



Opportunities to Accelerate Grid Interactive Resources with BIL and IRA

Grid interactive or grid flexible resources enable the grid to maintain a balance between generation and demand, resulting in increased grid efficiency, resiliency, and the integration of distributed energy resources. These resources work to shift load on the grid so that demand can meet supply without the need to invest in additional energy generation infrastructure.

Achieving state decarbonization and climate goals will require the use of more electric appliances, which will result in higher demand for electricity. [Without grid interactive resources, this higher demand](#) could result in the buildout of unnecessary infrastructure which will be reflected in higher customer bills. As these resources work to align increasing consumer demand with a limited energy supply. Grid interactive resources can [lower demand](#), so that the additional power isn't necessary, and result in savings for customers. These programs are a great way to engage a wider swath of customers at a lower cost by raising awareness about their energy habits and empowering them to have more influence over their utility bills.



The Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) provide a once-in-a-lifetime opportunity to implement efficiency and electrification projects on a large scale. As these programs are designed, states should consider ways to include grid interactive resources alongside them to ensure the grid continues to provide reliable and affordable energy. Below, NEEP outlines available funding and provides recommendations to help states both *understand* and *utilize* the funding to increase adoption of electrification benefits and grow existing programs.

Available Funding

BIL and IRA can play a key role in enabling grid flexible resources and ensuring the transition to beneficial electrification is done in an affordable and reliable manner. The BIL provides grants to make significant investments in grid flexibility and smart grid technologies to help states incorporate these resources. Meanwhile, IRA looks to accelerate the adoption of energy efficiency and clean energy technologies and can act as a vehicle to deploy beneficial electrification and grid interactive resources.

Bipartisan Infrastructure Law Funding Opportunities

- [Smart Grid Investment Matching Grant Program](#): Provides \$3 billion for utilities, higher education institutions, for-profit and non-profit entities, states, and local governments. It aims to promote investments in smart grid technology, tools, and techniques to increase grid flexibility, functionality, and operability.
- [Energy Efficiency and Conservation Block Grant Program](#): Provides \$550 million for local governments, states, and tribes to reduce the usage of fossil fuels and improve energy efficiency.
- [State Energy Program](#): Provides \$500 million for states to implement energy efficiency and renewable energy measures that increase adoption of clean energy technologies.

IRA Funding Opportunities

- [The HOMES Rebate Program](#): Offers state energy offices and tribes \$4.3 billion in rebates for whole-home energy efficiency retrofit packages based on the reduction in home energy use. The program covers building envelope measures, appliances and HVAC replacement, and work performance.
- [The High-Efficiency Electric Home Rebate Act \(HEEHRA\)](#): Offers state energy offices and tribes \$4.5 billion to fund efficient electrification of low- and moderate- income households. The program covers appliances, installation costs, and enabling measures such as upgrading circuit panels, insulation, air sealing, ventilation, and wiring.

Based on the \$8 billion IRA allocates to accelerate energy efficiency and electrification technologies, [load on the grid will increase](#), thereby hastening the need to incorporate more load flexibility programs. To ensure a cost-effective transition, states can look at ways to co-deploy energy efficiency and load flexibility programs to better leverage these resources and avoid any unnecessary investment in supply side resources or grid infrastructure with both the HOMES and HEEHRA programs.

Recommendations

Many of the final rules governing BIL and IRA funding have yet to be adopted, leaving a few unanswered questions for states and other stakeholders. The first step in implementing this funding includes *understanding* its role in the current state energy efficiency and building electrification framework. The next step will be identifying how to *utilize* the funding to meet state needs.

Understanding the Funding

- **Coordinate with stakeholders such as utilities, program implementers, and community agencies to establish statewide and/or regional data transparency policies:** Collecting real time data on energy use and grid load is important to enable grid interactive homes and buildings. Establishing standard data policies ensures customers can more easily share data with third-party providers that implement demand reduction and flexible grid programs.
- **Explore how to implement demand response programs alongside current energy efficiency programs, advancing efficiency and grid flexibility.** Federal funding paves the way for states, utilities, and consumers to adopt and experiment with new types of “smart” technologies that can communicate with the grid. States can advance demand response programs through policies or regulations, guiding Utilities and their program administrators to run these programs to examine when and how to reduce energy usage. Including these programs alongside energy efficiency offerings can enable states to take advantage of already successful programs with new products.



- Identify changes to current regulatory structures to properly value distributed energy resource programs.** Embracing electrification will require states to change metrics used to set goals and compare programs in energy efficiency and other distributed energy resource programs. Changing these metrics to better value the amount and time of energy production can enable the use of more grid interactive resources. The [total systems benefit](#) (TSB) metric accounts for when and how customers use energy by assigning a per hour value for energy generation. Program administrators can use this metric as a goal and to evaluate program cost-effectiveness. Further, a metric like the TSB serves multiple energy sectors as it can calculate real time energy cost and provide more level footing for distributed energy resources when compared to traditional energy sources.



Using the Funding

- Implement statewide Time-of-Use Rates that allow for customers to lower their bills.** Time-of-use rates are programs that use price signals to encourage customers to conserve energy at times of high demand and increase usage during periods of low demand. These programs save customers money and work to ensure grid supply can meet demand. Furthermore, as more utilities begin offering time-of-use rates, they can create educational campaigns to aid customer understanding of how specific appliance use affects their bills, and help customers manage their energy costs.
- Incentivize the equitable adoption of smart technologies:** Smart technologies such as batteries, thermostats, and hot water heaters can lower load on the grid and save consumers money while creating a more comfortable and healthy living space. Yet, these technologies often have a higher upfront sticker price, which can deter adoption. States can consider ways to subsidize these upfront costs and target initial projects in underserved communities to begin to address inequities in existing energy efficiency programs. Two examples of popular smart technologies include smart thermostats and electric hot water heaters. Smart thermostats can be used to increase or decrease temperatures to lower constraint on the grid. On-demand electric hot water heaters, similar to thermostats, use real time data from consumers and the grid to heat water in low demand times. PG&E implements smart water heaters with a program, [WaterSaver](#), which heats water for customers when electricity rates are low.



- Pilot [pay-for-performance](#) or measured energy savings programs:** The IRA provides incentives for states to implement a modeled or measured retrofit program where states can opt for one or the other. A measured, or pay-for-performance model, tracks and rewards savings as they occur. A modeled savings program offers an upfront, lump-sum payment for predicted savings. Measured savings programs create a more accurate way of offering savings, encouraging customers to continuously consider energy efficiency to realize more savings.



- Create an educational campaign to inform customers** Educating customers can help them understand the benefits of enrolling in these programs and how to choose programs that best fit their needs. These campaigns can also encourage customers to invest in technologies like smart thermostats and hot water heaters when they otherwise would have not. Utilities can also [send customers information](#) about their energy use to avoid higher bills and enroll in lower rates.



Conclusion

Smart technologies, two-way communication, and real time data enable flexible energy usage and reduce demand on the grid. Programs such as active demand response, time-of-use rates, and smart hot waters heaters can enable customers to become their own virtual powerplant by changing energy usage to align with energy generation.