5 actions for utilities to prepare for IRA impacts

By Michael Jung, Justin Rodgers, Erica Larson, Ian Bowen, and Maria Scheller, ICF

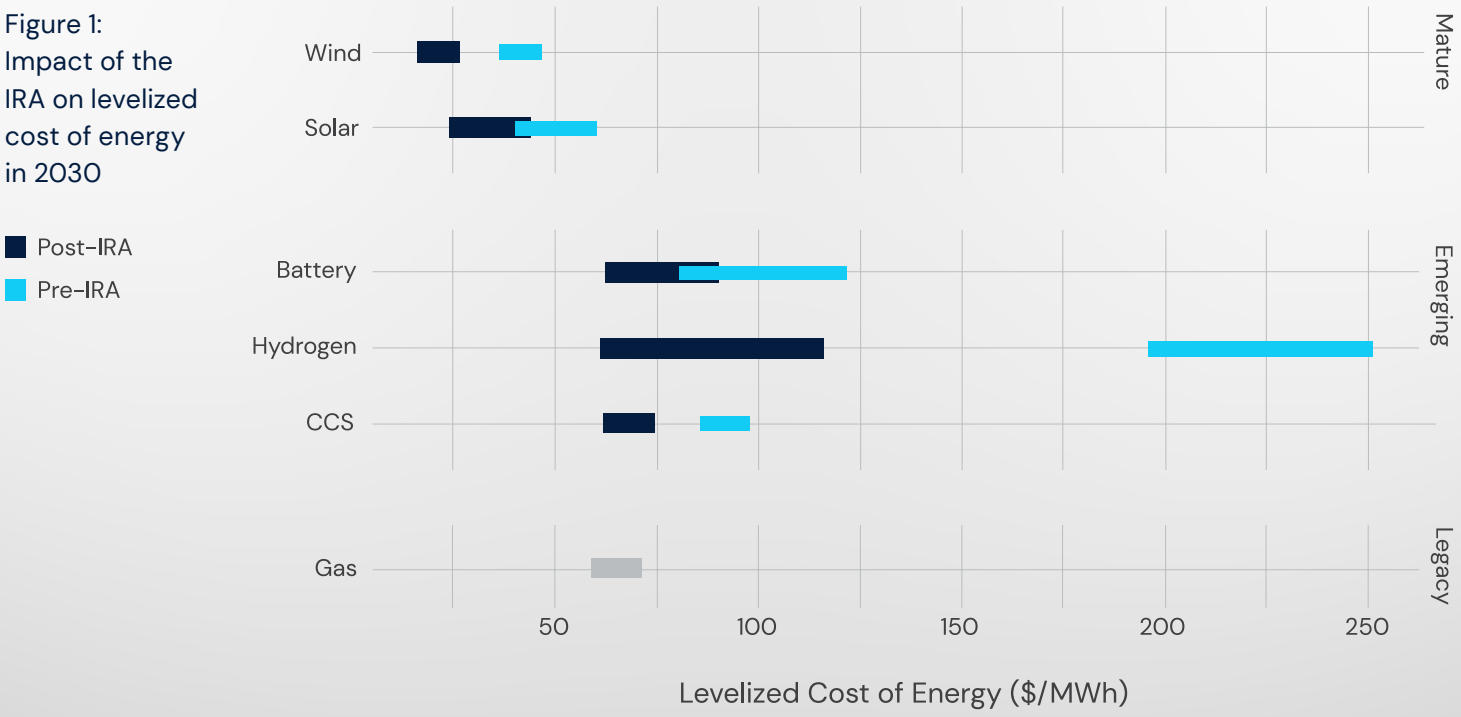
Executive summary

Substantial uncertainty remains about the implementation of major provisions within the Inflation Reduction Act (IRA). It's tempting for utilities to take a wait-and-see approach as the details of these provisions are hammered out. In fact, the Bipartisan Infrastructure Law (BIL) may seem to warrant greater attention, given its multifaceted support for grid modernization. However, the IRA also creates clean energy opportunities and challenges that are too big for utilities to ignore. Now is the time to prepare for both bills.

The IRA's electrification incentives will power a wave of new electric demand as consumers seize incentives to buy electric vehicles (EVs), heat pumps, and other energy-efficient, climate-friendly products. This new wave of demand could boost revenue, but it could also threaten reliability for utilities that aren't prepared for it.

At the same time, the IRA's incentives will drive approximately $3.5 trillion in investment in new energy supply and infrastructure onto the grid, the majority of which will be intermittent renewable resources. ICF estimates IRA incentives could drive down the levelized cost of energy (LCOE) of solar by as much as 35% and of wind by as much as 49% by 2030. Green hydrogen could proliferate, with the combined impact of incentives possibly reducing the LCOE of hydrogen-fueled combined-cycle turbines by as much as 67% by 2030. In addition, IRA-driven building electrification and EV adoption will drive new utility load peaks, while distributed energy resources (DERs) will tax aging grid infrastructure.

Figure 1: Impact of the IRA on levelized cost of energy in 2030



Given these sea changes, there are a number of strategic planning and in-the-field actions utilities should consider starting as soon as possible. This paper details a list of five actions utilities should assess and prioritize in order to prepare for the IRA's impacts. No two utility businesses are the same, so this paper helps utility leaders assess which of the potential actions should take precedence for their specific situation.

The IRA action-item checklist

The IRA tax credits have already gone into effect, though it will take time, years in some cases, for funds to flow into utility service territories. Regardless, utilities can start taking these actions as soon as possible to be ready to navigate IRA-related opportunities and challenges as they come.

1. Integrate your BIL and IRA strategies

The BIL's $65 billion for electric grid modernization and other funding are an essential underlying investment that will enable utility grids to effectively handle the new electric demand and supply spurred by the IRA. In many cases, utilities can leverage BIL funds to make the electric grid more reliable, resilient, flexible, and secure.

In November 2022 the Biden administration announced that applications for $13 billion of competitive grants for grid projects are now open. Utilities should consider modeling how the IRA's mix of incentives will impact supply and demand on their grids. Then, they should align their efforts to secure BIL funding. Pursuing BIL support for projects that address IRA grid impacts makes good planning sense.

2. Reassess your assumptions, then reevaluate your playbook

For many utilities, the IRA will have such a significant impact that it will require them to reconsider existing assumptions and develop new ones to better guide their strategic roadmaps.

Utilities should consider revisiting the following to factor in the effects of the IRA:

- **Integrated resource planning:** Electrification is coming, and the economics of the generation and demand-side resources that could be used to meet new demand have shifted substantially thanks to the IRA. For example, the IRA's residential energy efficiency credit provides tax credits for energy-efficiency expenditures including electric heat pumps and water heaters. To make better predictions about impacts, utilities could conduct surveys to gain planning insights on how much such credits will influence customer electric demand.

- **Distribution system planning:** More DERs and load might already be baked into your utility's 5- and 10-year distribution system planning, but odds are the IRA changes the outlook for how rapidly and in what locations those changes will occur. Surveys could help identify which points on the grid might become at risk earlier than predicted in previous planning scenarios. Better yet, utilities with the resources to do so should consider dynamic distribution planning using data from AMI and other sources to gain real-time hosting capacity snapshots and new operational insights at the grid-edge.

- **Demand-side management potential studies:** The technical and achievable potential of energy efficiency and other demand-side management programs will be substantially different when IRA funds flow to consumers. Utilities that conduct new potential studies factoring in IRA-related impacts will have foresight into opportunities for successful new programs. For example, a significant influx of DERs, heat pumps, and electric water heaters will vastly increase a utility's potential for flexible load management (FLM)—automated programs that alter customer energy consumption in near-real time to deliver

customer benefits and support clean energy goals. While the time to implement an FLM strategy in a particular service territory might not have seemed right before, the IRA could significantly change the calculus, including by dramatically lowering the cost of the clean energy transition. Put another way, **the IRA creates an imperative to completely reengage and reoptimize programs to position the utility to be flexible, responsive, and more resilient.**

- **Advance greenhouse gas reduction opportunities:** For utilities engaged in net-zero targets or interim decarbonization planning, the limits of what's possible and at what cost are evolving rapidly. The IRA will reduce the cost of decarbonization for utility ratepayers. Utilities have new information to assess longer-term deep decarbonization pathways given the federal government's investment in green hydrogen and carbon capture and storage. Utilities should consider opportunities to provide customers with low-cost clean power alternatives in support of advancing their greenhouse gas reduction goals more quickly.

3. Accelerate impacted strategies

After a utility has reassessed its assumptions, some strategies will need to be accelerated. For example, utilities may need to broaden their strategies to both react to and guide their customers' adoption of IRA-incentivized electrification. The results of IRP analyses may also identify priorities for new research and investment in technologies that will support system reliability and resiliency (e.g., long-term storage and microgrid applications) and grid visibility and transparency (e.g., sensors and coordination systems with other balancing areas).

Learn insights on how leading utilities are implementing electrification strategies in ICF's white paper, "Beneficial electrification: Lessons from leading utilities."

Other strategies will need to be created. Utilities that don't yet have a distributed energy resource management system (DERMS) strategy may need to develop and test one. Demand from EV charging, heat pumps, and water heaters can be shaped and controlled. DERs can serve as critical sources of supply and grid services. Advanced and automated grid-management technologies, such as DERMS, can help ensure the reliability of the grid as these technologies come online. A DERMS strategy can help utilities do more than just manage the threat to grid reliability, though. A DERMS strategy can unlock opportunities such as load aggregation for demand response, FLM, and virtual power plants. Utilities should consider testing systems, approaches, and customer communications now to find out what works.

4. Don't wait, communicate—customers are counting on you

Some utility customers may be unaware of the IRA incentives, or at least unaware of how to access the incentives. This could moderate the pace at which electric load is added to the grid, giving utilities more time to adapt and modernize the grid to prepare for the additional load. However, there are also clear benefits for utilities that proactively communicate to customers and contractors about how and when they can take advantage of IRA programs. For example, consider providing regular updates and resources, and use communications to build relationships with customers and contractors in ways that advance utility demand-side management programs. Remember: Customers expect their utility to keep them informed about energy opportunities. Utilities can be allies for their customers' energy interests, especially as other industries seek to step into that role.

5. Influence the conversation with regulators and state energy offices

Many state regulators are still studying how the IRA is going to impact the grid and ratepayers they represent. Utilities should not wait for regulators to react when IRA impacts start showing up in rate cases and grid performance. Rather, they should share their impact models with regulators now. Then, utilities and regulators should work toward a shared vision for how regulation can maximize IRA benefits for ratepayers and cost-effectively manage the challenges.

Given that state energy offices will administer the distribution of funds for many IRA programs, utilities with a perspective on IRA-supported electrification, energy efficiency, workforce, and DER programs should start sharing those views with energy offices now. Many state energy offices have yet to begin or are early in the process of thinking through their applications for IRA support. There's still time for utilities to establish relationships, influence program ideas, and in some cases even advocate for utility administration of certain programs.

Different businesses, different impacts

Utility leaders should keep a few key considerations in mind depending on the corporate structure of their business.

- **Investor-owned utilities (IOUs):** IOUs likely will need to manage expectations with regulators. Many state commissions expect big things from the IRA that ratepayers won't have to chip in for. IOUs need to take advantage of what they can while also justifying continued ratepayer investment. For example, regulators may wonder if the IRA's energy efficiency and electrification rebate programs can displace utility programs, but the answer in states with robust utility programs is a definite no.
- **Electric cooperatives:** Co-ops often do not fall under the purview of state regulatory commissions. As a result, they may have more flexibility in how to leverage the IRA to benefit their members. Because co-ops generally serve rural and underserved areas, they are well positioned for IRA opportunities targeting these areas; there are rural electrification grants and investment tax credit bonuses for projects meeting energy justice requirements. Co-ops can also be a conduit to help members maximize IRA benefits intended to improve energy equity in underserved and rural communities.
- **Municipal utilities:** The IRA allows state and local government entities to administer programs and distribute funds in their areas. Munis qualify for many of these programs and could therefore propose and administer electrification and energy efficiency programs that directly fit their vision. In addition, the IRA allows munis to receive tax credits directly, thereby eliminating the need to rely on third parties and allowing them to secure 100% of the credit value.

Conclusion

Utilities are entering a transformational decade fueled in part by the IRA. The law is a mixed bag of opportunities and challenges that utilities can maximize and mitigate if they start taking action now. ICF works with utilities to develop a thorough understanding of the specific opportunities and challenges of the IRA. We use our modeling capabilities to understand how the act will change the economics of electric supply, the shape of electric demand, and the actions utilities should take to optimize their strategic roadmaps.

About the authors

Michael Jung

Executive Director,
ICF Climate Center

Michael.Jung@icf.com

Michael serves as the founding Executive Director of the ICF Climate Center, a resource hub for knowledge and insights on climate mitigation, resilience, and adaptation, drawn from ICF's 2000+ climate, energy, and environment professionals.

Michael's career in energy has reached across both investor-owned and consumer-owned utilities. He has served as a policy advisor to governors and has been an early team member at several successful clean technology startups, including Utilidata, Varentec, and Silver Spring Networks.

Justin Rodgers

Senior Director,
Business Development

Justin.Rodgers@icf.com

Justin Rodgers is the Senior Director of Business Development for ICF's utility programs and services division. He partners with utilities across North America to identify and bring to market innovative programs and solution to drive the industry's transformation to a cleaner, more equitable, and flexible grid and energy future.

Justin has nearly 15 years of experience in the energy industry, primarily working within the nexus of customer experience, behavioral science, and program implementation. Prior to joining ICF, Justin helped scale behavioral energy efficiency and demand response programs with utilities across the U.S., Canada, and Europe.

Erica Larson

Manager, Regulatory Affairs
and Market Development

Erica.Larson@icf.com

Erica Larson is the Manager of Regulatory Affairs and Market Development for ICF. She analyzes regulatory and legislative developments across the United States, focusing on energy efficiency, demand response, flexible load management, electrification, and gas decarbonization policy.

Prior to joining ICF, Erica was a regulatory attorney at CenterPoint Energy Minnesota Gas where she led the regulatory and policy team in developing and securing passage of the Minnesota Natural Gas Innovation Act, which enables Minnesota natural gas utilities to pursue decarbonization resources such as electrification, RNG, hydrogen, and aggressive energy efficiency.

About the authors

Ian Bowen

Energy Markets Analyst

Ian.Bowen@icf.com

Ian Bowen is an Energy Markets Analyst with ICF's Energy Advisory practice. He performs wholesale energy market modeling and analysis and specializes in the MISO market but has also participated in work for the ERCOT, SPP, and CAISO markets. He has performed both buy- and sell-side analyses for a wide range of clients, including developers, investment banks, and private equity firms. These projects have included asset and portfolio valuation; hub and nodal price forecasting; asset dispatch modeling; and analyses of congestion and curtailment, financial hedges, and recontracting opportunities. Ian also contributes to the development of the quarterly base cases that underpin this work.

Maria Scheller

Vice President, Energy Markets - Power

Maria.Scheller@icf.com

Maria is a Vice President and Director in ICF's Energy Advisory group with more than 25 years helping clients improve the planning for and operation of the electric sector. Her specialty is energy planning and policy impact work with a focus on the electric power sector. She is an expert in electric market economic and fundamentals analysis including, power price forecasting, cost/benefit analysis, reliability and resiliency planning, valuation, policy and regulatory analysis, competitive procurement, and integrated resource planning. Maria has testified in multiple jurisdictions on issues including offshore wind procurement, distribution and transmission planning, and environmental emissions policy impact.

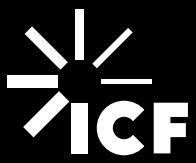
Michael Jung
Michael.Jung@icf.com
+1.503.360.3881

Justin Rodgers
Justin.Rodgers@icf.com
+1.703.934.3347

Erica Larson
Erica.Larson@icf.com
+1.612.336.7539

Ian Bowen
Ian.Bowen@icf.com
+1.703.218.2658

Maria Scheller
Maria.Scheller@icf.com
+1.703.338.8204



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