

# How Utility Energy Efficiency Programs Can Use New Federal Funding

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## KEY FINDINGS

- The federal Inflation Reduction Act (IRA) and Bipartisan Infrastructure Law (BIL) together provide on the order of \$50 billion for energy efficiency implementation, not counting substantial additional resources for electric vehicles and other efficient transportation options.
- The federal programs funded by these laws can help states, territories, Tribes, utilities, and localities meet their energy efficiency and other goals. This funding can be used to substantially augment existing program budgets, allowing many more customers to be served and creative new efforts to be undertaken.
- The new federal programs include significant emphasis on serving low- and moderate-income households and communities, and on multifamily buildings.
- Details on the federal programs are still emerging, and some of the federal programs will not begin until 2024.
- Utilities, states, territories, Tribes, and localities should experiment to identify the most effective and workable constructs for integrating their programs with the federal programs and tax credits. These new federal laws provide a special opportunity to take energy efficiency efforts to a higher level. Program administrators should consider how they can maximize the market transformation from this funding such that program impacts continue after the federal funding runs out.
- Utilities and other program implementers should discuss integration options with their state energy office as well as with utility regulators, developing paths forward together. Integrated options include state lead, utility lead, or third-party lead using utility and state funds. Another option is complementary programs such as utility upstream programs and state consumer-facing programs.
- Clear rules for attribution of savings will be important to utilities.
- Utilities and other local programs should also talk to other utilities, states, and localities to share ideas and experiences.
- The end result can be effective integrated or complementary programs that help customers reduce energy bills and emissions while improving comfort and health and also achieving other societal goals such as creating clean energy jobs and helping to address long-standing equity challenges.

## Introduction

In 2021 U.S. electric and gas utilities spent approximately \$7.7 billion on energy efficiency programs.<sup>1</sup> In 2020 and 2021, the federal government adopted two major laws that collectively will invest about \$50 billion in energy efficiency over the next 10 years, not counting substantial additional investments in electric vehicles (EVs) and other efficient transportation options. The annual federal spending will approach current utility energy efficiency annual spending. To be most effective, federal and utility funding streams should be integrated together as much as is practical so they complement each other and ultimately make it as easy as possible for households, businesses, and institutional customers to leverage both in order to implement energy efficiency projects. Much of this integration will need to happen at the utility, state (including territories and Tribes<sup>2</sup>), and local levels where most programs, including the federal programs, will be delivered to energy consumers. This brief provides some initial suggestions on how program administrators can approach these integration opportunities and challenges. In this brief we emphasize utility programs because utilities implement the majority of existing programs, but these suggestions will generally also apply to state, territory, Tribe, and municipal energy efficiency programs. As states consider how best to use these new federal programs and funds, they should work with and build upon the energy efficiency programs that utilities offer in their states, taking advantage of program infrastructure, learnings, and relationships.

## The Federal Inflation Reduction Act (IRA) and The Bipartisan Infrastructure Law (BIL)

In November 2021 President Biden signed the Infrastructure Investment and Jobs Act (IIJA), often referred to as the Bipartisan Infrastructure Law (BIL). In August 2022 the president signed the Inflation Reduction Act (IRA). Prior ACEEE briefs have discussed the residential efficiency retrofit provisions<sup>3</sup> and the commercial energy efficiency provisions<sup>4</sup> in these bills.

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<sup>1</sup> Subramanian et al. 2022 *State Energy Efficiency Scorecard*. [www.aceee.org/research-report/u2206](http://www.aceee.org/research-report/u2206).

<sup>2</sup> The IRA funding that goes to states also goes to U.S. territories (Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, and Northern Mariana Islands), and some funding goes directly to larger Native American Tribes. In this brief when we use the term “states” we also include these other entities.

<sup>3</sup> Ungar and Nadel. 2022. *Home Energy Upgrade Incentives: Programs in the Inflation Reduction Act and Other Recent Federal Laws*. [www.aceee.org/policy-brief/2022/09/home-energy-upgrade-incentives-programs-inflation-reduction-act-and-other](http://www.aceee.org/policy-brief/2022/09/home-energy-upgrade-incentives-programs-inflation-reduction-act-and-other).

<sup>4</sup> Ungar and Nadel. 2023. *Commercial Building Incentives: Programs for New Construction and Upgrades in the Inflation Reduction Act and Other Recent Federal Laws*. [www.aceee.org/policy-brief/2023/02/commercial-building-incentives-programs-new-construction-and-upgrades](http://www.aceee.org/policy-brief/2023/02/commercial-building-incentives-programs-new-construction-and-upgrades).

Others have written about the industrial provisions<sup>5</sup> and the electric vehicle provisions.<sup>6</sup> Other useful summaries focus on affordable housing<sup>7</sup> and opportunities for local governments.<sup>8</sup> In this new brief we discuss how utility and other local program planners can integrate these new federal programs and funding opportunities with their ongoing efforts. We focus here on just energy efficiency programs and not a variety of related new federal programs that are contained in IRA and BIL.<sup>9</sup>

## Integrating Programs

In the sections below we discuss integration opportunities across five areas:

1. Retrofits to existing homes and apartments
2. Commercial retrofits
3. Residential and commercial new construction
4. Electric vehicles and charging infrastructure
5. Industry

### RETROFITS TO EXISTING HOMES AND APARTMENTS

For existing homes and multifamily buildings, IRA includes three major provisions: (1) tax credits up to 30% of the cost of specified high-efficiency equipment, insulation, and other measures; (2) Home Efficiency Rebates of \$2,000–8,000 per home or apartment varying with energy savings and household income level;<sup>10</sup> and (3) Home Electrification Rebates of up to \$14,000 per home or apartment depending on the measures that are implemented and

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<sup>5</sup> Bluegreen Alliance. 2022. *FACT SHEET: Clean Manufacturing Investments in the Inflation Reduction Act*. [www.bluegreenalliance.org/wp-content/uploads/2022/08/BGA-IRA-Manufacturing-Investments-Factsheet-82422-FINAL-2.pdf](http://www.bluegreenalliance.org/wp-content/uploads/2022/08/BGA-IRA-Manufacturing-Investments-Factsheet-82422-FINAL-2.pdf).

<sup>6</sup> Bluegreen Alliance. 2022. *FACT SHEET: Clean Vehicle Provisions in the Inflation Reduction Act*. [www.bluegreenalliance.org/wp-content/uploads/2022/08/BGA-Clean-Vehicle-IRA-Factsheet-5223-v2.pdf](http://www.bluegreenalliance.org/wp-content/uploads/2022/08/BGA-Clean-Vehicle-IRA-Factsheet-5223-v2.pdf).

<sup>7</sup> National Housing Trust. 2022. *POLICY BRIEF: The Inflation Reduction Act: Opportunities to Preserve and Improve Affordable Housing through Resilience*. [www.nationalhousingtrust.org/sites/default/files/news\\_file\\_attachments/The%20Inflation%20Reduction%20Act%20AH%20Guide%20FINAL%20Aug%2029%202022.pdf](http://www.nationalhousingtrust.org/sites/default/files/news_file_attachments/The%20Inflation%20Reduction%20Act%20AH%20Guide%20FINAL%20Aug%2029%202022.pdf).

<sup>8</sup> C40. 2022. *Climate Action and the Inflation Reduction Act: A Guide for Local Government Leaders*. [www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en\\_US](http://www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en_US).

<sup>9</sup> These include a variety of programs that can provide clean energy funding directly to utilities, such as smart grid and grid resilience grants (with grid-interactive buildings eligible), programs for rural electric cooperatives, and renewable power investment and production tax credits.

<sup>10</sup> This was called “HOMES” in IRA, but DOE has renamed it Home Efficiency Rebates.

household income.<sup>11</sup> Details are described in our prior policy brief (along with several other provisions that could also fund home retrofits), but note there are specific and different, but overlapping, requirements for each.<sup>12</sup>

Tax credits are only useful for homeowners who earn enough to pay income taxes. The tax credits also require sufficient cashflow that owners can pay for the improvements and wait to receive the credit around the time they file their taxes. The two rebates could be available to consumers in late 2023—but more likely 2024—and will be administered by state energy offices (SEOs). They are intended to be available to consumers at point of sale. DOE issued guidance on these programs in July which gives states substantial latitude to decide program implementation details such as how to handle income verification for income-qualified incentives.<sup>13</sup> In general states are required to allocate 10% of funding to multifamily buildings and about 40% to serving low and moderate-income households (the percentage varies by state). States must file a program plan for review by DOE prior to making funds available to consumers.

Many existing utility and other programs currently promote energy efficiency and electrification measures. These program implementers should carefully consider how to integrate current programs and new, federally funded programs. We have heard reports that some utilities plan to suggest to their SEOs that utilities lead administration of these programs in order to take advantage of existing program staff and services. The decision on whether to do this will be up to the SEO. Where programs might overlap, such as with home retrofits, a utility and SEO would ideally offer a single, blended program with a streamlined application and a single service provider with utility and federal funds combined “behind the curtain” to make participation easier for homeowners. Options could include a utility-operated program with SEO assistance, an SEO-operated program with utility assistance, or both the utility and SEO contracting with the same third-party program implementer. Depending on current local programs and capabilities, such integrated programs could be consumer-focused, with a “one-shop” model; contractor focused, using local equipment and building shell contractors to market programs to consumers; or a combination (e.g., utilities work with contractors and upstream suppliers and state/local programs work with consumers).

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<sup>11</sup> This was called “High-Efficiency Electric Home Rebate Act” in IRA, but DOE has renamed it Home Electrification Rebates.

<sup>12</sup> See note 3.

<sup>13</sup> [www.energy.gov/scep/home-energy-rebate-programs-guidance?utm\\_medium=email&utm\\_source=govdelivery](https://www.energy.gov/scep/home-energy-rebate-programs-guidance?utm_medium=email&utm_source=govdelivery).

Some states with robust existing programs may want to target the federal programs to market segments that are not already well served, such as low-income, multifamily, homes with propane or oil heat, areas served by small utilities, rural areas, and disadvantaged communities more generally. And where SEOs can establish strong, long-term programs, potentially including state funding to complement federal funding, utilities could reorient their offerings to complementary services or sectors not well covered by the federal programs, such as upstream market transformation and behavioral and energy benchmarking programs.

Where programs are already established but full integration or complementary programs with limited overlap are not possible, states and regulators should at least not create new barriers or burdens to existing programs. They should minimize resident confusion and make old and new programs easy for consumers to understand and participate in. Where appropriate and feasible, we recommend that SEOs take advantage of existing program outreach, training, technical assistance efforts, and tracking systems; consider streamlined applications; and seek to complement and not duplicate existing programs. This will require in-depth discussions between SEOs and current program implementers. As an example, the BIL-funded low-income Weatherization Assistance Program and most utility low-income programs use 200% of the federal poverty level as the prime program eligibility threshold—but IRA uses a different metric: percentage of area median income. State and utility plans should consider ways to use a single set of qualifying thresholds. The focus should be on finding the best solution for each customer and providing a positive customer experience by minimizing administrative barriers.

Where utility and federally funded programs overlap, the issue of how to divide credit for savings can be tricky. This is particularly of importance to utilities who need to meet energy savings and other goals. We offer some initial thoughts in the Discussion section toward the end of this brief.

The Home Efficiency Rebate program includes two pathways: *modeled savings*, based on predictions from an energy assessment calibrated to historical energy usage, and *measured savings*, based on the change in actual energy usage. Since utilities are the repository of energy consumption data, close coordination between utilities and SEOs will be essential for setting up both modeled and measured savings programs.

The Home Electrification Rebate program offers rebates for heat pumps for space heating, water heating, and clothes dryers as well as for induction stoves that replace either fuel-fired systems or electric resistance systems. Electric service upgrades needed to bring service to these appliances are also eligible for rebates. In the South, electric resistance heat and hot water are common; heat pump upgrades can help to reduce consumer electric bills and

reduce winter peak electric demand (a growing issue in the South).<sup>14</sup> In all regions, but particularly the North, combining building shell improvements and heat pumps will improve project economics and home comfort.<sup>15</sup>

Details on the federal incentives are largely set by legislation, and SEOs will have limited ability to make modifications. Program implementers should look at project costs in their areas and consider whether the federal incentives are adequate or whether additional utility or other local incentives will be useful. In our view, low- and moderate-income (LMI) households in particular (those with incomes under 80% of area median income) will often need more financial help than the federal incentives provide. Under the federal program guidance, there may be a requirement that at least a minimum percentage of Home Efficiency and Home Electrification funds must be set aside to serve LMI households.

Multifamily buildings are eligible for Home Efficiency and Home Electrification Rebates, with incentives paid per apartment. However, implementing weatherization and electrification projects in multifamily buildings is complicated; simple procedures and much technical assistance will be needed. ACEEE has previously published guidance on such programs.<sup>16</sup> Access to energy bill data will be especially critical for multifamily buildings. Under the federal program guidance, there may be a requirement for a minimum percentage of program funds that must be set aside to serve multifamily buildings.

While the above programs are the most well funded, BIL and IRA also include other programs that can assist with residential retrofits, particularly for affordable housing. Examples include the Department of Housing and Urban Development (HUD) Green and Resilient Retrofit Program for HUD-assisted housing<sup>17</sup> and a variety of Environmental Protection Agency (EPA) programs with a particular focus on low-income and environmental justice communities, including financing that could support utility programs.<sup>18</sup> Applications

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<sup>14</sup> Nadel and Kallakuri. 2016. *Opportunities for Energy and Economic Savings by Replacing Electric Resistance Heat with Higher Efficiency Heat Pumps*. [www.aceee.org/research-report/a1603](http://www.aceee.org/research-report/a1603); Nadel. 2017. *Electricity Consumption and Peak Demand Scenarios for the Southeastern United States*. [www.aceee.org/research-report/u1704](http://www.aceee.org/research-report/u1704).

<sup>15</sup> Specian. 2023. "Weatherization Is Key to Effective, Low-Cost Building Electrification." [www.aceee.org/blog-post/2023/06/weatherization-key-effective-low-cost-building-electrification](http://www.aceee.org/blog-post/2023/06/weatherization-key-effective-low-cost-building-electrification).

<sup>16</sup> York et al. 2022. *Building Decarbonization Solutions for the Affordable Housing Sector*. [www.aceee.org/research-report/u2204](http://www.aceee.org/research-report/u2204).

<sup>17</sup> HUD. 2023. "The Green and Resilient Retrofit Program (GRRP)." [www.hud.gov/GRRP](http://www.hud.gov/GRRP).

<sup>18</sup> EPA. 2023. "EPA Funding Announcements from the Bipartisan Infrastructure Law and the Inflation Reduction Act." [www.epa.gov/invest/epa-funding-announcements-bipartisan-infrastructure-law-and-inflation-reduction-act](http://www.epa.gov/invest/epa-funding-announcements-bipartisan-infrastructure-law-and-inflation-reduction-act).

for the DOE Buildings Upgrade Prize recently closed, but utility and other local programs should coordinate with prize winners in their areas.<sup>19</sup>

Finally, it is worth noting that as more customers electrify space and water heating under these and other programs, winter electric peaks will grow, and utilities should consider offering demand response and other load flexibility programs targeting winter peaks.<sup>20</sup>

## RESIDENTIAL AND COMMERCIAL NEW CONSTRUCTION

For both residential and commercial new construction, IRA modified long-running energy efficiency tax incentives, making them more generous and replacing a single qualifying level with two tiers for homes and low-rise apartments and a sliding scale for commercial and high-rise apartment buildings. BIL and IRA also included \$1.2 billion for strengthening and implementing building energy codes.

For single-family homes (including manufactured homes) and apartment buildings, section 45L of the tax code provides a tax credit of \$2,500 per home or apartment<sup>21</sup> for meeting ENERGY STAR specifications<sup>22</sup> and \$5,000 for meeting the DOE Zero Energy Ready criteria.<sup>23</sup> These credits, which will go on builder tax returns, will typically cover the incremental cost of these efficiency improvements. Utilities and other local programs should promote these tax credits to architects and builders and provide training and technical assistance on applicable design and construction techniques. Additional local incentives should be considered for meeting additional requirements such as Passive House efficiency levels<sup>24</sup> or installing high-efficiency cold climate certified heat pumps.<sup>25</sup>

For commercial and high-rise residential buildings, under section 179D of the tax code, a tax deduction is provided to a building owner or designer of between \$0.50 and \$5 per sq. ft. of

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<sup>19</sup> DOE. 2023. "Buildings Upgrade Prize (Buildings UP)." [www.energy.gov/eere/buildings/buildings-upgrade-prize-buildings](https://www.energy.gov/eere/buildings/buildings-upgrade-prize-buildings).

<sup>20</sup> Specian. 2021. *Demand-Side Solutions to Winter Peaks and Constraints*. [www.aceee.org/research-report/u2101](https://www.aceee.org/research-report/u2101).

<sup>21</sup> Full incentives for multifamily require meeting specified labor requirements. If the labor requirements are not met, the incentive is only \$500 (ENERGY STAR) or \$1,000 (Zero Energy Ready).

<sup>22</sup> EPA. 2023. "Energy Star Residential New Construction Program Requirements." [www.energystar.gov/partner\\_resources/residential\\_new/homes\\_prog\\_reqs/national\\_page](https://www.energystar.gov/partner_resources/residential_new/homes_prog_reqs/national_page).

<sup>23</sup> DOE. 2023. "Zero Energy Ready Program." [www.energy.gov/eere/buildings/zero-energy-ready-home-program](https://www.energy.gov/eere/buildings/zero-energy-ready-home-program).

<sup>24</sup> Phius. 2023. "Phius Standards." [www.phius.org/standards](https://www.phius.org/standards).

<sup>25</sup> EPA. 2022. "ENERGY STAR Program Requirements, Product Specification for Central Air Conditioner and Heat Pump Equipment." [www.energystar.gov/sites/default/files/asset/document/ENERGY%20STAR%20Version%206.1%20Central%20Air%20Conditioner%20and%20Heat%20Pump%20Final%20Specification%20%28Rev.%20January%20%202022%29.pdf](https://www.energystar.gov/sites/default/files/asset/document/ENERGY%20STAR%20Version%206.1%20Central%20Air%20Conditioner%20and%20Heat%20Pump%20Final%20Specification%20%28Rev.%20January%20%202022%29.pdf).

building floor area depending on the percentage energy savings and if labor standards set in the legislation are met.<sup>26</sup> For the common 21% business tax bracket, a \$5 deduction per sq. ft. reduces taxes by \$1.05 per sq. ft. The higher level of deduction for large savings is designed to encourage zero-energy-ready projects. Utilities and other local programs can complement these federal incentives with local training and technical assistance. In addition, supplementary incentives for zero-energy-ready projects could be useful. Previous ACEEE research has documented several programs that promote these efficiency levels.<sup>27</sup>

BIL provided \$225 million to states for updating and implementing building energy codes, and IRA provides \$333 million for states and local governments to adopt and implement the most recent model codes (2021 International Energy Conservation Code and ANSI/ASHRAE/IES Standard 90.1-2019) and \$667 million for zero energy codes. The Department of Energy (DOE) has suggested Building Performance Standards may also be included. Many utilities have programs to improve compliance with codes, and some support code updates, in addition to their above-code programs. Utilities could help implement funded programs, as well as monitor impacts, and may be critical to helping buildings for low-income residents and in underserved communities comply with the stronger codes.

## COMMERCIAL BUILDING RETROFITS

BIL and IRA include specific grant programs for retrofits to schools, federal buildings, and nonprofit buildings. Further information and links can be found in a previous ACEEE policy brief.<sup>28</sup>

In addition, IRA expanded the federal 179D tax deduction to make it much easier to use for commercial and high-rise residential whole-building energy retrofits. A pathway is now available based on the actual site energy use intensity (EUI) of the building compared to the EUI prior to the retrofit, with the same deduction levels as above (existing buildings can also use the deduction for exceeding the reference code if that works better for a project). Again, access to energy bill data, including tenant data, will be necessary to claim the deduction. As heat pumps are much more efficient than other heating sources when considering only energy use onsite, electrification can also help. A project must reduce energy use at least 25% to qualify.

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<sup>26</sup> The labor standards are paying prevailing wages and including apprentices. If labor standards are not met, the tax deduction for is only \$0.50/sq. ft. for 25% savings and \$1/sq. ft. for 50% savings.

<sup>27</sup> Nadel. 2020. *Programs to Promote Zero-Energy New Homes and Buildings*. [www.aceee.org/topic-brief/2020/09/programs-promote-zero-energy-new-homes-and-buildings](http://www.aceee.org/topic-brief/2020/09/programs-promote-zero-energy-new-homes-and-buildings).

<sup>28</sup> See note 3.



IRA also changed tax law to create two new provisions—elective pay (otherwise known as “direct pay”) and transferability—that enables state, local, and Tribal governments; nonprofit organizations; U.S. territories; and other entities to take advantage of 179D and other clean energy tax incentives.<sup>29</sup>

Achieving 25% or more whole-building savings generally requires comprehensive whole-building retrofits. Some utilities and other program implementers already offer programs to encourage whole-building retrofits, typically combining technical assistance with incentives.<sup>30</sup> Existing programs can help their participants to take advantage of these new federal tax deductions; other program implementers may want to think about starting programs that encourage deep building retrofits. The value of the deduction is low if labor standards (paying prevailing wages and including apprentices) are not met; even if labor standards are met, the value of the deduction will often not cover project costs. Utilities and other program implementers may want to provide their own incentives to complement the federal tax deduction.

## ELECTRIC VEHICLES AND CHARGING INFRASTRUCTURE

IRA and BIL include incentives for electric vehicles as well as a variety of programs to promote build-out of charging infrastructure.

For passenger vehicles, IRA includes tax credits of up to \$7,500 for cars and light trucks, and up to \$4,000 for used vehicles. There are price caps per vehicle as well as household income caps: These tax incentives will not be available for vehicles costing more than \$80,000 or for upper-income households. Car dealers will be able to deduct the credit from the purchase price of the vehicle. Details have been published elsewhere.<sup>31</sup> In our view, these federal tax credits will often be adequate to spur demand, although supplementary incentives for LMI households would be useful. EVs do vary in efficiency<sup>32</sup> and as a result it may be worthwhile investigating potential programs to promote the highest-efficiency EVs.

For trucks, a new federal tax credit covers 30% of purchase cost up to \$40,000 per vehicle. This will often be adequate to spur demand for small- and medium-size trucks (classes 2–6),

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<sup>29</sup> IRS. 2023. “U.S. Department of the Treasury, IRS Release Guidance on Provisions to Expand Reach of Clean Energy Tax Credits Through President Biden’s Investing in America Agenda.” <https://home.treasury.gov/news/press-releases/jy1533>.

<sup>30</sup> Srivastava and Mah. 2022. *Moving the Needle on Comprehensive Commercial Retrofits*. [www.aceee.org/research-report/b2203](http://www.aceee.org/research-report/b2203).

<sup>31</sup> Electrification Coalition. 2022. *IRA EV Tax Credits*. [https://electrificationcoalition.org/wp-content/uploads/2022/08/SAFE\\_1-sheet\\_Webinar.pdf](https://electrificationcoalition.org/wp-content/uploads/2022/08/SAFE_1-sheet_Webinar.pdf).

<sup>32</sup> Hther. 2022. “9,000-Pound Electric Hummer Shows We Can’t Ignore Efficiency of EVs.” [www.aceee.org/blog-post/2022/06/9000-pound-electric-hummer-shows-we-cant-ignore-efficiency-evs](http://www.aceee.org/blog-post/2022/06/9000-pound-electric-hummer-shows-we-cant-ignore-efficiency-evs).

but for the largest trucks (e.g., refuse trucks and tractor-trailers), additional incentives will be useful since the \$40,000 cap will result in a tax credit significantly less than 30% of vehicle price. Some states and cities have established local incentive programs for electric and fuel cell trucks, such as California<sup>33</sup>; recently Commonwealth Edison (serving northern Illinois) has proposed a truck incentive program.<sup>34</sup>

The BIL includes \$7.5 billion for EV charging infrastructure investments, with \$5 billion allocated to states via the National Electric Vehicle Infrastructure Formula Program (NEVI) and the remaining \$2.5 billion allocated through the Charging and Fueling Infrastructure (CFI) Discretionary Grant Program. The aim of the NEVI program is to create a nationwide network of chargers to facilitate access via a formula-derived allocation to every state plus DC and Puerto Rico. The CFI program will support these investments but give priority to underserved communities to ensure broader access to charging infrastructure.<sup>35</sup>

The IRA extends the tax credit for charging equipment, but now this tax credit is only available for chargers located within certain low-income or rural census tracts to broaden access to charging infrastructure.<sup>36</sup> For residential uses the tax credit continues to be 30% up to \$1,000 while for commercial uses it is 30% up to \$100,000 per unit, if the project meets prevailing wage and apprenticeship requirements.<sup>37</sup> The availability of charging infrastructure is a major barrier to EV adoption and broad access is key to ensuring everyone can benefit from the improved air quality and lower driving costs that come with EVs.<sup>38</sup>

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<sup>33</sup> CARB. 2023. "Incentives." [ww2.arb.ca.gov/our-work/topics/incentives](http://ww2.arb.ca.gov/our-work/topics/incentives).

<sup>34</sup> Commonwealth Edison. 2023. "ComEd's Plan to Reduce Barriers and Support Adoption of EVs and Electrified Technologies". [www.comed.com/SiteCollectionDocuments/DoingBusinessWithUs/LCS\\_BE\\_Onesheet.pdf](http://www.comed.com/SiteCollectionDocuments/DoingBusinessWithUs/LCS_BE_Onesheet.pdf).

<sup>35</sup> DOT. 2022. *Fact Sheets: National Electric Vehicle Infrastructure Formula Program*. [www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi\\_formula\\_program.cfm](http://www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm); DOT. 2023. "Biden–Harris Administration Opens Applications for First Round of \$2.5 Billion Program to Build EV Charging in Communities & Neighborhoods Nationwide." <https://highways.dot.gov/newsroom/biden-harris-administration-opens-applications-first-round-25-billion-program-build-ev>.

<sup>36</sup> Houston, S. 2022. "Five Things to Know About the Updated EV Charging Tax Credit." <https://blog.ucsusa.org/samantha-houston/five-things-to-know-about-the-updated-ev-charging-tax-credit/>.

<sup>37</sup> 6% up to \$100,000 if the wage and apprenticeship requirements are not met.

<sup>38</sup> Bartlett, J. 2022. "More Americans Would Buy an Electric Vehicle, and Some Consumers Would Use Low-Carbon Fuels, Survey Shows." [www.consumerreports.org/hybrids-evs/interest-in-electric-vehicles-and-low-carbon-fuels-survey-a8457332578/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=newsletter\\_axioswhatsnext&stream=science](http://www.consumerreports.org/hybrids-evs/interest-in-electric-vehicles-and-low-carbon-fuels-survey-a8457332578/?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axioswhatsnext&stream=science).

As EV use grows, it will be particularly important for utilities to implement managed charging and rates to encourage charging during off-peak hours.<sup>39</sup> Also, growing EV saturation will need to be incorporated into distribution system planning, particularly to accommodate truck fleets, since depots can use anywhere from 1–40 MW of power.<sup>40</sup>

While electrifying the transportation sector will be critical to reducing carbon emissions, policymakers and program implementers should take steps to ensure that EV investments emphasize efficient vehicles and do not come at the expense of other low-carbon transportation policies such as public transit and strategies to enable alternatives to cars that will help meet climate goals and reduce congestion while creating accessible and affordable transportation systems for all.

## INDUSTRY

BIL and IRA include multiple programs to support industrial energy efficiency and decarbonization that are being rolled out over the next several years. Utility programs are well positioned to leverage these funds, and DOE has indicated that utility programs are encouraged to work with their industrial customers to help them access these technical and financial assistance program offerings. Below we focus on several prominent programs that have been announced. Other programs will emerge in the future; DOE is working to establish a centralized resource for identifying these opportunities to be launched later in 2023.

The BIL includes funding to expand the DOE’s existing Industrial Assessment Center (IAC) program<sup>41</sup> under which universities provide free energy audits to small- and medium-sized manufacturing facilities. This expansion enables existing IACs to provide more energy audits, creates five new Regional Centers of Excellence to serve as hubs for domestic clean energy manufacturing,<sup>42</sup> and establishes additional IACs<sup>43</sup> to build energy- and manufacturing-

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<sup>39</sup> Jones et al. 2022. "Impact of Electric Vehicle Customer Response to Time-of-Use rates on Distribution Power Grids." [www.doi.org/10.1016/j.egy.2022.06.048](http://www.doi.org/10.1016/j.egy.2022.06.048).

<sup>40</sup> Nadel. 2022. "Electrifying Trucks and Other Fleets: Utility Infrastructure Will Be Critical." [www.eceee.org/library/conference\\_proceedings/eceee\\_Summer\\_Studies/2022/6-energy-efficient-and-low-carbon-mobility-for-all/electrifying-trucks-and-other-fleets-utility-infrastructure-will-be-critical/](http://www.eceee.org/library/conference_proceedings/eceee_Summer_Studies/2022/6-energy-efficient-and-low-carbon-mobility-for-all/electrifying-trucks-and-other-fleets-utility-infrastructure-will-be-critical/).

<sup>41</sup> DOE. 2023. "Industrial Assessment Centers." <https://iac.university/>.

<sup>42</sup> DOE. 2023. "Centers of Excellence – Expanding the Industrial Assessment Center Program." [www.energy.gov/mesc/bipartisan-infrastructure-law-centers-excellence-expanding-industrial-assessment-center](http://www.energy.gov/mesc/bipartisan-infrastructure-law-centers-excellence-expanding-industrial-assessment-center).

<sup>43</sup> These new centers are still being selected, with initial concept proposals due June 2023. DOE. 2023. "Bipartisan Infrastructure Law: Industrial Assessment Center (IAC) Program—IACs at Trade Schools, Community Colleges, and Union Training Programs; and Building Training and Assessment Centers (BTAC) Program." [https://infrastructure-exchange.energy.gov/Default.aspx?utm\\_medium=email&utm\\_source=govdelivery#Foald7ab20cf6-b723-402a-ab29-12f58f41ca8d](https://infrastructure-exchange.energy.gov/Default.aspx?utm_medium=email&utm_source=govdelivery#Foald7ab20cf6-b723-402a-ab29-12f58f41ca8d).

related workforces while providing technical support to manufacturing facilities. Utility and other local programs will want to take advantage of the expanded services provided by these centers.

Through BIL, small- and medium-sized manufacturers will also be eligible for \$400 million in new IAC Implementation Grant Program funding to implement energy audit recommendations made by IAC teams. This grant funding will also be available to sites working with the DOE's Combined Heat and Power Technical Assistance Partnership (CHP TAPs) programs and potentially with equivalent energy efficiency assessments provided by state and utility programs. During periodic solicitations, industrial firms will be able to request funding for projects.<sup>44</sup> Utilities and other local programs should coordinate with existing assessment providers in their areas to explore whether they can offer "equivalent assessments."

In addition, the IRA includes a federal tax credit, section 48C, to support clean energy manufacturing and recycling, critical materials production, and industrial GHG emissions reductions. The credit can cover up to 30% of the cost of new clean technology manufacturing facilities as well as of projects that install equipment achieving at least a 20% reduction in carbon emissions. This last provision can fund large efficiency retrofit projects at factories. A total of \$10 billion will be available through a series of competitive solicitations, with selected projects receiving up to a 30% investment tax credit.<sup>45</sup> Of this funding, at least \$4 billion will be allocated to projects in "energy communities."<sup>46</sup> Applications for the first tranche of 48C tax credits (\$4 billion total, with \$1.6 billion carved out for energy communities) are due in fall 2023. Utilities can encourage and assist their large customers to submit applications.

A related program is the Advanced Industrial Facilities Deployment Program, which will provide competitive financial support to owners and operators of energy-intensive industrial facilities for high-impact, transformational projects to significantly reduce greenhouse gas emissions. DOE recently selected 130 projects that were encouraged to submit full

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<sup>44</sup> DOE. 2023. "DOE Industrial Assessment Centers (IAC) Implementation Grant Program—Round 1 Solicitation." <https://go.ratio.exchange/opps/challenge.cfm?i=387AF1B5-410E-4974-BCEC-901EA565045C>.

<sup>45</sup> DOE. 2023. "Qualifying Advanced Energy Project Credit (48C) Program." [www.energy.gov/infrastructure/qualifying-advanced-energy-project-credit-48c-program](http://www.energy.gov/infrastructure/qualifying-advanced-energy-project-credit-48c-program).

<sup>46</sup> Designated Communities under the IRA include brownfield sites, coal communities, and areas with a specific mix of employment and local tax revenue related to fossil fuels. NETL provides a mapping tool to help identify these counties: <https://arcgis.netl.doe.gov/portal/apps/experiencebuilder/experience/?id=a44704679a4f44a5aac122324eb00914&page=home>.

applications.<sup>47</sup> The list of projects is not published, but some of the applicants might reach out to their local utilities for assistance.

## Discussion and Conclusions

IRA and BIL provide extensive funding and many opportunities for partnerships and integration between program administrators. These programs can help utilities and localities meet their energy efficiency and other goals. The extensive funding under these programs can be used to substantially augment existing program budgets, allowing many more customers to be served and creative new efforts to be undertaken.

However, many utilities are concerned that utility regulators will make allocation of credit for savings too complicated; this concern cuts across all these program areas. When multiple funding sources are used (e.g., utility and IRA funds), utilities are apprehensive that regulators will focus too much on the relative influence of the utility on consumer decisions. This could affect calculations of gross versus net savings (net of savings that would happen without programs) and could impact how much savings utilities can claim toward their goals and incentives. How these issues are addressed can greatly influence the role of utilities in integrated programs. More broadly, there is concern that regulators and other stakeholders might create unnecessary and/or overly burdensome barriers that can complicate and slow program implementation.<sup>48</sup>

In general, in order to roll out integrated programs quickly and as effectively as possible, simple procedures should be developed such as evaluating overlapping utility and state programs as an integrated package and not separately, and agreeing upfront that utilities will receive credit for “x%” of the savings, with “x” perhaps revised in the future based on experience, but with a new “x” applied only prospectively and not retrospectively. A common approach for allocating credit for savings is to base savings allocations on relative expenditures by different program implementers.

To address these issues, utilities and other local program implementers should discuss integration options with their SEOs as well as with utility regulators, developing paths forward together. Details on the federal programs are still emerging, and some of the federal programs will not begin until 2024. Utilities, states, territories, Tribes, and localities should experiment to develop the most effective and workable constructs for integrating their programs with the federal programs. These programs are a special opportunity to take

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<sup>47</sup> DOE. 2023. “Industrial Demonstrations Program Notifications.” [www.energy.gov/oced/industrial-demonstrations-program-notifications](https://www.energy.gov/oced/industrial-demonstrations-program-notifications).

<sup>48</sup> We have particularly heard this concern from utilities with extensive programs. On the other hand, we have heard some concerns that utilities with currently limited programs might seek to claim credit for large savings that are primarily driven by federal spending.

energy efficiency efforts to a higher level. Utilities and other local programs should consider how they can maximize the market transformation from this funding such that program impacts will continue after the federal funding runs out.

Utilities and other local programs should also talk to other utilities, states, and localities to share ideas and experiences. ACEEE will be periodically updating this brief to incorporate promising strategies and results. Likewise, utilities and states should recognize that as programs are implemented, lessons will be learned and adjustments will need to be made. The end result can be effective integrated and complementary programs that help customers reduce energy bills and emissions while improving comfort and health and also achieving other societal goals such as creating clean energy jobs and helping to address long-standing equity challenges.