives for energy efficiency in buildings and deploying distributed energy resources like home batteries and solar, such as the Home Efficiency Rebates and Home Electrification and Appliance Rebates, may partially offset increases in load. The Inflation Reduction Act also includes several programs — such as Solar for All, the Greenhouse Gas Reduction Program, and climate and environmental Justice grants — that could drive additional solar, storage, and energy efficiency in eligible communities.

Key IRA Provisions

- Clean hydrogen production tax credits
- Transportation electrification
- Buildings sector efficiency and electrification
- Tax credits for clean industrial development*
- Support for rural and tribal clean energy development
- Equity and environmental justice grants and financing

* Provisions with an asterisk are not included in the *IRA Resource Planning Toolkit* but have significant implications for resource planning.

As initial steps, resource planners should update building energy use and transportation electrification load forecasts, adjusting for post-IRA economics. Resource plans have conventionally forecasted electricity including residential and commercial load and transport, using a combination of top-down econometric methods and bottom-up models based on consumer end-use adoption trends. Updating load forecasts means reassessing both the potential for and pace of customer DER adoption for each technology based on customer economics, as a result of the residential rebates, tax credits, and programmatic incentives for deploying community energy projects.

North Star resource plans will go beyond that — aiming to define multiple plausible future load scenarios, including applying reasonable expectations around future potential industrial and hydrogen-related energy needs. North Star resource plans will also update the potential and economics of energy efficiency and demand-side management (EE/DSM) programs, adjusting uptake and eligibility to account for new incentives and rebates. State energy offices will lead on implementation of whole home and electrification and appliance rebate programs to consumers, as well as additional applications for IRA grant programs, so leading resource plans will also integrate data from those offices to inform electrification and efficiency forecasts.

Exhibit 2 Actions to Include the IRA in Load, EE/DSM, and DER Forecasting

Resource Planning Element: Load, EE/DSM, and DER Forecasting

First Steps

- The load forecast uses a methodology that accounts for changes in customer adoption of electrification and DERs (i.e., it is not purely based on macroeconomic indicators such as GDP or population growth)
- The load forecast:
  - Includes a scenario that reflects effects on building electrification from IRA rebates
  - Includes a scenario that reflects effects on transportation electrification from IRA tax credits
  - Includes a scenario that reflects effects on adoption of DERs, including rooftop solar and distributed storage from IRA tax credits
  - Considers how IRA rebates and incentives will affect utility customer EE/DSM adoption rates

North Stars

- The load forecast:
  - Integrates multiple scenarios of expanded and accelerated building and transportation electrification uptake, spurred by IRA incentives
  - Includes scenarios with potential load increases driven by new industrial investment, such as hydrogen electrolysis, direct air capture, or new clean energy manufacturing, as applicable in the jurisdiction
  - Adjusts forecasts on consumer and community adoption of solar and storage based on use of grant funding and tax credits, in coordination with state energy offices
  - Updates the full EE/DSM potential study and reevaluates the cost-effectiveness and uptake of programs, including both those administered by and not administered by the utility, to account for IRA rebates and incentives, in coordination with the state energy office
- The IRP evaluates the demand flexibility potential of new and existing DER and electrification loads (also described in *Candidate Demand-Side Resources and Programs*)

Early Examples

- Arizona Public Service's 2023 IRP demonstrates elements of the North Star actions. Notably, the IRP includes updated EE/DSM forecasts that consider increased customer adoption due to lower up-front costs of these technologies, and the electric vehicle forecast considers utility, state, and national incentives to inform the three adoption scenarios.[7] Not considering these IRA customer-facing incentives could have resulted in less accurate load forecasts. Other utilities can expand their IRPs to include the full suite of technologies that the IRA affects in the forecast scenarios.
- PacifiCorp's 2023 IRP included shifts to its Conservation Potential Assessment (CPA) to account for IRA incentives. In particular, the assessment used accelerated adoption of some HVAC, weatherization, and electrification measures, adjusting from their 2021 assessment. This represented a good first step, without a full update of the CPA.[8] PacifiCorp also used private generation and EV tax credits to update load forecasts.[9]

Resource and Financing Costs

Investment and production tax credits for zero-emissions resource technologies are extended and expanded with the Inflation Reduction Act, with additional bonuses available for resources located in energy communities,[iii] or constructed with domestic materials and with labor paid at levels meeting prevailing wage requirements. Additionally, emerging resources like hydrogen, carbon capture, and nuclear power have access to dedicated tax credits. Further, programs like Energy Infrastructure Reinvestment (EIR) and New Empowering Rural America (ERA) can provide low-cost financing to projects that meet specific criteria (repurposing or transforming existing energy infrastructure and rural co-op investment, respectively).[iv]

Energy Infrastructure Reinvestment (EIR)

The EIR program presents a unique and time-limited opportunity to finance investment in low- and zero-emissions technologies at least-cost. The IRA, which created the EIR program, allows the Department of Energy Loan Program Office to disburse up to $250 billion in loans for "projects that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize or sequester air pollutants or greenhouse gas emissions."

The EIR can save ratepayers money by allowing utilities to take out a federal loan from the US Treasury's Federal Financing Bank backed by a "full faith and credit" guarantee. Interest rates may be set as low as the Treasury rate for the relevant loan term plus a 0.375% liquidity spread — less than half of the current spread for AAA corporate bonds over 10-year Treasures — for loans up to 30 years.[10] Loans must be approved by the end of September 2026. The EIR is a highly flexible mechanism, allowing for EIR debt to cover, for example, refinancing of fossil plant asset balances, infrastructure upgrades that can enable greater interconnection of resources, and the siting of new clean generation or storage at the same point of interconnection as existing or retiring fossil generators (an opportunity RMI has dubbed "**clean repowering**"). Additionally, EIR financing can be leveraged for environmental remediation costs, if the proposed project that retools, repowers, repurposes, or replaces energy infrastructure requires it.

For utility borrowers, the financial benefits of EIR assistance must be passed on to the utility's customers or the communities it serves. The New ERA program is very similar to the EIR, but purposely suited for energy providers and cooperative utilities serving rural areas.[v] Learn more about the EIR program on the DOE's **EIR webpage** or **Title 17 Program Guidance**.

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iii "Energy Communities" is a term used throughout the IRA, and its meaning can vary slightly depending on the context in which it is invoked. However, generally, it can be used to refer to communities located near environmentally harmful industries. There are three primary geographical criteria for qualifying as an energy community: proximity to a brownfield site, reliance on the fossil fuel economy, and proximity to a coal mine. See *What Are Energy Communities and How Can They Benefit From the IRA?,* Evergreen Action, July 2023, **https://www.evergreenaction.com/blog/energy-communities-can-benefit-from-ira#:~:text=What's%20an%20energy%20community%20and,coal%20mining%20or%20oil%20extraction**.

iv For more information about the Energy Infrastructure Reinvestment Program, please see ***Appendix B: Reg Lab Toolkit***; "The Most Important Clean Energy Policy You've Never Heard Of," RMI, September 2022, **https://rmi.org/important-clean-energy-policy-you've-never-heard-about/**; and *Clean Repowering: A Near-Term, IRA-Powered Energy Transition Accelerant*, RMI, January 2024, **https://rmi.org/insight/clean-repowering/**. For more information about the New ERA program, see *Appendix B: Reg Lab Toolkit* or RMI's resources for co-ops in accessing IRA funding, **https://rmi.org/our-work/electricity/financing-energy-community-and-grid-transformation/co-op-bootcamps/**.

v We have included New ERA because roughly a third of state regulatory bodies regulate cooperative utilities.

Overall, these provisions can shift the cost assumptions for new resources. When resource plans accurately represent these provisions and loan programs, planners can be more confident that their portfolios best serve their ratepayers with least-cost power.

Key IRA Provisions

- Clean Energy Investment Tax Credit and Production Tax Credit
- Domestic Content and Energy Community Bonus Adders
- Energy Infrastructure Reinvestment and Title 17 Financing
- Support for Rural and Tribal Communities
- Equity and Environmental Justice Grants and Financing

Resource plans can start by ensuring that expanded and extended tax credits are incorporated into resource cost forecasts, including bonus eligibility for energy communities and domestic content. If the plan includes nuclear- or hydrogen-fueled resources or fossil-fueled resources outfitted with carbon capture, tax credits that support these technologies should also be reflected in resource costs.

As a first step, plans should seek to include cost forecasts that bookend the range of costs possible with adders and bonuses. A North Star plan will also include a detailed analysis of eligibility for adders and bonuses throughout the service territory, to narrow the range of possible forecasts.

A North Star plan will also include possibilities for low-cost financing for specific projects or tranches of potential projects. For example, thoughtful inclusion of EIR in resource planning requires identifying specific opportunities or types of investments that could be eligible for EIR financing, then adjusting project finance assumptions accordingly.

In practice, this could look like designing a capacity expansion modeling scenario to specifically evaluate EIR's impact. Beyond adjusting the cost of financing for clean energy resources, an EIR scenario could also adjust the financing costs for a broader swath of related physical grid investments (e.g., new transmission capacity, existing transmission reconductoring, and grid-enhancing technologies, etc.) or specific use cases (e.g., such as clean repowering) that are eligible for EIR investments. This type of scenario could illuminate the scale of unique savings and impact posed by EIR financing, strengthening the case for a potential application, while acknowledging the uncertainty of securing funding.[vi]

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vi These highlighted options for considering EIR financing in resource planning could also apply to New ERA funding and IRA grant programs (e.g., the Greenhouse Gas Reduction Fund [GGRF]), where applicable.

Exhibit 3 Actions to Include the IRA in Resource and Financing Costs

Resource Planning Element: Resource and Financing Costs

First Steps

- Resource cost forecasts integrate updated investment tax credit (ITC) and production tax credit (PTC), including the possible range with bonuses and adders

North Star

- IRP conducts detailed analysis of eligibility for ITC/PTC bonuses and adders throughout the territory to design tranches of resource costs
- Modeling and portfolio development integrates assumptions for eligible technologies to reflect low-cost financing available through EIR and New ERA

Early Examples

- AES Indiana's 2022 IRP considers the IRA's updated ITC and PTC incentives in both the reference case and two additional scenarios that align with environmental policy and regulation.[11] This includes extending the credits for 10 years and allowing stand-alone battery storage to include ITC incentives. The utility also specifies why it selected ITC for solar. However, the utility does not include any analysis that includes the potential domestic content or energy community bonuses. The IRP also does not consider the potential opportunities from leveraging EIR's low-cost financing for relevant grid investments (e.g., new transmission capacity, existing transmission reconductoring, grid enhancing technologies). Including elements of resource cost updates could shift the selection of resources and result in lower-cost portfolios. However, leaving some IRA incentives unexplored runs the risk of unnecessary costs to customers.
- PacifiCorp's 2023 IRP models ITC/PTC eligible resources in southern Utah and Wyoming with the 10% Energy Community bonus (100% PTC for wind, solar, and other energy resources; 40% ITC for energy storage and peaking resources).[12] Future IRPs could include detailed analysis across the full utility territory for where the adders and bonuses may apply. EIR is not mentioned.

Unit Retirement and Replacement Studies

Resource plans must evaluate whether existing resources represent the most economical way to serve energy and capacity needs, and plan for retiring and replacing these units if unit age or economics show that retiring these units would provide better outcomes for ratepayers.

IRA provisions affect the financial dynamics of generation retirement and replacement, and studies should be updated accordingly. Zero-carbon replacement resources, for example, are eligible for IRA tax credits and may be eligible for bonus adders.

Key IRA Provisions

- Clean Energy Investment Tax Credit and Production Tax Credit
- Domestic Content and Energy Community Bonus Adders
- Support for Rural and Tribal Communities
- Environmental and Climate Justice Support

Analysis of retiring and replacing existing generation can be implemented in multiple ways in the resource planning process. We discuss the use of multiple scenarios to evaluate timing of system retirement in the "Scenario development and evaluation" element below. Here, we discuss stand-alone retirement and replacement studies that may inform inputs into resource planning analysis (i.e., understanding any reliability or transmission requirements for retiring existing generation, and the potential for **clean repowering**).[vii]

vii Clean repowering is described in the EIR call out box on page 16. For more information, please see Katie Siegner and Alex Engel, "**Clean Repowering: A Near-Term, IRA-Powered Energy Transition Accelerant,**" RMI, 2023, or watch the **IRA Implementation Guide Webinar**.

Exhibit 4

Actions to Include the IRA in Unit Retirement and Replacement Studies

Resource Planning Element: Unit Retirement and Replacement Studies

First Steps

- Asset retirement studies include updated ITC/PTC and energy communities' adder value
- Retirement and replacement studies investigate potential economic benefit of using EIR and/or New ERA financing to lower the cost of asset retirement and replacement with lower-emissions resources

North Star

- IRP models projects eligible for EIR with low-cost financing such that the IRP can be used in a planning-informed proposal for low-cost financing for retirement and replacement
- If utility is eligible and letter of intent has been submitted, IRP can also evaluate New ERA financing

Early Case Study

- As of December 2023, Tri-state Generation and Transmission Association is pursuing accelerated closure of units at its Craig coal station and 1,250 MW of additional investment in renewable energy generation using New ERA financing.[13]

Ideally, resource planning exercises can support EIR or New ERA applications. For rural electric co-ops that have submitted a letter of intent with the USDA,[viii] analysis of New ERA financing can provide a portfolio-wide view into the benefits of proposed spending. While being awarded funding is not guaranteed, the economic analysis involved in resource planning can inform a strong application for financing.

viii The deadline for a letter of interest to USDA for the New ERA Program was September 15, 2023.

Additional Policy Objectives including Local Development, Equity, and Affordability

Resource planning rules or state policies might require that regulators consider additional policy objectives in resource planning, beyond the more conventional objectives of affordability and reliability.[ix] Depending on the policy context, these can include but are not limited to promoting local economic development, making progress toward equity within ratepayer groups, integrating stakeholder input, pursuing a diverse mix of energy resources, and achieving clean energy goals or targets. IRA provisions, including ITC/PTC bonus adders and available funding and financing, could drive further progress on these policy objectives.

Key IRA Provisions

- Domestic Content and Energy Community Bonus Adders
- Energy Infrastructure Reinvestment
- Support for Rural and Tribal Clean Energy Development
- Equity and Environmental Justice Grants and Financing

Resource plans are best able to achieve IRA-related policy objectives when these objectives are integrated into the broader IRP process, which starts well in advance of the IRP's filing with the commission and extends through plan implementation. Stakeholder processes can explicitly discuss how key IRA provisions can contribute to meeting policy objectives. Regulators and planners can best understand the extent to which resource plans are furthering these policy objectives when the plans transparently show the role of stakeholder consultation, describe development of policy goals, and detail specific steps, metrics, and benchmarks for tracking progress on relevant policy goals.

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ix Examples include Michigan's Governor Whitmer's **2020 Executive Order (Executive Directive 2020 – 10), which requires evaluating** if filed IRPs align with emissions reduction goals and consideration of environmental justice and health impacts; and Oregon's **HB 2021**, which includes emissions reductions targets and specific provisions elevating energy justice, including defining and assessing community benefits and impacts and supporting community-based renewable energy.

Exhibit 5 Actions to Include the IRA in Additional Policy Objectives

Resource Planning Element:
Additional Policy Objectives including Local Development, Equity, and Affordability

First Step

- IRP and accompanying stakeholder process discusses the IRA benefits with affected groups, particularly eligible funding for energy communities

North Stars

- IRP and accompanying stakeholder process works directly with affected groups on integrating IRA benefits into broader resource plan
- IRP includes specific goals, steps, metrics, and benchmarks for achieving policy objectives using IRA programs, including but not limited to:
  - Resources that meet labor, domestic content, and/or energy communities eligibility requirements
  - Community benefits plans for EIR and other relevant programs or utility activities
  - Investments related to rural and tribal community development
  - Investments related to climate and environmental justice

At the time of publication, we are unaware of any early examples. However, several utilities have already-standing equity advisory groups that could be well suited to support these actions.

Identify Solutions

Defining Candidate Utility-Scale Resources

Several IRA provisions will affect the specific candidate resources that planners can select from when assembling their portfolios. These provisions include investment and production tax credit bonus adders and low-cost financing for zero-carbon projects that meet specific siting requirements near energy communities; and tax credits for nascent generation technologies, including carbon capture and storage, advanced nuclear, and hydrogen combustion.

Key IRA Provisions

- Clean Energy Investment Tax Credit and Production Tax Credit
- Support for hydrogen, carbon capture, and nuclear resources
- Energy Infrastructure Reinvestment

Resource planners have an initial opportunity to integrate IRA tax credits when defining resource cost inputs for technologies eligible for IRA tax credits, as discussed in *Resource and Financing Costs* above. Practically, however, these cost projections often need to be translated into a set of selectable resource options in the capacity expansion or optimization model.

Historically, most IRPs define "generic" selectable resources rather than define specific projects.[x] However, the IRA creates specific geographic and eligibility criteria for the ITC and PTC bonuses and adders and for financing like EIR. Resource planners have an opportunity to update candidate resources accordingly. In a North Star plan, utilities will evaluate the eligibility for tax credit bonus adders in their relevant service territory (e.g., identify the energy communities in a specific geography), which they can then use to create tranches of resources or a resource availability curve to define how much of each resource might be deployed at each price point. When defining tranches of resources, resources planners may have to consider tradeoffs such as the opportunity for reduced costs due to tax credit bonuses, and any costs that may come with achieving tax credit eligibility (e.g., increased labor or materials costs).

Given the significant incentives provided for technologies that may not have been included in prior IRPs, planners should reassess what technologies might be available within the planning time horizon. For example, the IRA provides support for technologies included but not limited to stand-alone storage, geothermal, long-duration storage, hydrogen, carbon capture, and nuclear (see *Appendix B*: Workshop 1 and Workshop 2 for additional detail). A North Star plan will explicitly evaluate which technologies should be included in the plan for selection, and update their costs and operational implications to account for IRA incentives. Costs should be considered as comprehensively as possible if they may be borne by the utility, such as costs associated with carbon dioxide transportation pipeline construction and carbon dioxide storage.

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x The exception is utilities that incorporate bid data into their planning process, such as Colorado's ERP process, which uses bid data from an all-source RFP to create the blocks of resources used in modeling.

Exhibit 6 Actions to Include the IRA in Candidate Utility-Scale Resources

Resource Planning Element: Defining Candidate Utility-Scale Resources

First Steps

- IRP includes an evaluation of energy communities and/or domestic content bonus adder eligibility for zero-carbon technologies

North Star

- IRP explicitly defines selectable tranches of resources or a resource cost curve by eligibility for tax credit bonus adders and low-cost financing[xi]
- The IRP updates assumptions on emerging technologies and applies reasonable cost and operational assumptions

Early Example

- PacifiCorp's 2023 IRP considers long-duration battery storage in its revised list of resource options and outlines the tax credits for non-emitting technologies in service after December 31, 2024. Their preferred portfolio expands renewables and storage build-out relative to their previous plan as a result. Other considered resource options include geothermal, hydrogen, carbon capture and sequestration (CCS), small modular reactors (SMRs), and more. Future IRPs can be more transparent in linking assumptions on emerging technology costs to potential IRA funding.

Please refer to the ***Resource and Financing Costs*** table above for early examples of tax credit bonus adders.

xi Note that the optimal set of resources may not always exclusively consist of resources that are eligible for bonuses due to other factors (e.g., wind projects sited in select energy communities could have lower capacity factors).

Candidate Demand-Side Resources and Programs

Historically, resource plans have not been able to evaluate and select resources at the distribution level as resource options on par with traditional supply-side options. As IRP analytical capabilities continue to improve and aggregated DERs increasingly are poised to play a greater role on the bulk power system, cutting-edge resource plans will integrate distribution-level resources into system-level analysis.[14]

Key IRA Provisions

- Support for distributed energy resources
- Support for building energy efficiency
- Support for transportation electrification
- Environmental and Climate Justice Support

As described above in ***Load and Distributed Energy Resources Forecasting***, the IRA has the potential to accelerate deployment of newly electrified loads and DERs, with attendant demand flexibility. This makes it more important for IRPs to be able to assess how these resources, such as those aggregated in virtual power plants (VPPs), will contribute to meeting system needs. The IRP should also consider additional deployment of these resources as a selectable option, with corresponding program and incentive costs required for increasing deployment.

Exhibit 7

Actions to Include the IRA in Candidate Demand-Side Resources and Programs

Resource Planning Element: Candidate Demand-Side Resources and Programs

First Steps

- Complete the first steps outlined in the load forecast section.
- Reassess whether the IRP is already using best practices for including DERs in planning.[xii]
- IRP includes EE, load flexibility, and DERs as candidate resources, ensuring that the cost assumptions reflect available IRA incentives.

North Star

- Planners also perform an assessment of bonus-credit-eligible DERs and specific community projects that could be supported through IRA grant programs, and include those as available candidate resources.

At the time of publication, we are unaware of any early examples. Please refer to *Coordinate with other agencies on the IRA* in *Part 2: What Regulators Can Do* for incremental actions to strengthen coordination between commissions and other local administrators.

xii For jurisdictions with separate distribution and resource planning processes, this will require evaluating the potential of aggregated DERS to meet resource adequacy needs (not just distribution system constraints). Grid context and potential policies promoting aggregated DERs may also impact how these resources are considered.

Transmission and Regional Resources

Development and expansion of transmission lines have wide-ranging implications for resource planning. They may relieve transmission line congestion and enable existing resources from a broader geographic area to meet local needs, or they could enable more economical or time-efficient interconnection of a broader set of new resources.

Transmission expansion and reconductoring is eligible for low-cost EIR financing as part of a broader proposal that repowers existing energy infrastructure and avoids or reduces greenhouse gas emissions or air pollutants. As resource planners evaluate expansion of their transmission systems for interconnecting additional resources, EIR financing can provide a significant opportunity for ratepayer savings.

In addition to EIR financing, the Inflation Reduction Act supports the creation of new transmission lines as well as the expansion of existing transmission lines through three additional provisions:

- Loan provision for transmission along designated national interest electric transmission corridors (NIETCs)
- Grant funding for siting interstate transmission lines
- Financial support for planning, modeling, and analysis around interregional and offshore transmission lines

While IRA provisions directly related to transmission may not be relevant in every service territory (for example, the process of identifying NIETCs based on the US Department of Energy's 2023 *National Transmission Needs Study* is ongoing), the IRA's provisions form part of a broader suite of transmission facilitation programs administered by the Department of Energy, which also includes provisions funded through the Infrastructure Investment and Jobs Act (IIJA).[15]

Key IRA Provisions

- Energy Infrastructure Reinvestment
- Support for transmission development

Resource planners can use a combination of tools, including designating specific scenarios to explore expanded transmission, or allowing resource planning software to identify the optimal cost-effective expansion of transmission, to assess the savings potential of greater transmission capacity. Evaluating the use of EIR financing could provide a more accurate sense of potential benefits of increased transmission while verifying emissions benefits.

Exhibit 8 Actions to Include the IRA in Transmission and Regional Resources

Resource Planning Element: Transmission and Regional Resources	
First Steps • IRP qualitatively discusses leveraging potential IRA funding to advance transmission expansion or reconductoring, including the financial support for planning, modeling, and analysis for interregional and offshore transmission lines and EIR financing.	**North Star** • IRP quantitatively analyzes financial and emissions benefits of EIR for transmission expansion and reconductoring. • IRP quantitatively analyzes expansion, and/or reconductoring of transmission lines, either through additional scenarios or dynamic optimization.
At the time of publication, we are unaware of any early examples.	

Evaluate Solutions

Scenario Development and Evaluation

Typically, resource plans explore how various resource portfolios might perform across a variety of potential future scenarios. As shown above, IRA provisions will have implications for almost all elements of resource planning. Yet, resource planners and regulators have expressed that, given that some federal guidance is still uncertain, and many implementation details are still in the early stage, there is uncertainty about post-IRA impacts and assumptions in resource plans. Likewise, funding that requires applications or meeting certain eligibility criteria is not guaranteed and can result in uncertainty.

Where there is relative certainty, resource planners should ensure that planning assumptions are up to date across all scenarios. For example, the tax credits with ITC/PTC are guaranteed to affect the cost of new clean resources, and the resource costs should be adjusted accordingly for the applicable time horizon. Resource forecasts and costs that do not consider these IRA incentives are no longer accurate and are less useful for planning.

For IRA provisions where there is uncertainty or the benefits are more challenging to capture in planning, planners can leverage scenario analysis to understand the potential impact of these provisions on key outcomes like total cost or expected emissions. To understand the full potential of IRA incentives for a particular utility, planners could develop a "High IRA" scenario. This scenario would ideally incorporate many of the ***North Stars*** described in this report that are applicable in the planners' context, based on the provisions described in *Appendix B*. Commissions could then evaluate if the "High IRA" scenario creates additional net savings or exposes new risks. Additionally, planners could run several sensitivities or additional scenarios to explore the impact of specific opportunities on the overall portfolio, such as if different levels of EIR funding are secured or the state pursues development of a hydrogen hub. This type of scenario analysis can help illuminate which IRA incentives could have the greatest benefit for a utility and its customers, so that utilities can prioritize what to pursue accordingly.

Exhibit 9

Actions to Include the IRA in Scenario Development and Evaluation

Resource Planning Element: Scenario Development and Evaluation

First Steps	North Star
• Update resource forecasts and resource costs to reflect actual prices post-IRA in all scenarios, including the reference scenario.	• Develop a "High IRA" scenario that maximizes the IRA benefits (e.g., incorporates many of the North Stars described in this report). • Evaluate sensitivities or scenarios that incorporate uncertain or contingent outcomes related to the IRA (e.g., incorporating various combinations of emerging technologies, EIR financing).

Although there are early examples of IRPs that updated non-emitting resource costs to reflect the ITC or PTC credits and have qualitatively described how the IRA will affect forecasts, at the time of publication, we are unaware of IRPs that explore a "High IRA" scenario.

Procurement

Procurement is where planning can lead to actual investments, and eventually, physical projects. In some states, procurement is relatively separate from planning (e.g., in states where there is no formal commission approval or acknowledgement of an IRP, there is no formal link between planning and procurement). However, in other states there is a more direct link between the resource portfolios selected in an IRP and the purchase of supply-side assets. In much of the country (including, for example, Oregon), there is a light connection where requests for proposals must be supported by a need acknowledged in an IRP. In other states like Washington, the connection is more direct: utilities must issue an all-source request for proposal (RFP) if their IRP demonstrates a need for a near-term resource.[16]

This report will not provide comprehensive guidance on procurement process design,[17] but does provide initial directions on how procurement processes can better integrate with resource planning to support maximizing the benefits of the IRA.

Exhibit 10

Actions to Include the IRA in Procurement

Resource Planning Element: Procurement	
First Steps • Procurement processes encourage projects eligible for domestic content and energy community bonus adders, and target stakeholder outreach accordingly. • Procurement is designed to allow DERs — including demand-flexibility and EE — to participate, to harness the benefits of the increase of demand-side resources spurred by the IRA.	**North Star** • Resource planners integrate learnings from procurement into planning. For example, this could include calibrating resource costs and expected eligibility for domestic content and energy community bonus adders based on results from recent solicitations.

At a minimum, procurement processes should be designed to capitalize on the IRA provisions identified in resource planning. This could include, for example, processes that request additional information from vendors on eligibility for tax credit adders to ensure that developers consider these benefits and are better able to pass savings on to customers.

Optimally, procurement can form an iterative cycle with integrated resource planning, rather than a more linear approach of planning simply informing procurement. Proposals generated through the procurement process provide valuable information about what future projects might look like and assess potential resource availability and costs. For example, resource planners could use insights from procurement to better understand the likelihood that future projects will qualify for domestic content or energy community bonus adders. Similarly, results of RFPs could provide an additional level of detail for potential EIR and New ERA financing proposals.

Using the North Star and First Steps Framework

Regulators can use the North Stars and First Steps above as reference point for understanding how comprehensive resource plans can integrate Inflation Reduction Act provisions. Exhibit 11, below, offers possible interpretations and actions based on where resource plans fall, relative to the actions described above.

Exhibit 11

Framework to Benchmark Elements of Resource Planning

	Implications for the resulting resource plan:	What regulators can do:
The plan achieves the North Star for a given planning element	**Leading practice.** The plan is on the cutting edge of incorporating resource planning into the IRA.	**Maintain momentum.** Regulators can encourage utility planners and stakeholders to ensure insights are reflected throughout this resource plan and subsequent planning and procurement actions.
The plan exceeds the First Steps but falls short of the North Star	**Strong foundation.** The plan is successfully integrating IRA provisions into resource planning but could continue to improve.	**Build toward North Stars.** Regulators can guide utility planners and stakeholders to use existing results and insights to guide future analysis, building toward North Star practices.
The plan meets but does not exceed First Steps	**Potential missed benefits.** The plan may only partially reflect the full benefits offered by the IRA.	**Consider revision.** Regulators can offer guidance to utility planners and stakeholders to make revisions or enhancements to elements of the existing plan.
The plan does not yet include the First Steps	**Risk of missed opportunities.** It is more likely that the plan will not evaluate potential benefits to ratepayers offered by the IRA, and the resulting resource plan may not truly represent a least-cost approach.	**Use toolkit actions.** Regulators can use one or more of the tools in the next section of this guide to prompt improvement of the plan under their review.

North Stars and First Steps will evolve over time. As planners and regulators gain experience with resource planning that is constructed to optimize for the IRA's savings potential, they may identify and develop more robust methods for integrating IRA provisions into planning, and best practices will shift to incorporate these practices.

The following section of this report provides a menu of potential actions that regulators can take to align resource planning to optimize the benefits and opportunities of the IRA.

Part 2: What Regulators Can Do

In Part 1, we outline how the IRA has changed the game for utility planning and how it should fundamentally alter the inputs, assumptions, and considerations in resource plans. However, it is far from assured that the next rounds of resource plans will meet these ***North Star*** recommendations or even the minimum ***First Steps***. As such, the commission may need to act to further enable and incentivize utilities to adjust planning to advance least-cost portfolios, including new clean buildout, cost-effective grid infrastructure investments, and well-planned retirements.

Actions Commissions Can Take to Harness Funding from IRA through Planning

The following section outlines possible pathways for commissions to best enable their utilities to optimize federal funding. The ***Leading Actions*** provide the clearest directive for utilities to maximize IRA potential. While these may be the best options to strive for, commissions might choose to instead implement a series of ***Incremental Actions.*** Though unlikely to have the same magnitude of impact, the incremental actions are more accessible options.

Exhibit 12 below outlines the range of actions, organized by timing: actions commission can take before a utility begins the planning process, possible actions for after a utility has filed its plan, and ongoing steps commissions can take to build their ability to influence optimal uptake of federal incentives.

Exhibit 12

Actions that Commissions Can Take to Harness Funding from the IRA

Type of Action	Potential Commission Actions		
Proactive actions	Set expectations that utilities maximize the IRA benefits across all investments	Provide specific up-front guidance on how utilities can include IRA in resource planning	Proactively explore the IRA's potential impact in your state before the utility files plans
After plans are filed	Inquire about and draw attention to IRA incentives	Track how utilities are integrating the opportunities presented by the IRA	
On-going actions	Build internal capacity on the IRA	Coordinate with other agencies on the IRA	Strengthen planning practices that facilitate optimizing IRA benefits

These actions were informed by discussions held throughout Reg Lab. Not all the actions have been tested specifically in the context of the IRA in planning yet. Exactly how commissions implement these actions will depend on state context. Similarly, new best practices may evolve and emerge as utilities, commissions, and other stakeholders become more familiar with the IRA provisions. At a minimum, however, these actions provide a suite of ideas for commission to leverage today rather than waiting until it is too late.

The most important role a regulator can play in this decade is ensuring that utilities optimize the IRA as they address the realities facing today's grid.

Proactive Actions PUCs Can Take Before Utilities File an IRP

In some cases, it is sufficient for commissions to be reactive and responsive to the resource plans that utilities file. However, there are actions PUCs can take before the next IRP processes begin to set expectations for how the IRP should respond to federal funding opportunities. Proactive, clear guidance is particularly important to encourage better outcomes up front in states where the commission does not have acknowledgement power with IRPs. The options described below may require more up-front work and stakeholder engagement to refine the specifics for each state context and get stakeholder buy-in but may reduce the potential for back and forth after a filing to retrospectively align plans with policy and regulatory objectives. Additionally, proactive actions can result in longstanding changes that outlast a single IRP cycle, even if guidance may need to be revised as more information becomes available from federal and state agencies. Proactive actions can also set the tone for formal stakeholder engagement and provide direction for intervenors on how to most productively engage in the planning process.

Set Expectations That Utilities Maximize the IRA Benefits across All Investments

Issuing orders that set clear objectives for how the IRA should be considered in utility planning and decision-making will provide clear directive to utilities and remove any potential uncertainty regarding the commission's minimum expectations. Orders can define expected standards with varying degrees of specificity and outline which processes will be evaluated against these standards (e.g., IRPs, certifications for public necessity).

Exhibit 13 Actions Commissions Can Take to Set Expectations that Utilities Maximize Benefits Across All Investments

Potential Commission Action:
Set expectations that utilities maximize the IRA benefits across all investments

Incremental Actions

- Request information on how the utility can incorporate the IRA through an investigatory proceeding or by requesting that intervenor and/or utility filings contain information on how the utility can incorporate the IRA. Specific questions may encourage responses to priority areas for the commission; open-ended requests may produce ideas the commission did not consider.
- Work with commissioners and stakeholders to clarify key objectives and open questions at the onset of an IRP. Such alignment could occur through a stakeholder process where utility modeling assumptions are clarified or during an investigatory process.[xiii]

Leading Action(s)

- Issue a comprehensive order that sets clear guidance for how the IRA should be considered in utility planning and decision-making, including minimum expectations for how the IRA is reflected in future filings.

Leading Examples

- In September 2023, the Minnesota Public Utilities Commission issued an order, Setting Requirements Related to Inflation Reduction Act [Docket NO E,G-999/CI22-624], that requires that utilities maximize the benefits of the IRA in all future resource acquisitions, requests for proposal (RFPs), petitions for cost recovery through riders and rate cases, IRPs, integrated distribution plans, gas IRPs, and Natural Gas Innovation Act plans. This order sets the expectation for utilities to maximize the benefits of the IRA. It provides overarching direction for how this might look (e.g., to discuss the impact the IRA had on planning assumptions).
- In December 2023, the Arkansas Public Service Commission issued an investigatory order [Docket NO 23-094-U/Order NO 1] to understand the impacts of the IRA and the IIJA. The order includes detailed questions to prompt utilities to share ideas for maximizing the benefits of the available federal funding. It also requests input on the role the Commission could play in facilitating access to benefits created by the IRA and the IIJA in planning, resource acquisition, rate cases, and cost recovery petitions. Information and learnings from this first step can inform a future comprehensive order with regulatory guidance for planning and other types of dockets.

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xiii For example, in Michigan the commission commences a proceeding before the IRP process begins and establishes modeling scenarios and assumptions that utilities will include in addition to their own scenarios and assumptions. See Michigan 460.6t Integrated Resource Plan.

Provide Specific Up-Front Guidance on How Utilities Can Include the IRA in Resource Planning

Providing specific up-front guidance on how utilities can include the IRA in their planning processes can reduce uncertainty for the utility and similarly, reduce the potential for back and forth after a filing to retrospectively align plans. Guidance can be detailed (e.g., defining what the utility should model) or open-ended (e.g., demonstrate how the IRA was incorporated into the base scenario).

This approach may be particularly useful for states where utilities have not filed an IRP since the passage of the IRA. To inform what could be considered in the IRP guidance, commissions could refer to utilities that have already filed IRPs that optimize IRA benefits or emerging guidance from industry and the national labs.

Exhibit 14

Actions Commissions Can Take to Provide Specific Up-Front Guidance on How Utilities Can Include the IRA in Resource Planning

Potential Commission Action: Provide specific up-front guidance on how utilities can include the IRA in resource planning

Incremental actions

- Direct utilities to incorporate the IRA into specific assumptions in forecasting and modeling in a manner that is accessible and up to date, for both gas and electric planning.
- Direct utilities to hold (or hold at the commission) a technical conference before the filing is made to discuss inputs. Provide guidance on timelines and what will be discussed. Make assumptions transparent and invite comments from other participants so that all stakeholders can provide input on how those assumptions should be modified before utility modeling proceeds.
- Where staff have intervenor status, file testimony recommending that the commission provide guidance, or that the commission order the utility to act. Where staff play an advisory role, issue a "staff report" to inform the discussion or preview ideas under consideration by the commission.

Leading Action(s)

- Update planning rules and guidelines directly to provide prescriptive requirements for how utilities consider the IRA in resource planning.
- Direct the utility to include a modeling scenario that assumes maximum potential IRA benefits to use as a benchmark for other potential scenarios (e.g., compare customer savings, emissions reductions, unit retirement timelines, and associated costs).

Proactively Explore the IRA's Potential Impact in Your State before the Utility Files Plans

Proactively exploring where the IRA might have the largest impact in your state can inform utilities and other stakeholders where their focus needs to be in upcoming planning exercises and application filings. IRA provisions have different impact potential in each state, depending on the context (e.g., resource potential, market development for certain technologies, utility capabilities) and state priorities. Where commissions have internal capacity or resources to hire external support, they can preemptively identify which IRA provisions can have the greatest value, meaning which provisions might have a larger impact on driving down costs and meeting other objectives. This is particularly important for provisions that have shorter timelines of availability, such as EIR and several of the equity and environmental justice grants and financing opportunities, and in states where there aren't opportunities for formal stakeholder engagement and external input into plans.[xiv]

Exhibit 15

Actions Commissions Can Take to Proactively Explore IRA's Potential Impact in Your State Before the Utility Files Plans

Potential Commission Action: Proactively explore IRA's potential impact in your state before the utility files plans	
Incremental Actions • Analyze or request that utilities analyze IRA funding potential impact (in terms of dollar-saving potential for ratepayers).	**Leading Action(s)** • Identify and communicate priority IRA provisions based on dollar-saving potential and the defined needs in your state.

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xiv Statewide estimates for IRA potentials already exist, including the **State Fact Sheets** published by the White House (**https://www.whitehouse.gov/briefing-room/statements-releases/2022/08/17/state-fact-sheets-how-the-inflation-reduction-act-lowers-energy-costs-create-jobs-and-tackles-climate-change-across-america/**) and in state-by-state estimates ("The Economic Tide Just Turned For States," 2023, RMI, **https://rmi.org/economic-tides-just-turned-for-states/**). Commissions can leverage these existing resources to identify maximum potential benefits and explore their own supplemental analysis.

Actions PUCs Can Take *After* a Plan is Filed

In states where planning cycles are already underway, there are actions commissions can take to strengthen IRPs retroactively and better prepare the utility to account for the IRA in future planning and procurement. Several of these actions can also be taken in tandem with proactive actions. For example, a commission could set expectations for how the IRA should be considered and which provisions to focus on to maximize impact for customers, and after plans are filed, draw attention to specific IRA incentives. As with the proactive actions, implementation will depend on state context.

Inquire About and Draw Attention to IRA Incentives

For a myriad of reasons, including that the plan was initially filed before clear IRA guidance had been established, a utility's IRP may not incorporate some potential impacts from the IRA. Asking a utility to model a specific "high IRA uptake" scenario can expose additional savings for customers and provide clearer direction for decision-making down the line (e.g., procurement and siting[xv]). This process can additionally set precedent for future filings. Additionally, there are many potential questions commissions and intervenors can ask to ensure utility plans are maximizing IRA uptake.

Exhibit 16

Actions Commissions Can Take to Inquire About and Draw Attention to IRA Incentives

Potential Commission Actions: Inquire about and draw attention to IRA incentives

Incremental Actions

- Review the utility filing for discussion of how it is considering and representing IRA savings opportunities in the plan.
- Ask utilities direct questions after filing IRPs to ensure assumptions on forecasting and modeling considering IRA incentives.
- For IRA provisions that are not considered or included in IRPs, ask the utility to justify why these provisions were not included.
- Discuss and consider IRA implications in the draft order that is circulated to the commissioners for review. If the IRA was not sufficiently discussed in testimony, ask the parties to discuss how the IRA affects the proposed facilities.
- Establish expectations in the formal or informal review that utilities must include IRA funding in future resource plan development and selection.

Leading Action(s)

- Direct the utility to model an additional scenario that is "high IRA uptake" and define any minimum parameters expectations compared with one or more of the scenarios the utility already modeled.

Spotlight Resource

RMI developed a toolkit of discovery questions organized by planning element that commissions and other stakeholders can use to prompt utilities on specific elements of planning that could include additional savings and other benefits from the IRA. These questions can be found in **Appendix A** as well as [**https://rmi.org/insight/planning-to-harness-the-inflation-reduction-act/**].

xv For example, an Arkansas Commission Order No. 5 [DO 22-019-U] required an evaluation to identify whether any of the three renewable projects that the utility, SWEPCO, had selected were eligible for the energy community tax credit bonus. If any site was found to be eligible, the utility would claim the benefit and pass the savings along to its customers. The Commission also required SWEPCO to file an update with the Commission to indicate which, if any, of the sites were eligible.

Track How Utilities Are Integrating the Opportunities Presented by the IRA

Tracking how utilities are integrating the opportunities presented by the IRA gives visibility that the benefits and opportunities are being considered and leveraged where advantageous for customers. This can streamline the work of the commission and other stakeholders who are interested in understanding how planning and other utility processes have adjusted. The practice can also enable utilities within your jurisdiction to adopt best practices from other utilities and can set standards for subsequent plans and processes. Commissions can track how utilities are considering the IRA in resource planning as well as other venues including, but not limited to, distribution system planning, resource acquisitions and requests for proposals, and cost recovery through riders and rate cases.

Exhibit 17

Actions Commissions Can Take to Track How Utilities Are Integrating the Opportunities Presented by the IRA

Potential Commission Action:
Track how utilities are integrating the opportunities presented by the IRA

Incremental actions

- Direct utilities to document specific changes in their resource plans that are adjusted to integrate the impacts and benefits of IRA provisions.

Leading action(s)

- Direct utilities to report on how they are optimizing or are planning to optimize IRA benefits for customers on a fixed cadence.
- Create a publicly available dashboard of relevant IRA provisions and track uptake across all utilities in the state.[xvi]

Leading Example

- The Colorado Commissions Decision Requiring Reporting and Setting Reporting and Comment Timelines [C23-0811 in proceeding 23M-0053ALL] requires that twice a year, utilities report on federal funding they receive, the maximum available incentive by area of work, and how they plan to capture and optimize the benefits. It additionally specifies that utilities report on changes to planning assumptions, predicted costs of assets, and adoption rates of energy efficiency technologies, distributed energy resources, electric vehicles, and other electrification measures. The reports will be publicly available and tracked in the same proceeding [23M-0053ALL], which helps keep the information organized in one location.

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xvi Commissions could develop their own public tracker or partner with a state energy office to create or build upon existing trackers. Examples of public trackers include the Hawaii State Energy Office **Inflation Reduction Tracker** (available at https://energy.hawaii.gov/ira-tracker/) and the Oregon Department of Energy **tracking spreadsheet** of energy-related funding through the IRA and the IIJA (available at **https://www.oregon.gov/energy/energy-oregon/Pages/IIJA.aspx**).

Ongoing Actions PUCs Can Take

There are a variety of actions commissions can take on an ongoing basis to build their capacity to maximize the opportunities presented by the IRA. The "North Star" is more subjective here, depending on the commission capacity and needs and the state context. Nevertheless, these planning-tangential actions can unlock ancillary benefits that will make the work of integrating the IRA into resource planning easier for the regulator to ensure on a forward basis. For example, establishing infrastructure and norms for on-going communication with state energy offices can improve a utility's ability to capture IRA impacts in plans and may also improve coordination in other multijurisdictional programs.

Build Internal Capacity on the IRA

While commissions can request that the utility leads on pursuing IRA funding or leveraging external sources, it may be valuable to have in-house knowledge and capacity given the many ways the IRA affects multiple utility types and regulatory dockets. Benefits include having a primary source of trusted knowledge, faster response times to internal questions, more confidence in reviewing optimal resource portfolios, and potentially stronger certainty that planning and subsequent decisions are the least-cost, best-fit solutions. Commissions can choose an approach that best matches their needs and resources.

Exhibit 18

Actions Commissions Can Take to Build Internal Capacity

Possible actions commissions can take to build internal capacity:

- Develop roles for individual(s) at the commission to focus and lead internally on IRA/IIJA implementation, with specific roles and responsibilities.
- Share resources and learnings across PUC staff and commissioners (internal and across states).
- Reallocate staff time to enable individuals to focus on load forecast methodology (e.g., IRA, IIJA).
- Establish or strengthen points of coordination across docket teams (e.g., planning gets inputs from EE or programs staff).
- Identify how the IRA can support existing commission priorities and consider if the commission can deprioritize other work to shift focus onto the IRA in the short term.

Coordinate with Other Agencies on the IRA

PUCs are far from the only state agencies that play a vital role in IRA implementation; state energy offices, departments of transportation, agencies that channel assistance to low-income households, and tribal agencies will each have unique roles in ensuring the IRA's provisions are leveraged to benefit households and businesses. To the extent these agencies are acting in concert, the more likely it will be that the IRA's promise will translate to maximum savings for participants and all ratepayers. Proactive communication between PUCs and other state agencies can be instrumental in ensuring that PUC decisions are aligned with successful state-wide deployment of IRA provisions, funds, and programs.

Exhibit 19

Actions Commissions Can Take to Coordinate with Other Agencies

Possible actions commissions can take to coordinate with other agencies:

- Define clear opportunities and processes for utilities to give and get input from other state agencies including the state energy office. This could look like:
  - Requesting quantitative input from the state energy office on the forecasted and actual uptake of programs that they administer to ensure modeling inputs are aligned with program expectations.
  - Engaging state energy officials or program administrators in developing planning scenarios.
  - Inviting input in technical conferences before IRPs open, particularly around assumptions that those agencies might have the most insight (e.g, into impacts from planned electrification and energy efficiency programs).

Strengthen Planning Practices That Facilitate Optimizing IRA Benefits

Targeted enhancements to the rules and guidelines that define resource planning can further enable uptake of IRA incentives and provide additional benefits to planning overall. The trends toward aligned, comprehensive, and trusted resource plans described in ***Reimagining IRP*** are gaining steam; successful process improvements for IRPs more broadly will make it easier to ensure utilities are maximizing the benefits of the IRA to best support customers.

Exhibit 20

Actions Commissions Can Take to Strengthen Planning Practices that Facilitate Optimizing IRA Benefits

Possible actions commissions can take to strengthen planning practices that facilitate optimizing IRA benefits

- Increase data transparency by requiring utilities to share resource assumptions and other key inputs in a standardized and labeled data format and mark where IRA incentives are/are not included.
- Improve stakeholders' opportunities to provide meaningful input and feedback on the utility's approach to optimizing IRA benefits by setting clear guidelines for the minimum requirements for stakeholder engagement.
- Integrate resource, transmission, and distribution planning processes by requiring utilities to demonstrate how the load growth assumptions and aggregated DERs from plans that optimize IRA benefits feed into demand forecasts and resource options.

PUCs Can Create Ratemaking Mechanisms to Align the Utility's Financial Incentives to Leverage the IRA

In discussing the actions that regulators could take to motivate utilities to better integrate IRA into resource plans, Reg Lab Cohort participants identified performance incentive mechanisms (PIMs) as an opportunity to align the utility's profit-seeking motivation with utility actions to prioritize leveraging the IRA. PIMs arose in recognition that a traditional cost of service business model creates incentives that are counter to the cost-lowering credits and programs offered by the IRA, as discussed briefly in the introduction. Financial mechanisms may include PIMs or shared-savings mechanisms (SSMs)[xvii] which would provide an earnings gain and/or loss opportunity to motivate the utility to submit resource plans (among a variety of other utility behaviors and actions) that maximize the IRA opportunity. Traditionally, financial incentives are designed and implemented in a ratemaking venue rather than a planning one. However, because staff in the cohort raised this idea, we include it here as yet another example of an indirect action, tangential to the planning content, which a regulator can take. At the time of this report's writing, the authors were not aware of any jurisdiction that has adopted a PIM focused on utility IRA uptake, though ***What Utility Regulators Need to Know about the IRA*** discusses some ideas for how such mechanisms could be designed.

xvii See *PIMs for Progress,* 2020, RMI, **https://rmi.org/insight/pims-for-progress/** to understand the principles of PIM design and read about case studies of PIMs in other contexts. The RMI PIMs database is a convenient resource to investigate PIMs that are in place across the country (**https://rmi.org/pims-database/).**

Defining the Right Approach for Each State

Each commission will likely take a different approach to incorporating the IRA into planning based on the unique challenges and opportunities present in their state. Through our conversations with regulators, three challenges in particular rise to the top.

- **Commissions may see resistance from utilities.** The reasoning behind the pushback (e.g., institutional inertia, perverse business model and regulatory incentives) and the strength of this resistance may influence how the commission ultimately chooses to act.
- **Commissions often have limited capacity.** Effective implementation and enforcement of proactive orders requires time. Some actions may require up-front research, additional analysis, or a full proceeding. Commissions may need to set realistic expectations of what various actions may require in terms of staff capacity and explore options for lessening the load or outsourcing some of the work.
- **Commissions may experience political tensions when responding to federal legislation.** Commissions may need to focus on guiding principles and outcomes rather than taking a more prescriptive approach in naming specific provisions or explicitly calling out the IRA. For example, regulators could focus on requiring utilities to use the most up-to-date resource cost estimates, which include ITC/PTC extensions, or require an economic expansion scenario that assumes load growth aligned with rapid investment from industry.

While none of these challenges are unique to how commissions take advantage of IRA benefits throughout planning, the magnitude to which one or more of these challenges is present may require commissions to prioritize specific actions.

Commissions can similarly evaluate their current planning rules and guidelines and ongoing efforts related to planning to understand if there are opportunities to streamline multiple workstreams.

1. **Leverage current rules and guidelines:** The structure and detail of existing rules and guidelines can influence the opportunities that regulators and other stakeholders have for ensuring utilities are maximizing IRA benefits. For instance, regulators and stakeholders in states that have existing rules requiring data transparency in planning will better understand if and how IRA incentives are or are not captured in resource costs.

2. **Pair IRA with other time-bound planning changes:** If there are existing conversations around how planning and procurement may need to shift due to changes in the industry, consider how the IRA could further support those desired policy outcomes. For example, if there are stakeholder working groups, open proceedings, or other conversations around how to plan for significant load growth, the IRA and other federal funding can be elevated as part of the solution set.

3. **Consider a more holistic approach that modernizes planning:** Regulators across the nation are and will continue to need to reimagine their resource planning to respond to and prepare for the significant changes across the industry.[18] For states already undergoing changes to planning, it may be beneficial to explore rules and guidelines related to the IRA and other federal funding as part of larger set of wholistic changes to planning.

These opportunities and others may influence how a commission moves forward to incorporate the IRA into planning in a cohesive and streamlined manner.

Conclusion

This toolkit outlines a variety of clear actions to take advantage of the unprecedented opportunity created by the IRA. Because the responsibility of resource planning falls to utilities and regulators alike, this toolkit focuses on the distinct but connected actions that these actors can and should take in service of the public interest. Taken together, these actions will support these entities in fulfilling their responsibilities to the public and meeting the pressing demands the electricity system is facing in the 21st century.

However, the IRA is not timeless. The timing of this publication aligns with a narrow two-year window and inflection point to support the lowest-cost path to prepare the electricity sector to meet looming grid needs. The EIR program's loan authority currently expires in 2026 and some of the incentives have a finite window of availability. Regulators who act now, in the upcoming or on-going resource planning process, will be able to ensure that the benefits of the IRA are maximized in their jurisdiction. Waiting even one cycle risks resource plans and, later, decision-making that leaves money on the table.

Utilities are more likely to live up to the "North Star" resource planning actions outlined in this report if regulators work with them to do so within this defined timeframe. The effort of enabling utilities to optimally leverage the IRA — and ensuring that they do — will be no small feat for commissions. As long as the utility's business model is misaligned with cost efficiency, innovation, and competition, the onus will be on regulators to ensure the IRA savings opportunities are leveraged. However, where regulators have the authority and interest, pursuing regulatory reforms that will align a utility's financial incentives with leveraging IRA credits and programs to deliver net benefits for all customers may reduce the burden on regulators. If the utility's profit-seeking motivations are aligned with maximizing the IRA's savings opportunities for its ratepayers, the utility is more likely to be a proactive partner in identifying the most IRA-leveraged solutions.

Getting resource planning right with respect to harnessing IRA benefits is the first frontier, but certainly not the last. RMI's *IRA for Regulators* insight brief provides insight into a variety of actions that PUCs can take beyond the planning realm to harness the IRA savings opportunity: rate cases, PBR design proceedings, wildfire proceedings, program design dockets, certifications of public convenience and necessity, among others. Each of the preceding examples represent venues in which the IRA ***should*** be a prominent feature in order to leverage the transformative potential of this legendary legislation.

Although there is a lot of work ahead to unlock the IRA's full potential, reports like this one and emerging examples from utilities and commissions across the country will continue to provide North Stars that can help utilities and regulators maximize the funding offered by the IRA in the resource planning process. Each state has the opportunity to iterate on their IRPs over the next decade to get closer to truly capturing the unprecedented benefits of the IRA to advance clean, reliable, affordable, and equitable power.

Appendix A.
Questions Regulators Can Ask Utilities to Aid Evaluation and Review of How IRA Benefits Were Incorporated into an IRP Filing

This appendix outlines a set of questions that regulators can adapt and use to get clear, detailed information to evaluate if and how utility resource plans incorporated IRA incentives to identify cost savings opportunities. It also includes questions to help understand and assess the utility's rationale for selecting key inputs, constraints, and assumptions in their planning process.

The questions are organized by the common components of resource planning, referred to as building blocks, that are depicted in Exhibit 1 on page 11. The *PUC Review Considerations* below identify broad categories of inquiry about how the IRA is being integrated into resource planning, while the *Questions to Ask Utilities* solicit specific and detailed information that can help to answer the broader PUC Review Considerations. *Key IRA-Affected Planning Elements* reference the relevant IRP planning elements described in the body of the report.

While the questions within this appendix are intended to serve as springboards for thinking comprehensively about IRA implementation in resource planning, they can also be used to inform regulators' discovery or data request formation process. In some contexts, discovery questions and data requests are written with formal, conversational language (e.g., "Please provide…"). For concision and clarity, this language is omitted from this appendix. Where appropriate, bolded and italicized notes in brackets provide additional context on when specific questions would be most effective or relevant. The questions in Exhibits A-1-to A-5 are neither exhaustive nor definitive. They are meant as a starting place to support regulators who wish to engage with utilities to better understand which IRA considerations the utility did and did not include in its planning, and its rationale for such decisions.

Specifically, the exhibits in this *Appendix* outline question sets in the following areas:

- **Exhibit A-1:** Questions on Common IRA Considerations[xviii]
- **Exhibit A-2:** Questions to Establish Assumptions
- **Exhibit A-3:** Questions to Help Develop Forecasts
- **Exhibit A-4:** Questions to Help Set Objectives and Scenarios
- **Exhibit A-5:** Questions to Help Identify Solutions

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xviii Questions in this section are informed by those asked by the Minnesota Public Utilities Commission in a docket they opened to investigate the impacts of the Inflation Reduction Act [MNPUC Docket Number: E,G999/CI-22-624], as well as the Arkansas Public Service Commission's Order investigating how utility plans can maximize the opportunities and benefits provided by the Inflation Reduction Act and the Infrastructure Investment and Jobs Act [APSC Docket No. 23-094-U].

Exhibit A-1 Questions on Common IRA Considerations

These are questions that can be used to understand utilities' approach to IRA across dockets, including but not limited to planning. They also can help a commission understand utility and stakeholder perspectives on the actions they can take to influence uptake of IRA benefits.

PUC Review Consideration	Questions to Ask Utilities

How is the Inflation Reduction Act affecting the utility's overall strategy and operations?	• Has the utility developed a strategy or taken steps to ensure that they are maximizing benefits of the IRA for ratepayers? Specifically, describe and provide documentation for analysis of IRA benefits related to the following topics, at a minimum:
	  ○ Investment in new or improved infrastructure
	  ○ Emerging technologies, including carbon capture and hydrogen
	  ○ Methane monitoring and emissions capture and sequestration technologies
	  ○ Additional financing opportunities
	  ○ Physical and cybersecurity
	  ○ Any anticipated public or private partnerships to better access IRA benefits or implement programs enabled by the IRA
	• Provide any preliminary or pro forma estimates of the impact of the IRA on the utility's operations, including any SEC disclosures or information provided to shareholders.

How has the IRA generally affected the utility's resource planning and procurement activities?	• How does the IRA affect the utility's short- and long-term planning activities, including but not limited to:
	  ○ Does the IRP affect any current, ongoing, or planned IRPs, and are any changes warranted?
	  ○ Are the impacts of the IRA fully incorporated into ongoing resource procurements? If not, what changes are needed to ensure ongoing resource procurements maximize the opportunities from IRA provisions?
	• Please provide a table comparing the major assumptions in the last IRP and how they have changed in this IRP.
	  ○ Please discuss the rationale for the changes and how the IRA has affected each one, where applicable.
	  ○ Please include any new assumptions that did not appear in the pre-IRA IRP.

What actions can commissions take to enable IRA benefits?	• Does the passage of the IRA require updates or changes to any existing utility plans or programs, or any existing laws, to ensure that its benefits are maximized?
	  ○ Are there any relevant state laws, rules, or regulations that adversely affect the utility's ability to access or utilize incentives or potential benefits created by the IRA?
	  ○ Could creation or modification of any state laws, rules, or regulations create additional opportunities to access benefits of the IRA?
	• What actions can the commission take to enable access to benefits created by the IRA?

Exhibit A-2 Questions to Establish Assumptions

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
How has the utility accounted for potential incremental load associated with hydrogen production as a result of Section 45V tax credits?	• What was the utility's process for updating cost assumptions for clean energy tax credit-eligible resources to reflect the IRA's extension of production tax credits and expanded eligibility to a broader set of technologies through 2032? Please explain the utility's approach and basis for these resource cost assumptions, including the modeled ITC/PTC level for each resource type, and provide supporting documentation and workpapers. If the utility did not have a process for updating cost assumptions, please explain. • Describe how the utility implemented the availability of transferability for the ITC and PTC in the economic modeling of candidate resources,[xix] and any variation in approach between scenarios, including supporting documentation and workpapers. This response should provide support for assumptions regarding the timing of the establishment of a tax credit transfer market and the estimated cost of transferring tax credits. If the utility did not translate transferability impacts into the financing costs for ITC and PTC eligible resources, provide an explanation for this modeling decision. • Describe the utility's methodology or model logic which determined whether the PTC or the ITC was selected for each resource type, providing supporting documentation and workpapers as appropriate. If no such methodology or model logic was incorporated in the utility's modeling, please explain why not. ○ If the utility selected the PTC or ITC rather than allowing the model to do so, please provide all supporting documentation and workpapers justifying the tax credit decision for each resource.	• Resource and financing costs • Scenario development and evaluation • Procurement

xix It is appropriate to ask investor-owned utilities about tax credit transferability. However, if the utility is a regulated cooperative, regulators can repurpose this question and replace "transferability" with "direct pay," which only applies to nonprofits, rural electric coops, generation and transmission cooperatives, and municipal utilities.

Exhibit A-2 Questions to Establish Assumptions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

ITC and PTC Bonus Opportunities — How is the utility integrating the Energy Community adder?	• Summarize how the utility estimated the total potential for resources in its service territory to optimize the clean energy tax credits' energy community bonus adder. Provide all workpapers or analysis conducted or consulted by the utility to evaluate the potential eligibility for energy community adders within the relevant geography for future procurement by the utility.
	  ○ If the utility did not conduct this analysis, or did not include such considerations in its modeling, explain why not.
	• Describe how the potential bonus credit value for energy communities was incorporated into the utility's modeling. Specify if the model was allowed to select resources eligible for the energy community bonus, and if so, whether any constraints were placed on the model's ability to select such resources.
	  ○ If the utility's modeling was not conducted in such a way that allowed the model to select energy community bonus eligible resources, explain the utility's rationale for this approach.
	• Describe how the utility is ensuring that its resource plan is utilizing all feasible savings potential associated with the energy community bonus adder for the benefit of its ratepayers. Specifically identify any steps taken in the utility's quantitative or qualitative analysis, modeling, procurement, and/or short-term action plan to ensure that all feasible benefits of the energy community bonus adder are utilized.
		• Resource and financing costs
		• Scenario development and evaluation
		• Procurement
		• Additional policy objectives, including local development, equity, and affordability

Exhibit A-2 Questions to Establish Assumptions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

ITC and PTC Bonus Opportunities — How is the utility integrating the domestic content adder?	• Which resources does the utility expect will meet the requirements for the ITC/PTC domestic content bonus adder in the utility's service territory over the course of the IRP's planning period? Provide any supporting documentation, analysis, or workpapers. For any resources identified as eligible, what timeline does the utility expect for domestic-content-eligible resources to be available for procurement?
	  ○ Explain how the utility incorporated domestic content adder savings potential into its modeling. If it did not, explain the utility's rationale for omission.
	  ○ If the utility contends that the price increase from domestic content will be equivalent to the domestic content bonus tax credit, please provide support for this assertion.
	• Describe how the utility is ensuring that its resource plan is utilizing all feasible savings potential associated with the domestic content bonus adder for the benefit of its ratepayers. Specifically identify any steps taken in the utility's quantitative or qualitative analysis, modeling, procurement, and/or short-term action plan to ensure that all feasible benefits of the domestic content bonus adder are utilized.
		• Resource and financing costs
		• Scenario development and evaluation
		• Procurement
		• Additional policy objectives, including local development, equity, and affordability

Exhibit A-2 Questions to Establish Assumptions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

ITC and PTC Bonus Opportunities — Is the utility planning to optimize savings associated with meeting prevailing wage requirements?
 	
This is also applicable to 45Q (CO_2 Sequestration), 45V (clean hydrogen), and several other provisions[xx]
	• Which projects does the utility expect will meet the prevailing wage and apprenticeship requirements for the federal clean energy investment and production tax credits?
	  ○ Provide any analysis, documentation, or workpapers used to evaluate whether any contemplated resources will meet prevailing wage and apprenticeship requirements for the federal clean energy investment tax credits.
	  ○ Explain how the utility incorporated the savings potential for meeting the prevailing wage and apprenticeship requirements into its modeling. If it did not, explain the utility's rationale for omission.
		• Resource and financing costs
		• Scenario development and evaluation
		• Procurement
		• Additional policy objectives, including local development, equity, and affordability

xx For a full list of provisions that are eligible for credits and deductions for meeting prevailing wage and apprenticeship requirements, see Internal Revenue Service Guidance on prevailing wage and apprenticeship requirements (**https://www.irs.gov/credits-deductions/prevailing-wage-and-apprenticeship-requirements**).

Exhibit A-2 Questions to Establish Assumptions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

How has the utility accounted for any incremental hydrogen production in its service territory as a result of Section 45V tax credits? Has the utility appropriately valued hydrogen-related resource costs to reflect risk and uncertainty in its modeling?	• Summarize the utility's approach to modeling hydrogen production, including through electrolysis, and its implications for incremental load in its integrated resource plan.
	  ○ Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the magnitude of additional load associated with hydrogen electrolysis.
	  ○ Describe and provide supporting workpapers and analysis for the specific steps that the utility took to investigate or ensure that hydrogen electrolysis complies with Section 45V clean energy requirements, specifically the requirements for incrementality, deliverability, and temporal matching.
	  ○ Describe steps taken by the utility to evaluate the use of Energy Infrastructure Reinvestment (EIR) program financing for hydrogen electrolysis or transport.
	• Provide cost assumptions for any resources expected to be fueled by hydrogen at any blend level, at any point over its operating lifetime in the utility's modeling and provide the basis for each assumption. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the availability and all cost parameters of hydrogen-burning resources contemplated by its integrated resources plan. These should include, at a minimum, specific cost assumptions for:
	  ○ Hydrogen fuels (including production, transportation, storage, and distribution)
	  ○ New-build combustion units capable of burning fuels with a high and/or 100% blend of hydrogen
	  ○ Retrofit costs for existing combustion units and fuel transport infrastructure for carrying higher blends of hydrogen to these units
	  ○ On-site hydrogen production, if applicable
	[For some utility plans, the IRA tax credits may be a decisive factor for economic modeling of select hydrogen burning resources. However, uncertainties around this emerging technology are significant. Asking this question will help explore the extent to which the utility assumes the tax credits might offset those uncertainties.]
		• Load forecasting
		• Resource and financing costs
		• Candidate utility-scale resources
		• Scenario development and evaluation

Exhibit A-2 **Questions to Establish Assumptions, continued**

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
Hydrogen questions, continued	• Describe the utility's analysis of the uncertainties (including but not limited to technical feasibility, cost, timeline, fuel security, and emissions) associated with hydrogen fuels and hydrogen-fueled resources. Provide all analysis conducted, commissioned, or consulted by the utility to evaluate uncertainties associated investment in hydrogen burning resources. Provide an explanation, with supporting analysis, documentation, and workpapers, for how the utility translated these uncertainties into their modeling and resource cost assumptions. • Provide a comprehensive description of the utility's plans or expectations for the transportation, distribution, and/or storage of hydrogen fuels for any resources contemplated in its resource planning. At a minimum, provide: ○ Any contemplated siting considerations for hydrogen transport, storage, and distribution ○ Timeline and cost of any contemplated retrofits to existing transport and distribution infrastructure ○ Any analysis conducted, commissioned, or consulted and/or any sources consulted by the utility on the technical feasibility and cost of hydrogen transport ○ How transport and storage costs were reflected assumptions for hydrogen fuel costs in the utility's modeling • Provide any analysis or consideration conducted by the utility assessing the impact of incremental NO_x emissions from hydrogen combustion on local health outcomes and relevant environmental compliance requirements, and explain how these considerations were incorporated into the utility's modeling. If the utility has not conducted any analysis or consideration, explain why. ○ ***[Where clean energy or emissions reductions targets apply]*** Quantify and/or explain the utility's estimation of the impact of hydrogen production on ***[clean energy policy]*** target achievement. ○ Describe the utility's approach to blending hydrogen with existing gas supply in its modeling analysis, and provide any supporting documentation or workpapers. This response should address whether the model was permitted to select the optimal fuel blending ratios of natural gas and hydrogen, how maximum and minimum hydrogen blending levels over time were determined, and any operational, economic, or technical assumptions regarding efficiency, operations and maintenance costs, and emissions.	

Exhibit A-2 Questions to Establish Assumptions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
Has the utility consistently adjusted its cost assumptions for all Section 45Q-eligible resources in its modeling? Has the utility appropriately evaluated carbon capture and sequestration (both retrofits and new resources) to reflect risk and uncertainty in its modeling?	• Were the cost assumptions for all technologies eligible for the Section 45Q credit updated to reflect these energy tax credits? If so, explain the utility's approach and basis for these resource cost assumptions and provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the economic impact of Section 45Q tax credits. If not, explain why the utility did not update its assumptions. • Explain and substantiate the cost and technical assumptions for carbon capture and sequestration (CCS) employed by the utility in its modeling. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the cost and technical implications of CCS on existing and future resources. ○ Describe the utility's considerations regarding the uncertainty of cost estimates for CCS technology and how these were integrated into the utility's quantitative modeling. ○ Provide any analysis or consideration conducted by the utility on the potential for Section 45Q tax credits to *increase* capacity factor and/or gross emissions from units with CCS retrofits. • Describe the utility's considerations regarding the risk of tax credit ineligibility if thresholds for percentage of emissions captured are not met. ○ What steps does the utility plan to take to ensure that at least 75% of emissions will be captured? ○ What factors (if any) are entirely out of the utility's control which may influence its ability to ensure 75% of emissions will be captured by CCS technology? ○ Describe how the utility understands and plans for the distribution of risk between the utility and its ratepayers associated with investing in CCS technology if the credit is not received.	• Resource and financing costs • Candidate utility-scale resources • Scenario development and evaluation • Unit retirement and replacement studies

Exhibit A-2 Questions to Establish Assumptions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

CCS questions, continued	• If the resource plan contemplates any carbon capture, provide a comprehensive description of the utility's plans for transportation and storage of captured carbon dioxide. At a minimum, provide:
	  ○ Any contemplated siting considerations for carbon transport and anticipated sites for carbon storage.
	  ○ The utility's assumptions regarding the costs for transportation and storage of captured carbon dioxide. Provide the basis for the assumptions the utility used.
	  ○ Provide the utility's assessment of potential revenue from tax credits for captured and sequestered carbon and any supporting documentation and workpapers.
	  ○ How were these transportation and storage costs reflected in the utility's modeling? If these costs were not reflected, explain the utility's rationale for this omission.
	• Did the utility consider the siting of CCS technology on or near a retiring fossil unit's existing transmission infrastructure, eligibility for energy community bonuses, and/or Energy Infrastructure Reinvestment financing? If so, explain the utility's conclusions and provide any evidence or resources that support the utility's conclusions.	

Has the utility consistently adjusted its cost assumptions for all existing (Section 45U- and 45J-eligible) nuclear resources in its modeling?	• ***[If applicable]*** Does the utility anticipate that any existing nuclear facilities included in the utility's modeling will be eligible to receive tax credits for existing nuclear facilities? If yes, clarify whether and how tax credits for existing nuclear resources were reflected in the utility's modeling. If not, explain, detailing the potential impediments to claiming these tax credits. ○ Has the utility estimated the reduction amount for its existing nuclear plants to determine the amount of tax credit each is eligible for? If so, provide all details, analysis, documentation, and workpapers supporting this analysis. If not, explain why not.	• Resource and financing costs • Unit retirement and replacement studies

Exhibit A-2 Questions to Establish Assumptions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
Has the utility consistently adjusted its cost assumptions for any contemplated new-build nuclear facilities? Has the utility appropriately evaluated the nuclear technology costs to reflect risk and uncertainty?	• Were the cost assumptions for any contemplated new nuclear technologies updated to reflect available federal clean energy tax credits? If so, explain the utility's approach and basis for these resource cost assumptions and provide supporting documentation and workpapers. If not, explain why the utility did not update its assumptions. • Explain and substantiate the future cost assumptions for contemplated new-build nuclear resources employed by the utility in its modeling. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the cost and construction timeline of future nuclear resources. ○ In your response, describe how the IRA tax credits for nuclear resources were incorporated into the utility's cost assumptions. • Explain the extent to which the utility plans to or has included modeling considerations to include existing transmission infrastructure, brownfield sites, and EIR financing when siting any contemplated new-build nuclear resources.	• Resource and financing costs • Candidate utility-scale resources • Scenario development and evaluation

Has the utility comprehensively evaluated low-cost financing made available from the Department of Energy and authorized by the IRA?	• Describe the utility's evaluation process undertaken for identifying, evaluating, and prioritizing potential opportunities to utilize low-cost financing, including state energy financial (SEFI) financing and Energy Infrastructure Reinvestment (EIR) loan financing in its resource plan. Provide any analysis, workpapers, prepared presentations, and/or documentation that reflect the utility's EIR evaluation process.
	  ○ If not explicitly modeled, please explain in detail how the utility expects EIR loan financing (if it were secured) could affect the costs of new resources, the economic portfolio selection, the timing of investment in new resources, and the economics of fossil fuel until retirement.
	  ○ If the utility did not conduct an evaluation or decision-making process to consider the impact of EIR financing in its resource plan, explain why not.
		• Resource and financing costs
		• Transmission and regional resources
		• Unit retirement
		• Additional policy objectives including local development, equity, and affordability

Exhibit A-3 Questions to Help Develop Forecasts

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
Has the utility appropriately considered IRA impacts on EE/DSM and resulting changes to resource plan load forecasts?	• Provide the specific steps taken by the utility to integrate IRA provisions related to energy efficiency and demand-side management (EE/DSM) into its forecasting. At a minimum, provide the following: ○ How IRA incentives, rebates, and tax credits for EE/DSM were integrated into the utility's energy efficiency and demand-side management market and potential forecasts. Describe and provide documentation for how market and potential forecasts for EE/DSM integrated supportive IRA provisions. ○ How IRA incentives, rebates, and tax credits for EE/DSM were integrated into the utility's load forecast. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the impact of IRA provisions on its load forecast, including any additional load forecast scenarios. Provide economic impacts (including projected IRA-related savings across ratepayers) and load impacts (including quantified impacts to in annual and seasonal load and peak demand). ○ How the above IRA provisions were integrated into the utility's projections of utility-provided energy efficiency programs. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the impact of IRA provisions on the cost-effectiveness and scale of utility energy efficiency programs. List and provide documentation and workpapers for any specific changes made by the utility to its current or planned utility EE/DSM program offerings as a result of IRA incentives, rebates, or tax credits. If the utility has not made any changes to its utility EE/DSM programs, explain why not. ○ The utility's current and planned coordination with the relevant state energy office on effectively administering IRA funding and/or programming focused on EE/DSM. Describe specifically any coordination that has already taken place or ongoing coordination efforts and provide documentation. ○ A description of how the utility employed scenario analysis in its modeling to evaluate multiple trajectories of EE/DSM uptake after the passage of IRA. Provide any scenarios created by the utility to evaluate varying levels of IRA utilization to inform EE/DSM as a resource in modeling. Provide any workpapers of analysis used to create these scenarios. If the utility did not update or create new scenarios to evaluate how the IRA's passage might influence EE/DSM, explain why not.	• Load forecasting • EE/DSM and DER Forecasts • Scenario development and evaluation

Exhibit A-3 Questions to Help Develop Forecasts, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

Has the utility appropriately considered IRA impacts on transportation electrification and resulting changes to resource plan load forecasts?	• Provide the specific steps taken by the utility to integrate IRA provisions related to transportation electrification into its forecasting. At a minimum, provide the following:
	  ○ How IRA incentives, rebates, and tax credits for transportation electrification were integrated into the utility's projection of EV adoption. Provide forecasts that specify electric vehicle adoption and expected load and capacity by type and/or customer segment (e.g., commercial fleet, public infrastructure, residential charging). Provide any EV forecasts created by the utility, including documentation and workpapers, and describe the impact of IRA incentives.
	  ○ How EV forecasts, including impacts of relevant IRA provisions, were integrated into the utility's load forecast. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the impact of IRA provisions on its load forecast, including any additional load forecast scenarios. Provide economic impacts (including projected IRA-related savings across ratepayers) and load impacts (including quantified impacts to annual and seasonal load and peak demand).
	  ○ How IRA incentives, rebates, and tax credits affect the projected scale of any utility electric vehicle managed charging or demand management programs currently operated, planned, or contemplated by the utility. Provide any workpapers and documentation related to any current or anticipated programs.
	  ○ The utility's current and planned coordination with the relevant state energy office(s) on effectively administering IRA funding and/or programming focused on transportation electrification. Describe specifically any coordination that has already taken place or ongoing coordination efforts, and provide any documentation.
		• Load forecasting
		• EE/DSM and DER forecasts
		• Scenario development and evaluation

Exhibit A-3 Questions to Help Develop Forecasts, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

Has the utility appropriately considered IRA impacts on building electrification and resulting changes to resource plan load forecasts?	• Provide the specific steps taken by the utility to integrate IRA provisions related to building end-use electrification into its forecasting. At a minimum, provide the following:
	  ○ How IRA incentives, rebates, and tax credits for building electrification were integrated into the utility's projection of building electrification adoption. Provide any electrification forecasts created by the utility, including documentation and workpapers, and describe the impact of IRA incentives.
	  ○ How building electrification forecasts, including impacts of relevant IRA provisions, were integrated into the utility's load forecast. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the impact of IRA provisions on its load forecast, including any additional load forecast scenarios. Provide economic impacts (including projected IRA-related savings across ratepayers) and load impacts (including quantified impacts to in annual and seasonal load and peak demand).
	  ○ How IRA incentives, rebates, and tax credits affect the projected scale of any utility demand-side management programs targeted toward electrified loads (including heat pumps) currently operated, planned, or contemplated by the utility.
	  ○ How the utility is currently coordinating and planning to coordinate with the relevant state energy office(s) on effectively administering IRA funding and/or programming focused on building electrification. Describe specifically any coordination that has already taken place or ongoing coordination efforts, and provide any documentation.
		• Load forecasting
		• EE/DSM and DER forecasts
		• Scenario development and evaluation

Exhibit A-3 Questions to Help Develop Forecasts, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

Has the utility appropriately considered IRA impacts on distributed energy resources (DERs) and resulting changes to resource plan load forecasts?	• Provide the specific steps taken by the utility to integrate IRA provisions related to DERs, including but not limited to behind-the-meter solar and storage, into its forecasting. At a minimum, provide the following:
	  ○ How IRA incentives, rebates, and tax credits for DERs were integrated into the utility's projection of building electrification adoption. Provide any DER forecasts created by the utility, including documentation and workpapers, and describe the impact of IRA incentives.
	  ○ How DER forecasts, including impacts of relevant IRA provisions, were integrated into the utility's load forecast. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the impact of IRA provisions on its load forecast, including any additional load forecast scenarios. Provide economic impacts (including projected IRA-related savings across ratepayers) and load impacts (including quantified impacts to annual and seasonal load and peak demand).
	  ○ Any utility DER management or aggregation programs currently operated, planned, or contemplated by the utility.
	  ○ The utility's current and planned coordination with the relevant state energy office(s) on effectively administering IRA funding and/or programming focused on DERs. Describe specifically any coordination that has already taken place or ongoing coordination efforts, and provide any documentation.
	• Describe how the utility incorporated demand flexibility resources, and the growth of demand flexibility resources alongside electrification, into its analysis and planning. Provide all analysis and/or workpapers used to integrate demand flexibility into resource planning. Explain how those assumptions shifted as a result of IRA incentives. If the utility did not incorporate any changes to demand flexibility resource assumptions related to the IRA's incentives into its analysis and planning, explain why not.
		• Load forecasting
		• EE/DSM, and DER forecasts
		• Scenario development and evaluation

Exhibit A-3 Questions to Help Develop Forecasts, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

Has the utility considered the geographic distribution of impacts associated with electrification adoption on load forecasts, including in low-to-moderate-income communities?	• Describe the utility's approach for projecting the geographic distribution of adoption of demand-side technologies, including but not limited to EE/DSM technologies, building and transportation electrification, and distributed energy resources. Provide any associated analysis, workpapers, or documentation.
	  ○ Describe any evaluation of distribution infrastructure upgrades needed to support increased electrification due to increased electrification adoption as a result of relevant IRA provisions. Provide any associated analysis, workpapers, or documentation.
	  ○ Did the utility consider the potential for DERs to potentially offset stresses on distribution network infrastructure that might be caused by increased electrification? Provide documentation and workpapers for any analysis conducted or contracted by the utility.
	  ○ Provide any steps taken to evaluate the use of relevant IRA provisions, including the Solar for All program and Environmental and Climate Justice Block Grants, to address infrastructure costs associated with increased electrification and/or DER deployment.
		• Load forecasting
		• EE/DSM and DER forecasts
		• Scenario development and evaluation

Exhibit A-4 Questions to Help Set Objectives and Scenarios

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
Is the utility appropriately collaborating with other entities to pursue additional policy objectives?	• How is the utility coordinating with states, cities, and other entities to ensure that these entities can maximize the IRA to pursue projects related to resilience and/or affordability?	• Additional policy objectives, including local development, equity, and affordability

Has the utility appropriately considered IRA provisions that provide additional resources and financing to support rural, remote, and/or tribal communities?	• How has the utility considered and/or adjusted its distributed generation and load forecasts or scenarios to reflect IRA funding for small-scale solar through the Low-Income Communities Bonus Credit Program, Greenhouse Gas Reduction Fund, Climate Pollution Reduction grants, and/or Environmental and Climate Justice Block Grants? If the utility has not considered and/or adjusted its forecasts, explain why not.
	• Describe any activities undertaken by the utility to coordinate with other relevant entities, including tribal entities, neighboring utilities and co-ops, rural businesses, and state and local administrative agencies on incorporating projects associated with the following IRA provisions:
	  ○ Powering Affordable Clean Energy (PACE)
	  ○ Rural Energy for America (REAP)
	  ○ Empowering Rural America (New ERA)
	  ○ Tribal loan guarantee and electrification programs
	• Provide an explanation on how any ongoing, potential, or planned projects associated with any of the above IRA provisions were integrated into the utility's resource planning inputs or quantitative modeling.
	• How has the utility considered and/or adjusted distributed generation and load forecasts to reflect IRA support for rural and tribal renewable energy development? If the utility has not considered and/or adjusted its forecasts, explain why not.
		• Distributed resource planning and EE/DSM forecast
		• Resource and financing costs
		• Additional policy objectives, including local development, equity, and affordability

Exhibit A-4 Questions to Help Set Objectives and Scenarios, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
Is the utility defining a variety of scenarios to reflect multiple potential pathways for IRA uptake?	• Summarize the utility's scenario development approach for evaluating multiple potential future conditions related to key IRA provisions and provide associated workpapers and analysis. Provide scenario approaches, including the number of scenarios and differentiating features, for the following IRA-related topics: ○ Energy efficiency and demand-side management ○ Distributed energy resources ○ Transportation and building electrification ○ Unit retirement and replacement timelines (and use of EIR financing)	• Scenario development and evaluation

Exhibit A-5 Questions to Help Identify Solutions

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements

Has the utility appropriately considered IRA impacts on distributed energy resources (DERs) and resulting changes to resource plan load forecasts?	• Does the utility model behind-the-meter solar and storage as selectable resources in its resource plan? If not, explain why not.
	  ○ If so, provide the cost and technical assumptions associated with these resources, including any documentation and workpapers.
	  ○ How did the utility incorporate IRA provisions that affect the cost of distributed energy resources (DERs) in its modeling? These include, at a minimum, clean energy tax credits, the Residential Clean Energy Credit program, Section 48(e) bonus credits for clean energy in low-income communities, and the Solar for All program. Provide all analysis conducted, commissioned, or consulted and/or any sources consulted by the utility to evaluate the economic and deployment implications of these IRA provisions for distributed energy resources in the integrated resource plan.
	• Does the utility model energy efficiency, demand response, demand flexibility, or aggregations of these technologies (sometimes called "virtual power plants") as selectable, dispatchable resources in its resource plan?
	  ○ If so, provide the cost and technical assumptions associated with these resources, including any documentation and workpapers.
	  ○ Describe the relationship, if any, between electrification and EE/DSM adoption forecasts and any forecasts of demand flexibility resources. Describe how the IRA's incentives, rebates, and tax credits for electrification and EE/DSM impact demand response or demand flexibility availability.
	• Describe the assumptions the utility included in its modeling regarding the flexibility of demand from EV charging, including how the IRA's expanded customer incentives for EVs informed the forecasts and load impact scenarios.
		• Candidate demand-side resources and programs

Exhibit A-5 Questions to Help Identify Solutions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
How does the resource plan contemplate specific opportunities to reduce ratepayer costs using EIR in its definition of potential solutions in its resource plan?	• How did the utility analyze the potential for Energy Infrastructure Reinvestment (EIR) loan financing to lower the costs of new generation resources that would qualify for the program through using existing infrastructure and reducing eligible emissions? Provide any supporting analysis and documentation. • Did the utility integrate the potential for EIR financing into its evaluation of retirement and replacement analyses of existing generation units? If yes, explain how and provide supporting documentation and workpapers. If not, explain the utility's rationale. • Did the utility integrate the potential for EIR financing into its evaluation of increasing transmission capacity (e.g., through reconductoring existing lines), including in its quantitative modeling? If yes, explain how and provide supporting documentation and workpapers. If not, explain why not. • Did the utility integrate the potential for EIR financing into its evaluation of deploying additional capacity of low-emissions resources at existing points of interconnection? Describe the specific qualitative and quantitative steps that the utility took to evaluate this use of EIR financing. How did the utility model the potential for EIR financing to more rapidly deploy clean energy resources to take advantage of excess transmission capacity at key nodes of the grid? • ***[If applicable]*** Did the utility consider including environmental remediation costs associated with any retired or retiring fossil unit in its evaluation of EIR projects contemplated in the context of this plan? • Describe how the utility is ensuring that its resource plan is utilizing all feasible potential associated with the Energy Infrastructure Reinvestment (EIR) program for the benefit of its ratepayers. Specifically identify any steps taken in the utility's quantitative or qualitative analysis, modeling, procurement, and/or short-term action plan to ensure that a set of investments that would maximize the ratepayer savings of an EIR application is identified, such as but not limited to, the use of Energy Community bonuses associated with the ITC and PTC.	• Additional policy objectives, including local development, equity, and affordability • Unit retirement and replacement studies

Exhibit A-5 Questions to Help Identify Solutions, continued

PUC Review Consideration	Questions to Ask Utilities	Key IRA-Affected Planning Elements
Has the utility integrated federal policy provisions into its consideration of expanding electricity transmission?	• Describe the utility's process for evaluating expansion of transmission, either from the construction of new lines or the upgrading of existing lines through reconductoring or grid-enhancing technologies (GETs) and provide any supporting analysis or workpapers. Describe specifically how this evaluation is integrated into portfolio modeling and which specific federal financing programs the utility incorporated into its cost assumptions for GETs in its economic modeling.	• Transmission and regional resources

Appendix B.
Regulatory Collaborative (Reg Lab) Toolkit of Key IRA Provisions

Introduction

The Regulatory Collaborative Toolkit provides an overview of specific provisions of the Inflation Reduction Act (IRA) most relevant for resource planning. The toolkit can be used by resource planners as an introduction to the key details of IRA provisions that affect resource planning, and a starting point for understanding the implications for these provisions in resource planners' specific context.

The Toolkit was created by RMI staff as reference material for the workshops that made up the RMI Regulatory Collaborative's first cohort in Spring and Summer 2023. Since those workshops, RMI staff added additional information where relevant for key IRA provisions. The toolkit also includes clarifying questions and answers surfaced during Reg Lab workshops.

Workshop 1
Clean Energy Tax Credits

Extended and Expanded Tax Credits (ITC and PTC) for Clean Energy and Energy Storage

Summary: The IRA extends existing clean energy investment and production tax credits (ITCs and PTCs) for 10 years, which reduces uncertainty around their availability for the purposes of resource planning. The new provisions also expand which utility-scale resources are eligible:[xxi] the PTC now covers solar and new nuclear resources, and the ITC now includes stand-alone storage projects. Both credits are replaced by new technology-neutral production and investment tax credits for qualified zero-emissions generation starting in 2025.[xxii]

Similar to previous ITC and PTC iterations, credits are subject to a prevailing wage requirement. The IRA also introduces 10% "adders" that provide additional value for projects that meet domestic content and energy community criteria (these adders are discussed below).

In contrast to previous iterations, the revised ITC does not require investor-owned utilities to normalize tax benefits for storage investments. As a result, these utilities can utilize the full value of the tax credit immediately, rather than receiving credit over the operating life of the resource. The ITC and PTC also provide the opportunity for "direct pay" to tax-exempt organizations and may be transferred to a third party. These provisions allow organizations without a tax burden, such as municipal or co-op utilities, to monetize the tax credits.

Relevant IRA Sections: IRA Sections 13101–13105.

Availability Window: The technology-specific ITC and PTC are available immediately. Tax credits begin to phase down over a three-year period after the latter of 2032 or when US power-sector greenhouse gas emissions reach 25% of 2022 emissions. Leading models conflict on whether US power sector emissions will reach this threshold by 2032.[19]

Key Regulatory Venues: Integrated resource planning, procurement processes, certificates of public convenience and necessity (CPCNs)

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xxi Eligible technologies for the technology-neutral ITC and/or PTC will include solar, wind, municipal solid waste, geothermal, tidal, energy storage, combined heat and power, biomass, landfill gas, and hydroelectric resources. Carbon capture, utilization, and sequestration projects as well as clean hydrogen and nuclear are discussed in the *Low-Carbon Dispatchable Resources* section of the toolkit.

xxii The PTC becomes technology neutral under IRA §45Y and the ITC becomes technology neutral under IRA §45E.

Clarifying Questions from Workshop 1:

- **What is the cost of transferring tax credits?** Transferring tax credits to another party will entail transaction costs, which reduces the overall value of the tax credit. Experts anticipate that transfer costs will be in the range of 5% of the total value of the tax credit. This is roughly equivalent to the cost of the pre-IRA practice of tax equity financing.

- **When is the US power sector projected to reach 75% reduction of carbon emissions from 2022 levels, triggering the phasedown of tax credits?** With some exceptions, leading models do not tend to project that the US power sector will reach a 75% reduction from 2022 levels by 2032.[i] National Renewable Energy Laboratory modeling results generally project that US power sector emissions will meet this threshold in the early 2030s.[20] Nevertheless, regulators should consider a range of outcomes by using multiple scenarios or sensitivities for tax credit lifetimes.

- **When is it more beneficial for resources to take the investment tax credit versus the production tax credit?** The ITC or PTC's relative benefit depends on the project's capital costs, financing, capacity factor, and any bonus adders the project qualifies for. Generally, wind projects and solar projects with high capacity factors tend to benefit more from the PTC, and projects with higher capital costs or that achieve one or more bonus adders will benefit more from the ITC.

ITC and PTC Adders: Domestic Content and Energy Communities

Summary: The IRA creates additional tax benefits for both the PTC and ITC, which can be stacked as "bonuses" on top of base-level incentives if a project meets certain specifications. Exhibit 1-1, below, shows the value of the base ITC and PTC with the domestic content and/or energy community adders.

Exhibit B1-1

Summary of clean electricity tax credit provisions[21]

Category	PTC	ITC
Base Credit	$5.20/MWh	6%
Full credit (wage + apprentice req.)	$26/MWh	30%
Domestic content bonus	+10%	+10 percentage points
Energy community bonus	+10%	+10 percentage points
Maximum value	$31.20/MWh	50%

The domestic content and energy community bonuses each provide an additional 10% above the base incentive for the PTC or 10 percentage points for the ITC. Projects that qualify for both bonuses can get a value up to $31.20 per megawatt-hour for the PTC or 50% of the total capital cost for the ITC.

Projects qualify for the domestic content adder by using 100% domestically produced steel and iron, plus an escalating percentage of domestic production for other manufactured components.

Projects qualify for the energy community adder by meeting one of three requirements:

1. The project site qualifies as a brownfield site under the Comprehensive Environmental Response, Compensation, and Liability Act;

2. The project is sited within a metropolitan statistical area (MSA), meets a threshold of fossil-fuel related employment, and has an unemployment rate above the national average; or

3. The project site's census tract or an adjoining census tract includes a coal mine or power plant that was retired after 1999 or 2009, respectively.

Additional bonuses are available under the ITC for community solar projects that are less than 5 megawatts (MW) in size and part of an eligible low-income building or low-income economic benefit project.[xxiii]

Relevant IRA Sections: Section 13101(g): Domestic Content and Energy Communities:

Availability Window: Available immediately until the latter of 2032 or when US power sector greenhouse gas emissions reach 25% of 2022 emissions.

Key Regulatory Venues: Integrated resource planning, procurement, CPCNs

Clarifying Questions from Workshop 1:

- **Which technologies will be able to cost-effectively include the domestic content bonus?** The domestic content bonus's economic value to resource planning will depend on whether the cost premium for satisfying the domestic content criteria is less than the benefit of the bonus adder. Timing and savings potential from this adder will be dependent on domestic supply chain developments in the coming years.

- **Is there a resource showing energy communities that qualify under fossil fuel employment criteria?** The US Department of Energy has published a map showing which MSAs meet the fossil fuel employment threshold. Exhibit 1-2 on the next page shows the Energy Communities Map as of January 2024.

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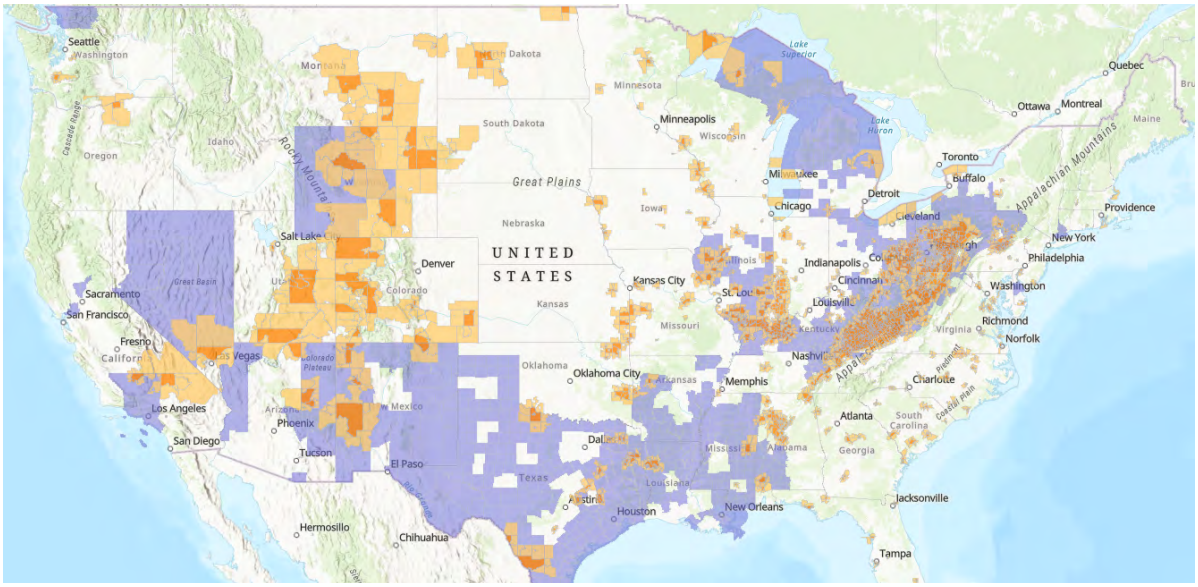
xxiii Tax credits and incentives directed toward low-income communities will be further discussed in the energy equity section of the toolkit.

Exhibit B1-2 Energy Communities Tax Credit Map[22]

Dark orange areas show census tracts with a coal closure. Light orange areas show census areas directly adjoining a census tract with a coal closure. Purple areas show MSAs/non-MSAs that meet both the fossil fuel employment threshold and the unemployment rate requirement.



Workshop 2:
Low-Carbon Dispatchable Resources

Investment and Production Tax Credit (ITC/PTC) for Non-Energy Limited Resources

Summary: Starting in 2025, the ITC and PTC are available to a wide range of zero-carbon, dispatchable resources. These include long-duration energy storage, geothermal, hydroelectric, and tidal resources. The ITC and PTC for these resources are subject to the same prevailing wage and apprenticeship requirements and have access to the same tax treatment options and bonus adders as the ITC and PTC described in the previous *Extended and Expanded Tax Credits for Clean Energy and Energy Storage* section of this toolkit.

Clarifying Questions from Workshop 2:

- **Are there high-quality projections on cost and performance of long-duration energy storage (LDES) resources?** The Department of Energy's *Pathway to Commercial Liftoff* report for long-duration energy storage uses "inter-day" (10–36 hours) and "multi-day/week" (36–160 hours) groups to categorize LDES technologies.[23] Exhibit 2-1 below includes key details from DOE's Liftoff Report:

Exhibit B2-1 **Projected Capital Cost and Round-Trip Efficiency for Long-Duration Energy Storage (LDES)**

LDES Category	Today (for best-in-class technology)		2030 Target	
	Capital Cost ($/kW)	Round-trip Efficiency (%)	Capital Cost ($/kW)	Round-trip Efficiency (%)
Intra-day	$1,100–$1,400	69%	$650	75%
Multi-day	$1,900–$2,500	45%	$1,100	55%–60%

The Liftoff report projects that long-term, predictable compensation of $50–$75 per kilowatt-year for resource adequacy compensation would be sufficient to support commercial viability of these technologies. Liftoff capital cost trajectories are consistent with the Long-Duration Energy Storage Council's 2021 *Net-zero Power: Long duration energy storage for a renewable grid* report.[24]

- **Are best practices emerging for integrating long-duration energy storage into power system models?** Long-duration energy storage resources are best suited for alleviating energy and capacity deficits that emerge over periods of high load, low variable renewable energy output, or both. Conventional grid modeling approaches, which focus on small, representative slices of future years, aren't able to sufficiently model these multi-day events, and can potentially under-value the benefit of long-duration energy storage. Form Energy, a long-duration storage developer, has published best practices on grid modeling that better captures the benefit of long-duration energy storage technologies.[25]

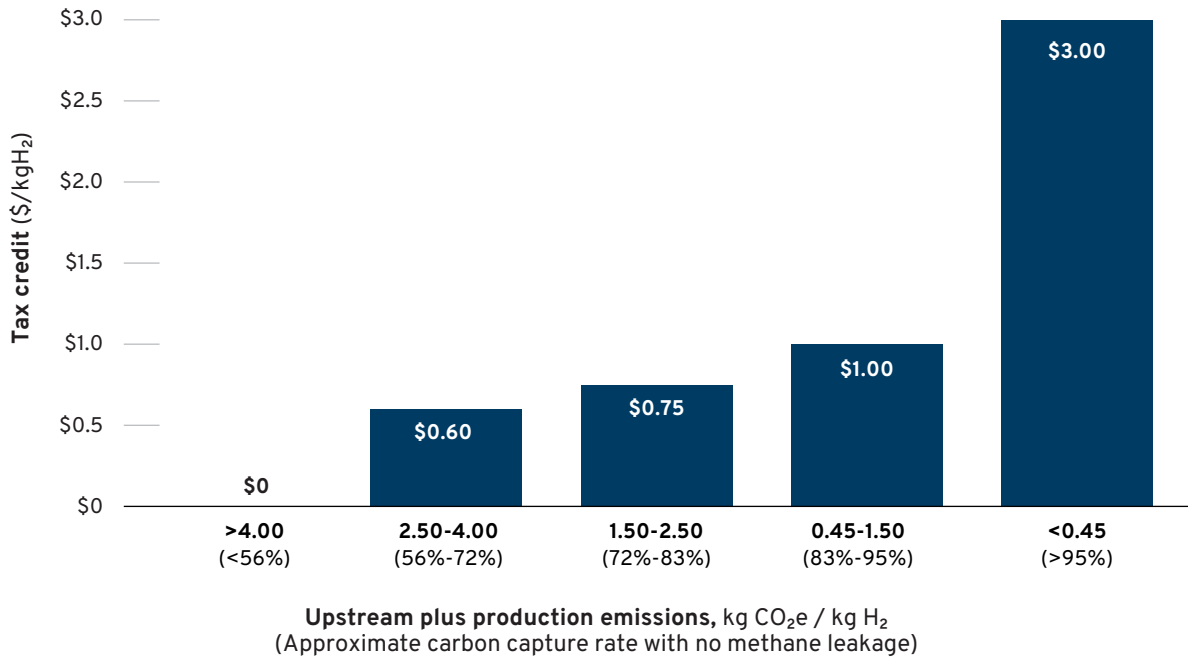
Clean Hydrogen Production (Section 45V) Tax Credits

Summary: The Clean Hydrogen Production Tax Credit (included in the Internal Revenue Code as Section 45V) is a new, 10-year incentive for production of zero- or low-carbon hydrogen. Hydrogen is typically created through one of two methods: steam methane reforming uses methane from natural gas as a feedstock and emits carbon dioxide; electrolysis uses water as a feedstock, splitting it into hydrogen and oxygen. The value of the Section 45V credit is dependent on the evaluated carbon intensity of hydrogen production.

To receive the clean hydrogen production tax credit, producers must demonstrate that they meet specific carbon intensity targets, as shown below in Exhibit 2-1. Values in parentheses show the level of carbon capture required to meet carbon intensity requirements when using the steam methane reforming method. The tax credit does not scale linearly with carbon intensity: hydrogen produced with zero or near-zero carbon emissions receives a much greater credit than hydrogen produced with low emissions.

Exhibit B2-2

Clean Energy Hydrogen Production Tax Credit Levels, by Carbon Intensity[26]



RMI Graphic. Source: Energy Innovation

Emissions associated with electrolysis depend on the carbon content of the electricity used. Guidance on the 45V credit released in December 2023 requires electricity used in electrolysis to meet "three pillars" to qualify for the credit: clean power generation must be new to the grid; clean power generation must be sourced from the same region as the hydrogen producer; and clean power must be generated at the same time that electrolysis is operating.[27]

Clean hydrogen production tax credits are subject to the same prevailing wage and apprenticeship requirements as the IRA investment and production tax credits. Section 45V tax credits are transferable and eligible for direct pay (first five years for all entities, entire term for tax-exempt organizations). While hydrogen producers using carbon capture and sequestration are eligible for the 45Q tax credit (see next section), projects cannot combine the clean hydrogen production tax credit with the carbon capture and storage tax credit. A 30% investment tax credit for hydrogen production facilities is also available as an alternative to the production credit.

Relevant IRA Sections: Inflation Reduction Act Section 13801, Internal Revenue Code Section 45V

Availability Window: Credits are available immediately. Credit is available for hydrogen production facilities placed in service by the end of 2032, with credits being paid for the first 10 years of service.

Key Regulatory Venues: Integrated resource plans, certificate of public convenience and necessity

Clarifying Questions from Workshop 2:

- **How should hydrogen production from electrolysis be integrated into long-term resource planning?** The US Department of Energy's *Clean Hydrogen Commercial Liftoff* report projects that load associated with electrolyzing "green" hydrogen could support up to 200 GW of new renewable energy capacity across the US by 2030, depending on total hydrogen demand and the economics of hydrolysis.[28] Incremental load from hydrogen electrolysis, as well as generation resources used to supply that load, should be included in power sector resource planning.

- **Are hydrogen projects financed through Title 17 clean energy financing programs, including the Innovative Energy and Energy Infrastructure Reinvestment (EIR) loan guarantee program, also eligible for hydrogen production tax credits?** Yes, projects receiving finance through Innovative Energy or EIR programs are also eligible for these tax credits. These financing programs will be covered in greater detail in the *Energy Infrastructure Reinvestment Program* section of this toolkit.

Carbon Capture and Sequestration: Updates to the 45Q Tax Credit

Summary: The IRA updates the existing Internal Revenue Code Section 45Q tax credits for carbon capture, utilization, and storage. Section 45Q tax credits offer varying levels based on the method of carbon capture and storage, as shown in Exhibit 2-3 below.

Exhibit B2-3 Section 45Q Carbon Capture Tax Credits, before and after Inflation Reduction Act

How Captured?	How Stored?	Pre-IRA Credit ($/ metric ton stored)	Post-IRA Credit ($/ metric ton stored)
Point of Emissions (Industrial facilities or power plants)	Geological Storage	$50	$85
	Industrial Use/ Enhanced Oil Recovery (EOR)	$35	$60
Direct Air Capture	Geological Storage	$50	$180
	Industrial Use / EOR	$35	$130

Credits will be inflation-adjusted starting in 2027, indexed to base year 2025.

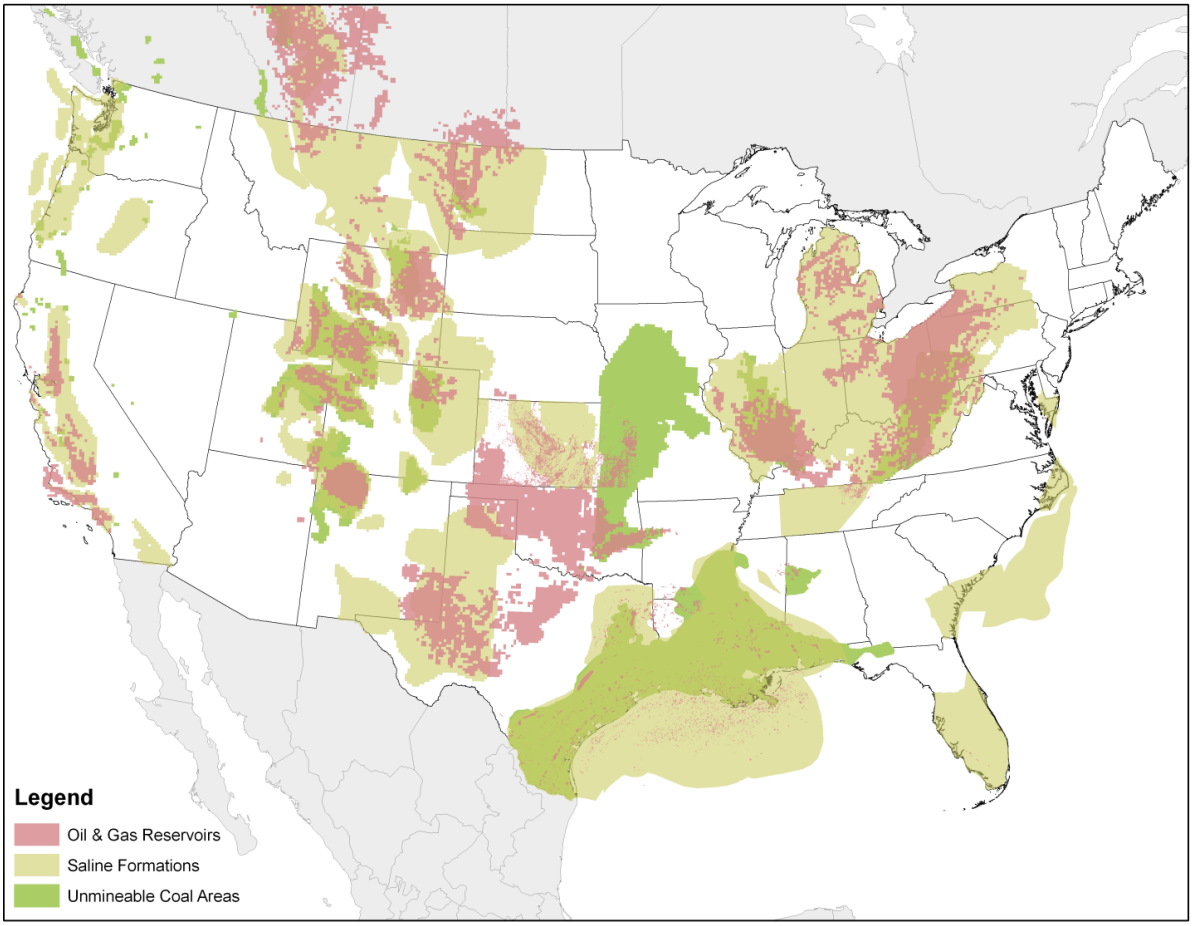
The minimum capture threshold for receiving the tax credit for electric generation facilities is now 18,750 tons per year, down from 500,000.[xxiv] To qualify for 45Q, electric generation unit carbon capture installations must be designed to capture at least 75% of carbon emissions based on emissions from the previous three years.

45Q tax credits are subject to the same prevailing wage requirements and monetization options as the IRA investment and production tax credits, with the following adjustments: A "direct pay" option is available to for-profit and nonprofit entities, with direct pay lasting for just five years for for-profit entities; and tax credit bonus adders are not available for carbon capture tax credits.

Tax credits are issued based on the number of tons of carbon dioxide captured and stored. As such, the credit is dependent upon available carbon storage capability and transport infrastructure. In the short term, the geographical range of carbon capture will be limited by the immediate availability and proximity of geological storage until wide-ranging carbon transport infrastructure becomes available. Exhibit 2-4, below, shows geologic storage potential in the United States.

xxiv This minimum threshold covers most operating coal units; in 2022, over 95% of operating coal units emitted more than 18,750 tons of carbon dioxide.

Exhibit B2-4 Geologic Carbon Storage Potential in the United States[29]



Relevant IRA Sections: IRA Section 13104, Internal Revenue Code Section 45Q

Availability Window: Credits are available immediately. Carbon capture retrofit construction must begin by 2033 to qualify for the credit. Credits can be realized for 12 years after the capture equipment is placed in service.

Key Regulatory Venues: Integrated resource plan filings, certificates for public convenience and necessity, rate cases, fuel cost adjustment proceedings

Clarifying Questions from Workshop 2:

- **Are carbon capture and storage projects financed through Title 17 clean energy financing programs, including the Innovative Energy and Energy Infrastructure Reinvestment (EIR) loan guarantee programs, also eligible for Section 45Q tax credits?** Yes, projects receiving finance through Innovative Energy or EIR programs are also eligible for these tax credits.[30] EIR financing will be detailed in the *Energy Infrastructure Reinvestment program* section of this toolkit.

Support for Nuclear Resources (Existing and New)

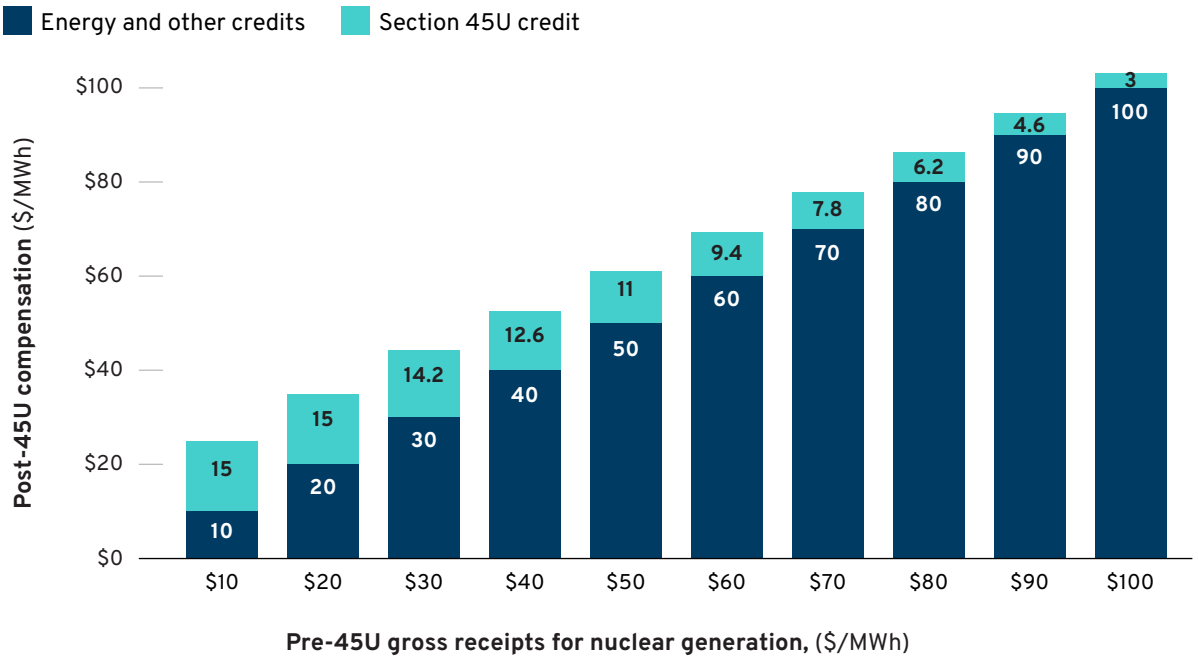
Summary: The IRA creates new, nuclear-specific tax credits and expands applicability for the clean energy tax investment and production tax credits to be applicable to new nuclear resources.

The IRA updates Section 45U of the Internal Revenue Code, which creates a zero-emissions nuclear power production tax credit. The Section 45U credit is available to power generated by existing nuclear generation plants, from 2024 to 2032. Credit provided by Section 45U phases down, based on the level of compensation that the nuclear unit receives through energy revenues and other state or federal environmental or zero-carbon credits that the unit also qualifies for. The maximum value of the Section 45U credit is $15 per MWh, phasing down by 16 cents for every dollar per megawatt-hour over $25/MWh of pre-45U gross receipts. Exhibit 2-3 shows the pre- and post-Section 45U compensation for eligible nuclear units.

Exhibit B2-5

Pre- and Post-Section 45U compensation for Existing Nuclear Generation

Section 45U tax credits for nuclear generation phase down based on existing compensation



RMI Graphic. Source: Inflation Reduction Act of 2022

The credit amount is indexed to inflation and is subject to the same prevailing wage requirements as the IRA investment and production tax credits. The Section 45U nuclear power production tax credit is not available for "advanced" nuclear facilities, defined as any nuclear facility with a design approved by the Nuclear Regulatory Commission after 1994 and which was placed into service between 2005 and 2020. "Advanced" nuclear facilities are still eligible for the "advanced nuclear tax credit," which was created by the 2005 Energy Policy Act as Section 45J of the Internal Revenue Code. The level of the advanced nuclear tax credit is $18 per MWh generated for the first eight years that the facility is in service.

Nuclear facilities placed into service after December 2024 will be eligible for the technology-neutral investment and production tax credits (ITC and PTC) described in an earlier section of this toolkit. Like other zero-carbon generation technologies, nuclear facilities will be subject to prevailing wage requirements, eligible for the energy communities and domestic content adders, and eligible for transfer of credits or direct pay.

Relevant IRA Sections: Inflation Reduction Act Section 13105, Internal Revenue Code Section 45U

Availability Window: Section 45U funding for existing nuclear units available in 2024; technology-neutral tax credits available in 2025.

Key Regulatory Venues: Resource planning, rate cases, and fuel cost proceedings

Clarifying Questions from Workshop 2:

- **Where have small modular reactors (SMRs) been proposed, and what is the current status of approval so far?** The United States Nuclear Regulatory Commission (US NRC) issued its first and only certification for a standard small modular reactor design for NuScale's 77 MW unit design in August 2023[31] (although the project where this design was expected to first be deployed has since been canceled[32]).

  As of January 2024, the NRC has indicated that it is engaged with reactor designers and applicants on a pre-approval basis in four cases:[33]

  - Two nuclear reactor developers (Holtec International and Hitachi-GE) are seeking design approval for their reactor designs.
  - The Tennessee Valley Authority is seeking a construction permit for its Clinch River Nuclear Site (TVA has announced a partnership with GE-Hitachi for this project; TVA's goal date for reactor operations is 2032).
  - The Utah Associated Municipal Power Systems are seeking combined approval for developing the Carbon Free Power Project, with operations expected to begin in 2029; however, this project was canceled in November 2023.

- Outside of specific application activities at the NRC, several other SMR projects have been announced, including a feasibility study for a 10 MW nuclear reactor serving Copper Valley Electric Association in Glenallen, Alaska.[34] Dow and X-Energy have also announced a joint development agreement for an SMR for industrial use in March 2023.[35] GE-Hitachi staff indicated that "there are over 72 small modular reactors waiting to be deployed," but that haven't started the application process.[36]

- **Do small modular nuclear reactors qualify for federal loan guarantees through the Title 17 Clean Energy Financing program?** Yes. Small modular nuclear reactors are eligible for federal loan guarantees through the Innovative Energy program, and manufacturing facilities for small modular reactors are eligible under the Innovative Supply Chain program. If SMRs are sited at or near retiring fossil units, they may be eligible for financing under the Energy Infrastructure Reinvestment (EIR) program.[37] These programs will be covered in greater detail in the *Energy Infrastructure Investment program* section of the toolkit below.

- **What is the status of NRC licensing and regulations for advanced reactors?** The 2019 Nuclear Energy Innovation and Modernization Act directed the NRC to develop updated licensing regulations for advanced and small modular nuclear reactors, to go into effect by December 31, 2027. NRC published a draft rule in March 2023.[38] The NRC expects to issue its final rule on this updated licensing process by July 2025. SMR projects are still able to apply for and receive certification from the NRC before the updated regulations are finalized.

Workshop 3:
IRA Incentives for Consumer Adoption of Distributed Energy Resources (DERs)

Integrating DERs into Integrated Resource Planning

Industry trends alongside key IRA provisions supporting clean manufacturing and electrification are driving an increase in expected load on power systems and a greater role for distribution-scale and distributed resources in future power system operations. Integrated resource plans can take a more comprehensive approach to consider emerging DERs alongside traditional, utility-scale ones. Regulators can support the integration of DERs into integrated resource planning by taking a variety of proactive steps, including but not limited to the following actions:[39]

- Investing in education, training, and best practices around customer-facing resources for staff at utilities and commissions.
- Updating procurement processes, including all-source procurement.[40]
- Creating hosting capacity maps that show real-time distribution system constraints.[41]
- Ensuring that utility-scale integrated resource planning and distribution system planning processes are linked.
- Developing or updating distributed cost-effectiveness evaluation methods.[42]
- Aligning utility compensation and rate design with system-optimal outcomes.[43]

Clarifying Questions from Workshop 3:

- **What is the expected impact of IRA provisions that support consumer adoption of DERs on adoption and total electric demand?** Rebates and policy support for efficiency, electrification, and distributed energy resources described in this section are expected to drive a net increase in electricity demand of 20%–25% nationwide between 2022 and 2030.[44] RMI analysis indicates that electrification and energy efficiency could reach 2.4 million homes and 115 million square feet of commercial square footage.[45] While these national-level estimates are helpful for understanding the direction and magnitude of change, impacts will vary significantly by region and service area. Updated load and demand forecasts should consider how the IRA will affect both electrification and demand-side management adoption to ensure an accurate forecast of future demand.

- **What tools are available for understanding the system value of distributed energy resources in resource planning?** The value of distribution-connected resources varies depending on where the resource is located and when it can provide energy and capacity. Tools like Lawrence Berkeley National Laboratory's Time-Sensitive Value Calculator can provide a rough estimate of value streams associated with distributed energy resources.[46] System-specific analysis can provide a more precise evaluation. Organizations such as NARUC's Task Force on Comprehensive Electricity Planning and the US Department of Energy's Grid Modernization Initiative are working toward combining distribution system planning with broader integrated resource planning.[47]

Distributed Energy Resources and Virtual Power Plants

Summary: The IRA provides rebates and support for distributed energy resources (DERs) and virtual power plants (VPPs) through several programs, including the Residential Clean Energy Credit (Internal Revenue Code Section 25D), Investment Tax Credit and Bonus Credit Program (Section 48[e]), and the Greenhouse Gas Reduction Fund's Solar for All program. Collectively, these provisions reduce the costs to adopt residential clean energy resources, especially for low-income communities and tribal communities.

The **Residential Clean Energy Credit program (Section 25D)** provides tax credits for residential clean energy resources, including solar photovoltaics, solar water heating, fuel cells, small wind, geothermal, and battery storage technologies. The credit covers 30% of the total cost of the system. These credits are not refundable or transferable, and they are available to both homeowners and renters.

For solar and wind facilities with capacity less than 5 MW**, Section 48(e) bonus credits for clean energy in low-income communities** augment the clean energy investment tax credit (ITC). Specifically, the credit adds 10% for facilities located in low-income communities or on tribal land, and 20% for facilities that are part of a federally subsidized housing program or offer 50% of financial benefits of the project to low-income households. Applicants must submit an application and receive an allocation for these credits, and allocations are capped at 1.8 gigawatts of capacity per year. Section 48(e) tax credits have the same direct pay and transferability ability as the base clean energy investment and production tax credits discussed in the *Extended and Expanded Tax Credits (ITC and PTC) for Clean Energy and Energy Storage* section of this toolkit.

The **Greenhouse Gas Reduction Fund's Solar for All program** is a competitive grant program that will provide up to 60 grants to states, territories, Tribal governments, municipalities, and nonprofits to increase access to residential solar in low-income and disadvantaged communities. Programs receiving grants must ensure their program delivers meaningful benefits to the communities they serve, defined as household savings, expanded access, increasing resilience, community ownership models, and workforce development. Seventy-five percent of funding must provide a form of financial assistance for residential rooftop and community solar projects. The *Equity and Environmental Justice Grants* section of this toolkit will provide additional information about the Greenhouse Gas Reduction Fund and the Solar for All program.

Relevant IRA Sections:

- Sec. 13302. Residential Clean Energy Credit
- Sec. 13103, 13702. Bonus Investment Tax Credit for Low-Income Communities
- Sec. 6010. Greenhous Gas Reduction Fund

Availability Window:

- Section 25D: Available 2022-2032, phasing down in 2023 and 2024.
- Section 48(e): Available through 2032. The first application for funding of these credits is expected in the fourth quarter of 2023.
- Greenhouse Gas Reduction Fund: Applications for the Solar for All program are due September 2023, with programs expected to begin Summer 2024.

Key Regulatory Venues: Rate cases, fuel cost adjustment proceedings, integrated distribution plans, integrated resource plans, procurement processes

Clarifying questions from Workshop #3:

- **Can funding from the Solar for All program be used toward enabling upgrades for rooftop solar?** Yes. Up to 20% of Solar for All program funding can be used for "enabling upgrades," including but not limited to electrical system upgrades, structural building repairs, and energy efficiency.

Buildings Sector Efficiency and Electrification

Summary: The IRA includes new building electrification and efficiency credits and rebates and expands upon existing programs. Many of the credits are either dedicated to or possess carve outs that significantly increase the value of the credit for low-income households. As such, the credits will significantly increase the savings potential of whole-home and low-income efficiency programs.

Because many of the credits and programs that will result in greater building efficiency and electrification will be administered by state energy offices, coordination between utilities and state energy offices will be critical for accurately reflecting the enhanced impacts of these IRA provisions in the broader resource planning process.

The **New Energy Efficient Home Tax Credit (45L)** provides a tax credit for the construction of energy efficient homes. The value of the credit scales based on the housing type and the level of energy efficiency attained (as an example, DOE's Zero Energy Ready Home standard receives a larger rebate relative to EPA's ENERGYSTAR standard). Exhibit 3-1 shows available tax credits by dwelling, energy standard, and achievement of prevailing wage requirements for Section 45L.

Exhibit B3-1

Tax Credits by Dwelling Type, Energy Standard, and Labor Standard for Section 45L

Dwelling	ENERGY STAR	DOE Zero Energy Ready
Single-family	$2,500	$5,000
Multifamily	$500 ($2,500 with prevailing wages)	$1,000 ($5,000 with prevailing wages)

The **Energy Efficiency Home Improvement credit (25C)** is exclusively focused on retrofits. The IRA increased the value to 30% of the total cost of retrofit, capped annually at $1,200 per taxpayer (up to $3,200 for stacked measures that include a heat pump). The following applications are eligible: heating, ventilation, and air conditioning (HVAC); window replacement or repair; door replacement or repair; heat pumps; building envelope retrofits; and home energy audits. Renters are eligible to use this credit for an HVAC upgrade or energy audit if they pay for the energy intervention, but landlords are not able to access this credit. Functionally, this means that the credit will primarily be leveraged by owner-occupied households. The credit can be stacked with rebates to further lower the cost of eligible investments.

The **Energy Efficient Commercial Building Deduction (179D)** provides a deduction for energy-efficient improvements to commercial buildings, such as improvements to interior lighting, water heating, and HVAC, that result in at least a 25% reduction in site energy use. The credit value has a ceiling of $5 per square foot for greater than 50% reduction in energy use, if prevailing wage requirements are met.

The new $4.5 billion **Home Electrification and Appliance Rebates Program** (formerly HEEHR) will serve exclusively low- and moderate-income households with the purchase and installation of electrification appliances for new homes or retrofits. State energy offices and tribes (allocated 5.2% of total funds) will administer the funds. Exhibit 3-2 summarizes the total rebates available through the Home Electrification and Appliance Rebates program.

Exhibit B3-2 Summary of Rebates from the Home Electrification and Appliance Rebates Program

Dwelling	Income Threshold	Max Rebate Amount	Eligible Measures
Single-family	Low-income (<80% of area median income (AMI)	100% of costs up to $14,000	Heat pump HVAC systems, heat pump water heaters, electric stoves and cooktops, heat pump clothing dryers, and enabling measures (e.g., upgrading circuit panels, insulation, air sealing, ventilation, and wiring)
	Moderate-income (80%–150% of AMI)	50% of costs up to $14,000	
Multifamily	>50% of units are low- to moderate-income (LMI) households	Up to $14,000 per eligible unit	

The **Home Efficiency Rebates Program** (formerly HOMES) will provide up to $4.3 billion through 2031 to state energy offices to support energy efficiency retrofits for single-family and multifamily dwellings. Rebates are capped for each dwelling retrofitted and scale depending on expected savings from the retrofit. Rebates are doubled for low- and moderate-income households. Each state's energy office will receive a fixed allocation for implementing this program.[48] Home Efficiency Rebates programs are expected to launch in 2024.

Relevant IRA Sections:

- Sec. 50121. Home Efficiency Rebates
- Sec. 50122. Home Electrification and Appliance Rebates
- Sec. 13301. Extension, Increase, And Modifications of Nonbusiness Energy Property Credit (25C)
- Sec. 13303. Energy Efficient Commercial Buildings Deduction (179D)
- Sec. 13304. Extension, Increase, And Modifications of New Energy Efficient Home Credit (45L)

Availability Window: Rebates are available until funds are exhausted, or in nine years, whichever comes first. Section 25C and 45L tax credits are available 2023–2032. The Energy Efficient Commercial Buildings Deduction will be permanently available starting in 2023.

Key Regulatory Venues: Integrated resource plans, rate cases, efficiency or demand-side management program proposals, or other utility program applications

Clarifying Questions from Workshop #3:

- **Does the IRA include support for state agencies charged with distributing IRA provisions and incentives?** State energy offices are authorized to use up to 20% of allocated funding through the Home Efficiency and Appliance Rebates and the Home Efficiency Rebates programs for administration costs.

Transportation Electrification

Summary: The IRA creates new credits and extends existing tax credits that support adoption of EVs, batteries, and charging infrastructure. These credits reduce the costs of purchasing clean vehicles, support charging infrastructure development, and scale domestic battery production.

The IRA includes **Clean Vehicle Credits (Section 30D)** for purchase of personal electric vehicles. Purchasers with annual income below $150,000 can claim a credit of $3,750 toward purchase of their vehicle, or $7,500 for vehicles that meet a threshold for battery components manufactured or assembled in North America. Previously owned electric vehicles that are more than two years old qualify for the **Previously Owned Clean Vehicles Credit (Section 25E)** when purchased from an authorized dealer for less than $25,000.

The **Qualified Commercial Clean Vehicles Credit (Section 45W)** provides credits for purchases of clean commercial vehicles including light-, medium-, and heavy-duty EVs. The Qualified Commercial Vehicle Credit can either reduce the price of an EV to that of a comparable internal combustion vehicle or to 15% of the vehicle's cost or 30% for vehicles without internal combustion (whichever is less). There are caps for vehicles above a certain weight, but this credit does not have the same battery requirements as personal EVs.

The **Alternative Fuel Vehicle Refueling Property Credit (Section 30C)** is targeted toward vehicle charging infrastructure located in low-income and rural areas. Individuals and businesses (when businesses meet prevailing wage requirements) can claim a 30% credit for qualifying charging infrastructure.

Collectively, implementation of these credits could have substantial implications for energy and capacity requirements on electricity distribution systems. Supporting an electrified transportation system may require additional investment in distribution system upgrades, new load management practices, and additional generation resources to meet demand. The distribution of the impact may vary across utility service territories, with significant increases in demand located near medium- and heavy-duty charging stations.

Relevant IRA Sections:

- Sec. 13401. Clean Vehicle Credit (30D)
- Sec. 13402. Credit for Previously Owned Clean Vehicles (25E)
- Sec. 13403. Credit for Qualified Commercial Clean Vehicles (45W)
- Sec. 13404. Alternative Fuel Vehicle Refueling Property Credit (30C)

Availability Window: Clean vehicle tax credits are generally available for vehicles placed in service 2023–2032. The Alternative Fuel Vehicle Refueling Property Credit is available 2023–2032.

Key Regulatory Venues: Integrated resource plans, rate cases, distribution system plans, demand-side management program proposals or other utility program applications, transmission plans

Clarifying questions from Workshop #3

- **Does the Previously Owned Clean Vehicle Credit only apply to the first time the car was sold?** Yes. Each vehicle qualifies once for the Previously Owned Clean Vehicle Credit.

Workshop 4: The Energy Infrastructure Reinvestment (EIR) Program

Title 17 Clean Energy Financing Program

The Title 17 Clean Energy Financing Program is a loan guarantee program administered by the US Department of Energy's Loan Programs Office (LPO). The program was initially designed to offer support as a "bridge to bankability" for clean energy projects. The IRA expanded the budgetary authority and scope of this program to also focus on supporting commercial deployment and the transition of fossil infrastructure for clean purposes.

Title 17 offers financing under four categories:

- **Innovative Energy:** Projects that deploy new or significantly improved technology that is technically proven but not widely commercialized in the United States.
- **Innovative Supply Chain:** Projects that deploy new or significantly improved technology for manufacturing clean energy technologies.
- **State Energy Financing Institution (SEFI):** Clean energy projects financed through state financing institutions.
- **Energy Infrastructure Reinvestment (EIR):** Projects that retool, repower, repurpose, or replace energy infrastructure that have ceased operations, or enable operating energy infrastructure to reduce emissions.

Notably, SEFI and EIR projects do not require that supported projects use innovative technologies; for these programs, LPO financing can support wide-scale deployment of conventional and commercially proven clean energy projects. The IRA significantly expands the maximum loan guarantee amount the LPO can distribute via Title 17 to over $300 billion. Of that, $250 billion is dedicated to the Energy Infrastructure Reinvestment program.

Energy Infrastructure Reinvestment (EIR) Program

Summary: The IRA creates the Energy Infrastructure Reinvestment program under the US Department of Energy's Loan Programs Office and provides $5 billion in appropriations that could provide up to $250 billion in loan guarantees. Unlike previous programs at the LPO, which have traditionally focused on bridging the gap between innovative clean energy technologies and commercial viability, the EIR is designed to provide financing to directly decarbonize existing energy infrastructure while revitalizing local economies and workforces.

Through the EIR, the LPO provides extremely low-cost debt financing to projects that meet the following criteria:

1. Projects must retool, repower, repurpose, or replace energy infrastructure that has ceased operation; and

2. Projects must enable currently operating energy infrastructure to reduce their emissions.

Energy infrastructure is defined as facilities and equipment that are either used for the generation or transmission or electricity, or for the production, processing, and delivery of fossil fuels and petrochemicals. Notably, projects meeting the above criteria and receiving EIR financing may also include remediation of environmental damage associated with energy infrastructure and refinancing existing debt associated with eligible energy infrastructure.

Under these criteria, a broad array of projects could qualify for EIR financing. In the electric sector, this could include, but is not limited to:

- Refinancing remaining plant balances of retiring fossil plants with low-cost debt and replacing these plants with on-site renewables, storage, and/or converting to nuclear;

- Financing new transmission lines or reconductoring existing transmission lines;

- Financing emissions reduction and sequestration technologies on fossil assets to comply with EPA regulations, alongside a broader project that reduces power sector emissions; or

- Financing a portfolio of energy resources that will reduce emissions from existing power infrastructure.

Outside of the electric sector, EIR financing could be used for repurposing retired power plant sites into clean manufacturing facilities, repurposing natural gas pipelines for hydrogen or CO_2, or decarbonizing hard-to-abate emissions from the industrial and petrochemical sectors. The EIR also explicitly includes the possibility of financing remediation costs associated with energy infrastructure, which reduces ratepayer and utility risk around liabilities associated with cleaning up contaminated sites.

EIR financing interest rates are calculated based on the US Treasury rate for the length of the loan, plus a 37.5 basis point spread, plus an additional premium that varies by project. EIR financing as a result tends to be less expensive than traditional corporate bond markets, and significantly less expensive than expected returns on equity. Exhibit 4-1 shows estimated EIR interest rates versus corporate debt bond yields (as of January 2023):

Exhibit B4-1 Corporate Bond Yields versus EIR Financing (as of January 2023)[49]

As of January 2023

		Spread (BPS)	Effective yield (%) 3 months	10 years	20 years	30 years
	Treasury bonds	–	4.69	3.53	3.81	3.66
	EIR program	37.5–100*	~5.38	~4.22	~4.50	~4.35
Corporate debt rating	**A**	109	5.78	4.62	4.90	4.75
	BBB	163	6.32	5.16	5.44	5.29
	BB	278	7.47	6.31	6.59	6.44
	B	458	9.27	8.11	8.39	8.42

*EIR program effective yield is an estimation based on the basis point spread.

RMI Graphic of data from Charles River Associates' *The Energy Infrastructure Reinvestment Program: Emerging Opportunities from the DOE Loan Program Office's Upgraded Toolkit*.

EIR financing can be used alongside the Inflation Reduction Act's tax credits, including the clean electricity PTC and ITC, as well as other tax credits for clean technology manufacturing, hydrogen production, and carbon capture and sequestration. Additionally, EIR applicants must demonstrate how they will engage with communities and how their project will benefit the communities where the infrastructure is located.

The EIR loan application process has multiple steps, and the LPO engages early and often with applicants over the project timeline. While applications will be primarily led by utilities, regulatory proceedings and regulatory approval in those proceedings can be key to shaping strong applications for EIR financing. For example, detailed evaluations of EIR opportunities for fossil plant replacement or transmission reconductoring in the context of an integrated resource plan, including identification of specific retirement plans and a replacement portfolio, could strengthen the quantitative case for funding within an EIR loan application.

Relevant IRA Sections:

- Sec. 50144. Energy Infrastructure Reinvestment Financing

Availability Window: EIR financing is available for conditional commitments made through September 30, 2026. Financing can be dispersed after this, but conditional commitments — preliminary approval of EIR applications — must be made before this deadline. The LPO has estimated applications take between 6 and 12 months to approve.

Key Regulatory Venues: Integrated resource plans, rate cases, procurement processes, certificates of public convenience and necessity

Clarifying questions from the workshop:

- **Can investments associated with units that have already retired or will retire in the future qualify for loans?** Yes. Investments associated with fossil or other generation units retired in the last two to five years, or potentially longer, could be eligible for EIR financing if there is evidence that EIR-funded investments will further reduce emissions (e.g., building on-site renewables) and that the site has not already been significantly repurposed. Plants or other infrastructure with planned retirement dates are also eligible as long as they have credible and binding plans to retire. Importantly, retirement is not a prerequisite for EIR funding; other applications that reduce emissions are also eligible. For example, plans that anticipate seasonal reductions in generation or a general phase-down of generation and emissions, paired with co-located renewables, could apply.

- **Are there limits to other federal funding that projects can apply for?** Projects that receive other federal funding cannot also apply for EIR loans. However, tax benefits are excepted from this rule. For example, a project can receive tax support such as from the ITC or PTC and still be eligible.

- **Are demand response programs eligible?** Some demand response programs may be eligible under the category of virtual power plants. Specific project eligibility will be determined on a case-by-case basis.

- **For proposals that replace existing fossil infrastructure with renewables, what are the siting restrictions? How geographically proximate do the new builds have to be relative to the site of retirement?** Replacement resources do not have to be located on the site or even adjacent to the site of the retiring infrastructure. Proposals do, however, need to include meaningful connection to the legacy infrastructure. Examples of meaningful connections beyond siting include using interconnection rights, meeting existing load, reusing physical infrastructure (such as transmission lines), leveraging an existing workforce, and using railroad or water rights-of-way. As with other qualifications, the extent to which new investments are retooling, repowering, repurposing, or replacing existing energy infrastructure will be evaluated on a case-by-case basis.

- **Could a utility that plans to retire several coal assets and build new renewables in the future qualify for financing, even if these decisions are part of a system-wide planning process like an integrated resource plan?** As long as new investments maintain a meaningful connection to the infrastructure to be retired, and there is a strong case for overall emissions reductions versus the status quo, portfolio-scale investment plans may qualify for EIR financing. As always, EIR applications will be evaluated on a case-by-case basis, and additional conversations with the LPO might clarify to what extent a portfolio approach is appropriate.

- **How can utilities structure EIR financing to maximize benefits to ratepayers?** Preliminary RMI analysis suggests that using the EIR to replace some portion of both debt and equity financing can drive benefits for both ratepayers and shareholders. As an example, a financing structure that uses 40% corporate debt, 40% equity, and 20% EIR financing for an accelerated renewables deployment and fossil retirement proposal could both reduce ratepayer costs and increase shareholder returns relative to a non-accelerated schedule. Ultimately, each project will have unique specific circumstances and parameters that determine the most appropriate financing structure.

- **Can EIR be used to reduce the costs of retiring assets to ratepayers?** Proceeds of EIR financing must be applied to the eligible project, such as an investment in new clean generation to replace retired resources. Regulators can achieve the rate benefits of refinancing akin to securitization by choosing to

treat the use of EIR financing for new assets differently for ratemaking purposes than traditional utility debt. They can do this by:

- using a dedicated bill surcharge to repay a portion of the EIR debt,
- deeming an equivalent amount of corporate financial resources as providing recovery of remaining old asset costs,
- removing those old asset costs from the calculation of base rates, and
- disregarding, for ratemaking purposes, the portion of EIR debt repaid through the bill surcharge when calculating the capital structure used for determining revenues required to achieve cost recovery for the new assets financed with EIR.

Workshop 5:
Affordability, Equity, and Resilience

Community Benefits Plans for IRA and IIJA Funding and Financing

Summary: Community Benefits Plans (CBPs) are a key component of applications for many funding and finance programs enabled by the Inflation Reduction Act and the Infrastructure Investment and Jobs Act (IIJA). CBPs articulate how the project will engage with the local community, invest in a high-quality clean energy workforce, and advance environmental equity.

CBPs are a required part of any application for funding or financing from the US Department of Energy (DOE), including all funding opportunities and financing programs included in the IRA and IIJA. For example, applications for Energy Infrastructure Reinvestment financing or Greenhouse Gas Reduction Fund funding both require CBPs. For DOE programs, the CBP represents either 20% of the project's technical merit score (for IIJA programs) or will be evaluated as a part of the loan repayment prospect analysis (for IRA programs).

The DOE requires CBPs to detail how the project will advance four benefit areas:

- **Meaningful Community and Labor Engagement.** How does the project ensure that local labor organizations and communities have a voice throughout the development process?
- **Investment in America's Workforce.** How does the project invest in the development and advancement of the local workforce?
- **Diversity, Equity, Inclusion, and Accessibility.** How does the project prioritize diversity, equity, inclusion, and accessibility in the workplace? This could be through creating opportunities for underrepresented groups, addressing systemic barriers, and promoting equal access to employment and advancement.
- **The Justice40 Initiative.** How does the project contribute to the Justice40 Initiative's goal of driving 40% of clean energy benefits to disadvantaged communities?[50]

Community Benefits Plans will vary based on the specific investments and activities of the project and the concerns of the local community. Examples of elements of a high-quality CBP include, but are not limited to:

- Contributions to local community organizations
- Commitments to local hiring for the construction or operation of the project
- Taking steps to protect the community's health and natural resources through reducing pollution, conserving energy, or using sustainable materials
- Provision of training and apprenticeship programs for the local workforce
- Commitments to prevailing wages and strong benefits for workers on the project

Key Regulatory Venues: Integrated resource plans, rate cases

Support for Rural and Tribal Clean Energy Development

Summary: The Inflation Reduction Act includes several provisions that support remote, rural, or tribal communities to invest in renewable energy.

Inflation Reduction Act Section 22001, **Electric Loans for Renewable Energy, or the Powering Affordable Clean Energy (PACE) program**, provides $1 billion to USDA's Rural Utilities Service for guaranteed loan financing of renewable generation for sale to rural and non-rural residents, based on the eligibility criteria included in the Rural Electrification Act.

The **Rural Energy for America Program (REAP)** provides $2 billion in guaranteed loan financing and grant funding to farmers and rural small businesses to invest in renewable energy systems or make energy efficiency improvements.

The **Empowering Rural America (New ERA)** program provides $9.7 billion in funding to member-owned rural electric cooperatives for a variety of uses, including purchasing, building, or deploying renewable energy, zero-emissions systems, and carbon capture and storage. Funding is designed to be flexible across investments or expenditures that reduce greenhouse gas emissions.

The **Tribal Energy Loan Guarantee Program** provides $20 billion in direct loans or partial loan guarantees to federally recognized Tribes. These loans can be used for a wide variety of energy resources, products, and services, including utility-scale solar or wind, microgrids, and transmission and distribution investments.

The **Tribal Electrification Program** provides $150 million to the Bureau of Indian Affairs for financial and technical assistance to increase the number of Tribal homes with zero-emissions electricity. This includes provision of electricity to unelectrified homes, home repairs and retrofits, and conversion to zero-emissions energy systems.

A summary of these rural and tribal programs, the activities they support, eligibility requirements for applicants, and eligibility requirements around supported technologies is provided on the next page in Exhibit 5-1.

Exhibit B5-1 Summary of Inflation Reduction Act Supports for Rural and Tribal Energy Development

Program Name	Summary of Activity	Funding	Eligible Recipients	Supported Technologies
Powering Affordable Clean Energy (PACE)	Infrastructure loans managed by USDA Rural Utilities Service	$1 billion	Governments, Tribes, nonprofits, and for-profit businesses	Renewable energy, system upgrades, energy efficiency and demand-side management
Rural Energy for America Program (REAP)	Guaranteed loan financing and grant funding to small rural businesses for renewable energy	$2 billion	Rural small businesses and agricultural producers	Renewable energy, energy efficiency and demand-side management, electrification
Empowering Rural America (New ERA)	Guaranteed loan financing and grant funding for energy investments that reduce carbon emissions	$9.7 billion	Rural (>50% of customers are rural) electric cooperatives	Renewable energy, system upgrades, carbon capture, purchasing renewable energy
Tribal Energy Loan Guarantee Program	Direct loans or loan guarantees to support Tribal investment in energy-related projects	$75 million	Federally Recognized Tribes	Renewable and non-renewable generation, system upgrades, conventional energy production and transport
Tribal Electrification Program	Financial and technical assistance to increase the number of Tribal homes with zero-emissions electricity	$150 million	Federally Recognized Tribes	Electrification investments, home repairs and retrofits

Relevant IRA Sections:

- Sec. 22001. Electric Loans for Renewable Energy
- Sec. 22002. Rural Energy for America
- Sec. 22004. Empowering Rural America (New ERA)
- Sec. 50145. Tribal Energy Loan Guarantee Program
- Sec. 80003. Tribal Electrification Program

Availability Window:

- **Powering Affordable Clean Energy (PACE):** Application portal opened on July 10, 2023. Funding is available through September 30, 2031.
- **Rural Energy for America Program (REAP):** USDA is currently accepting applications for the second of six quarterly competitive solicitations. Funding is available through September 30, 2031.
- **Empowering Rural America (New ERA):** Co-operative letters of interest were due September 15, 2023, but applications from interested co-ops are open. Funding is available through September 30, 2031.
- **Tribal Energy Loan Guarantee Program:** Open for applications on a rolling basis, to remain available through September 30, 2026.
- **Tribal Electrification Program:** Open for applications on a rolling basis. Funding is available through September 20, 2031.

Key Regulatory Venues: Integrated resource plans, rate cases

Equity and Environmental Justice Grants and Financing

Summary: The IRA includes several equity and environmental justice grant programs that provide resources to local governments, financial institutions, and community-based organizations to plan for and reduce greenhouse gas emissions. While utilities are not eligible to apply for these grants directly, these programs could affect where and how much investment happens at different locations on the grid.

The IRA creates and funds the **Greenhouse Gas Reduction Fund (GGRF)**, administered by the US Environmental Protection Agency (EPA) to reduce GHG emissions and air pollution more broadly, deliver benefits to disadvantaged communities, and mobilize private capital and finance to stimulate additional deployment of emissions-reducing projects. The EPA implements the GGRF through three grant competitions, with different purposes and eligibility requirements:

- The **National Clean Investment Fund (NCIF)** will provide funds to two or three national nonprofits that provide financing to clean technology projects, in partnership with private capital providers. While any project that reduces or avoids greenhouse gas emissions may qualify, NCIF identifies projects supporting distributed energy generation and storage, net-zero emissions buildings, and zero-emissions transportation as priority projects. At least 40% of capital is required to go to low-income and disadvantaged communities.

- The **Clean Communities Investment Accelerator (CCIA)** will provide funds to several "hub" nonprofits, which will in turn build the clean financing capability of a broader network of public, quasi-public, and nonprofit community lenders. All funding through the CCIA will flow toward low-income and disadvantaged communities.

- The Greenhouse Gas Reduction Fund's **Solar for All Program** will award up to 60 grants to states, territories, Tribal governments, and nonprofits to expand access to residential solar for low-income and disadvantaged communities.

The IRA also includes **Climate Pollution Reduction Grants** to help eligible recipients develop and implement strong climate pollution reduction strategies. These grants come in two phases: Phase I Planning grants have already been awarded to most states and many metropolitan statistical areas across the country (all states except South Dakota, Iowa, Kentucky, and Florida will receive this funding). Phase II implementation grants are due on April 1, 2024.

Finally, **Environmental and Climate Justice Block Grants** provide $3 billion to EPA to support community-led nonprofits to address the climate crisis. Activities funded under this program could include pollution monitoring and prevention, workforce development, facilitating climate resilience and adaptation, or investments to reduce indoor toxins or indoor air pollution.

A summary of these equity and environmental justice programs, the activities they support, and eligibility requirements for applicants is provided in Exhibit 5-2 on the next page.

Exhibit B5-2 Summary of Inflation Reduction Act Supports for Equity and Environmental Justice

Program Name	Summary of Activity	Funding	Eligible Recipients	Supported Activities
Greenhouse Gas Reduction Fund				
National Clean Investment Fund	Financing clean energy projects in partnership with private capital providers	$14 billion	Nonprofit financing institutions	Projects that reduce or avoid greenhouse gas emissions, with special priority for distributed energy resources and net-zero buildings and transportation
Clean Communities Investment Accelerator	Financial and technical assistance for local nonprofit financing institutions	$6 billion	National nonprofit financing institutions	New and existing green banks and nonprofit clean energy investment funds; regional clean energy accelerators
Solar for All	Grants, loans, and financial and technical assistance to enable low-income and disadvantaged communities	$7 billion	States, municipalities, Tribes, and eligible nonprofits	Activities that support residential and community solar, including community solar programs, clean energy financial institutions, support for solar on affordable housing, support for solar on schools
Climate Pollution Reduction Grants				
Planning Grants	Formula grants to develop or update climate pollution reduction plans	$250 million (already awarded)	States, municipalities, Tribes, and eligible nonprofits	Developing, updating, or evaluating state, local, Tribal, or territorial plans to reduce climate pollution
Implementation Grants	Competitive grants to assist with plan implementation	$4.6 billion	States, municipalities, Tribes, and eligible nonprofits	Detailed plans to transform a single economic sector, filling gaps in unlocking federal funding, equitably engaging a wide range of stakeholders
Environmental and Climate Justice Block Grants				
Program Grants	Funding for a variety of community-led measures to reduce climate pollution	$2.8 billion	Community-based nonprofit organizations	Community-led pollution monitoring, prevention, and remediation; Increasing access to decision-making opportunities; mitigating climate and health risks
Technical Assistance	Technical assistance to program grantees	$200 million	Community-based nonprofit organizations	Technical assistance and capacity-building to support environmental and climate justice block grants

Relevant IRA Sections:

- Sec. 60103. Greenhouse Gas Reduction Fund
- Sec. 60114. Climate Pollution Reduction Grants
- Sec. 60201. Environmental and Climate Justice Block Grants

Availability Window:

- **Greenhouse Gas Reduction Fund:** EPA expects to make notifications of selections for Greenhouse Gas Reduction Fund competitions by March 2024.
- **Climate Pollution Reduction Grant:** The funding opportunity for climate pollution reduction planning grants has closed. Implementation grant funds to remain available under September 30, 2026.
- **Environmental and Climate Justice Block Grants:** Funding is available through September 30, 2026.

Key Regulatory Venues: Integrated resource plans, rate cases

Post-Workshop 5: Additional IRA Provisions

Support for Transmission Planning and Investment

Summary: IRA transmission provisions complement the Infrastructure Investment and Jobs Act (IIJA) Transmission Facilitation Program and Grid Resilience and Innovation Program (GRIP) by offering additional financing options, grants to support siting interstate transmission lines, and analytical and planning support for interregional and offshore wind transmission projects. Together, IIJA and IRA provisions provide a wide array of funding, financing, and analytical support for new and upgraded transmission projects.

First, the IRA's Transmission Facility Financing program will provide $2 billion in direct loan authority for financing qualified transmission projects in National Interest Electric Transmission Corridors (NIETCs). As of January 2024, the US Department of Energy is currently in the process of defining new NIETCs, based on the findings of the 2022 National Transmission Needs Study,[51] and expects to issue a preliminary set of potential NIETCs in Spring 2024.[52]

Second, the IRA provides $760 million of grants to transmission siting authorities for activities related to siting interstate electricity transmission lines. Grants can be used for a wide array of activities associated with transmission siting, including participation in regulatory proceedings, supporting analysis, or any other activity that might accelerate siting and permitting for a transmission project. Notably, the transmission siting authority must agree to reach a final decision within two years of receiving the grant. Additionally, grants can be provided to state, local, or tribal governments to support economic development activities in communities that might be affected by the construction and operation of a transmission project.

Third, the IRA includes $100 million for direct federal spending to conduct transmission planning, modeling, and analysis on interregional electricity transmission and transmission supporting offshore wind. This funding can also be used to convene stakeholders to discuss these issues.

Relevant IRA Sections:

- Sec. 50151. Transmission Facility Financing
- Sec. 50152. Grants to Facilitate the Siting of Interstate Electricity Transmission Lines
- Sec. 50153. Interregional and Offshore Wind Electricity Transmission Planning, Modeling, and Analysis

Availability Window:

- **Transmission Facility Financing:** Funding is available through September 2030
- **Grants to Facilitate the Siting of Interstate Electricity Transmission Lines:** Funding is available through September 2029. The first phase of applications closed in November 2023. Two additional application phases will be held in Summer 2024 and Fall 2025.
- **Interregional and Offshore Wind Electricity Transmission Planning, Modeling, and Analysis:** Funding is available through September 2031.

Key Regulatory Venues: Integrated resource plans

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