



# Energy 2040

**Alliance to Save Energy  
2023 Policy Priorities  
Phase One**



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# Energy 2040 Commission

The National Commission on Energy Efficiency Policy, guided by the Leadership Circle, serves as an advisory board for Energy 2040. Commissioners have a vested interest in energy efficiency and represent diverse backgrounds, sectors of the economy, professional disciplines, and political perspectives to ensure that the initiative's scope, research, and resulting policy recommendations are robust, non-biased, and have credibility among policy- and decision-makers.

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# Messages from our leaders

As our nation seeks to address the pressing issues of **climate change and energy security**, the Alliance to Save Energy and the Energy 2040 Commission are committed to leading with **Energy Efficiency First**— measuring our success through the metrics of energy equity, reliability, affordability, and emission reductions. Energy efficiency is the foundation of climate policy and a just energy transition, which is why the nation’s policymakers must prioritize efficiency as the lead energy resource to net zero. I am thrilled by the expeditious collaboration of the Commission and our affiliate partners, and confident that our work will result in fueling economic activity— including job creation, business development, and energy affordability for all communities. Together, we can meet this generation’s defining moment in realizing a clean, more equitable, resilient, and energy-efficient focused future— as we lead U.S. climate policy with **Energy Efficiency First**.



**Paula Glover**

Alliance to Save Energy  
President



**Helen Burt**

Energy 2040 Chair

**On behalf of the Energy 2040 Commission**, we are pleased to share the results of our Phase 1 work. Based on research that demonstrates the value of energy efficiency, this first set of policy priorities makes clear the essential role of energy efficiency in U.S. energy and climate policy. Energy efficiency is already the nation’s workhorse in emission reductions. But for energy efficiency investments, carbon emissions would be 80% higher, using 1980 levels as a baseline. Furthermore, but for energy efficiency investments since 1980, energy spending through bills would have been 77% higher. That said, now and into the future, as the grid compliment changes, and as the need for energy resources increases, energy efficiency will also be critical to avoiding unnecessary capacity building, decreasing energy demand, and adding greater system reliability. Importantly, we will need energy efficiency as a pathway to equity, directly linking this essential energy resource to community and economic development. We look forward to the work ahead.

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# Introduction

The Alliance to Save Energy and the Energy 2040 Commission present the following set of 2023 policy priorities to accelerate and maximize the deployment of energy efficiency solutions and strategies for the purpose of achieving greater carbon emission reductions, energy reliability, affordability, and energy equity. The identified proposals are the result of extensive discussions among Energy 2040 Commissioners and external partners from multiple sectors, and are representative of the Energy 2040 Policy Workflow's goal to achieve consensus in the adoption of final recommendations, without compromising on the objective of pursuing aggressive energy efficiency policies and solutions. As such, these recommendations are focused on **Energy Efficiency First** and do not seek to engage in policy actions that favor one fuel resource type over another.

According to the International Energy Agency (IEA), energy efficiency alone can achieve 40% of the emission reductions required by the Paris Agreement. The U.S. Environmental Protection Agency (EPA) concludes that energy efficiency “is one of the fastest, most cost-effective ways to save money, reduce greenhouse gas emissions, create jobs, and meet growing energy demand.”[1] The 2023 policy priorities will focus on Inflation Reduction Act (IRA) and Infrastructure Investment & Jobs Act (IIJA) implementation, but also seek to establish new and additional areas of focus to meet the climate imperative. Both efforts demonstrate the strength of energy efficiency as an energy resource and technology, while also recognizing the leading role that energy efficiency must play as the nation pursues other climate mitigation strategies. **Energy Efficiency First** as a stand-alone can effectively get the nation nearly halfway to its emission goals; and **Energy Efficiency First** coupled with other climate strategies such as community and rooftop solar or electrification can significantly optimize emission reductions and impact the cost associated with deploying other technologies.

**Building on the Infrastructure Investment & Jobs Act and the Inflation Reduction Act:** Contextually, the proposed policy priorities in this document follow passage of historic legislative wins for the energy efficiency industry through the IIJA and IRA. The IRA alone represents the single largest U.S. federal investments in energy efficiency, and the largest climate action by any country ever, directing funding to nearly every sector of the economy. As such, the policies and standards put forward as 2023 priorities are additive and provide clarity to existing laws.

One noted outcome of the IRA is the prioritization of electrification as part of the nation’s decarbonization strategy. The following priorities acknowledge electrification as an IRA policy objective, and the identified priorities are an initial step post IRA passage to address increasing electricity demand and grid load as electrification grows. This growth will have a direct impact on future electricity generation capacity needs, and will require significant build-out of renewable and other energy generation capacity, in addition to transmission and distribution systems. This build-out will come at a cost to utilities and other energy developers, part of which will be borne by consumers through rates.

Energy efficiency will be required to mitigate capacity needs, reduce load, and to limit increases in energy costs— and the principle of **Energy Efficiency First** dictates that energy efficiency measures are in place first when pursuing electrification. For the U.S. built environment, this means first installing insulation and sealing the building envelope, using high efficiency windows, LED lighting, demand flexibility (when available), and related smart technologies that optimize these energy efficiency strategies. When focusing first on energy efficiency, renewable and other generation capacity needs are reduced; and policymakers can ensure that HVAC and other equipment types that are integral to a building’s energy system are right-sized – while using less energy to accomplish the same thing. As such, the 2023 policy priorities substantively include IRA and IIJA implementation, but also identifies a first look at additional action that will be required through energy efficiency if the nation is to successfully meet its energy and climate objectives, including decarbonization, and energy equity, reliability, and affordability. Additionally, implementation will be focused on maximizing coordination across federal, state, and local programs, and ensuring that energy savings are maintained across existing and new programs.

### **Energy Equity Statement**

Energy equity is a centerpiece of the Energy 2040 initiative, and Commissioners acknowledge that achieving a successful and just energy transition will require that everyone has access to the benefits of energy efficiency. Of the 42.8 million households earning less than \$40,000 annually, 45% experienced energy insecurity in 2020 [2] and 67% of low-income households suffered a high financial burden from energy costs, spending more than 6% of their income on energy needs.[3] When examined by race and ethnicity, 20% of White households experienced energy insecurity as compared to 47% of Hispanic or Latino households and 52% of Black or African American households.[4]



There are significant opportunities to reduce energy insecurity, improve energy equity, and lower greenhouse gas emissions by supporting low-income homeowners in making their homes more energy efficient. As of 2020, 25% of owner-occupied homes, or roughly 21 million households, had annual incomes under \$40,000, and over 40%, roughly 34 million households, had incomes under \$60,000.[5] These households will likely require significant incentives and investments to overcome financial barriers and accelerate adoption of energy efficiency solutions.

Energy equity also requires that beyond receiving energy efficiency services and products, all communities have the opportunity to take part in the energy efficiency workforce. The demographics of the energy efficiency workforce are representative of the national workforce in many ways, and there are areas requiring increased representation. Black or African American workers make up 8% of the energy efficiency workforce compared to 12% of the national workforce, while female workers represent only 23% of the energy efficiency workforce compared to 47% overall.[6]

Achieving energy equity in terms of personal energy security, residential improvements, and workforce participation will require policy and regulatory actions. The equity proposals in this document provide a starting point from which the Commission will build and expand to ensure energy efficiency benefits and opportunities are accessible to all.

**Note:**

To achieve consensus, Energy 2040 leadership and Alliance staff engaged with Commission and Policy Workflow members to develop language reflective of the identified objectives. The recommendations in this document do not yet amount to final legislative or regulatory proposals. However, the approved recommendations will provide the Commission, Alliance staff, and Congressional partners with a structure from which to refine the identified priorities, including the development of legislation and proposed rulemaking.

# 1 Built Environment - Residential

## Issue

The residential built environment is responsible for 21% of all U.S. energy consumption by end use, and accounts for approximately 20% of U.S. GHG emissions.[7] Energy efficiency measures in the residential built environment can result in major reductions in energy use and emissions and can also add to greater energy affordability for homeowners and renters. Although the IRA provides significant investments to incentivize residential energy efficiency deployments and installments, including tax credits and rebate programs, more will be needed to achieve greater emissions reductions and energy savings, and to add increased reliability to the nation's energy systems. Moreover, energy transition strategies (and U.S. climate policy more broadly) will need to lead with energy efficiency, including insulation and air sealing to ensure that relevant energy investments are appropriately sized.

## Proposals

- **Residential Energy Codes:** Develop and support legislative and regulatory solutions that incentivize and result in state-by-state adoption of at least the latest model energy codes across the nation, including identifying incentives and federal support to adopt codes above the model, in addition to supporting the development of net-zero energy codes. Identified solutions should also consider the unique needs of consumers.
- **Federally Supported Mortgage Products:** Identify and develop legislative and regulatory strategies that incentivize energy efficiency investments, including application of at least the latest model energy codes, at the time of home construction, sale, purchase, or refinancing. Identified strategies would include investment grade multi-family products and would not seek to impede property sale or transfer but would provide best-use tools to incentivize energy efficiency investments at time of transfer or refinancing. Identified solutions should consider the unique needs of consumers.
- **Tax and Other Incentives:** Identify new or expand on existing tax and other incentives in current law to positively impact energy efficiency investments.
- **Federal Programs for Disaster Relief and Affordable Housing:** Establish the latest model building energy codes as a minimum standard when providing disaster, emergency, and other federal housing funding when related to the construction or major rehabilitation of single-family or multi-family housing. Identified strategies should include education for states in addition to coordination between states and relevant federal agencies.

# 1 Built Environment - Residential (Continued)

## Proposals

- **Equity Priorities:**
  - Identify and develop legislative and regulatory solutions and strategies that lower access and cost barriers to high and most efficient equipment and products for consumers in low-income and disadvantaged communities.
  - Identify and develop legislative strategies that incentivize workforce and business development growth targeting low-income and disadvantaged communities, connected to energy efficiency investments more broadly, but particularly when energy efficiency investments target low-income and disadvantaged communities.

# Built Environment - Commercial

## Issue

According to the U.S. Department of Energy (DOE), “businesses, federal, state, and local governments own, operate, and use 93 billion square feet of U.S. real estate, and account for 18 percent (or 18 quadrillion Btu) of U.S. primary energy use—more than all of Canada's energy consumption—and \$190 billion in energy expenditures every year.

“Commercial buildings consume 13.6 quads of electricity (35 percent of electricity consumed in the U.S.) and generate 826 million metric tons of carbon dioxide emissions (16 percent of all U.S. carbon dioxide emissions). Reducing energy use in commercial buildings would have tremendous positive impact on our environment and energy security and would save money that can be used to help grow U.S. businesses. In addition, energy efficiency in commercial buildings creates good, skilled and needed jobs in construction and technology, such as engineers, commissioning agents, energy managers, and building operators.” [8]

# 1 Built Environment - Commercial (Continued)

## Proposals- New Construction

- **Commercial Energy Codes:** Develop a legislative or regulatory framework that incentivizes or results in state-by-state adoption of at least the latest model commercial energy codes across the commercial new construction environment, including supporting the development of net-zero energy codes.
- **Embodied Carbon:** Identify and develop a legislative or regulatory framework that defines the role of energy efficiency measures in positively impacting a reduction in embodied carbon.
  - Embodied carbon accounts for emissions applied to the extraction, manufacture, transportation, installation, maintenance, and disposal of construction materials and products. Energy efficiency measures applied to each process will have a direct impact on embodied carbon levels.
- **Green Leasing:** Identify and develop incentive structures that would accelerate the use of commercial green leases, e.g., tax incentives for tenants; additional 179D flexibility for landlords; etc.
- **Green Certification:** Identify strategies and incentives for construction of green certified commercial buildings (e.g., LEED, ENERGY STAR, and others) connected to energy efficiency retention throughout the lifecycle of the building, such as building performance standards, as adopted by states, or other measures.
- **High-Efficiency Products & Equipment:** Expand on existing incentives, including incentives at the manufacturing level, and consider new and additional strategies to accelerate the installation of high and most efficient products and equipment types— including enabling products and equipment, such as incentives connected to long-term leasing and maintenance of most efficient equipment types. This may also include identifying best strategies connected to implementation and adoption of relevant federal appliance and equipment standards; identifying depreciation incentives; support for research, development and demonstration of new technologies and other measures.
- **C-Pace:** Identify and develop federal legislative or regulatory strategies that would encourage the use of C-Pace financing at the state level.

# 1 Built Environment - Commercial (Continued)

## Proposals- Existing Construction

- **Building Performance Standards:**  
Develop incentives to accelerate (and disincentivize actions that would impede) the establishment and use of uniform commercial building performance standards nationally, as adopted by states.
- **High-Efficiency Products & Equipment:** Expand on existing incentives, including incentives at the manufacturing level, and consider new and additional strategies to accelerate the installation of high and most efficient products and equipment types— including enabling products and equipment, such as incentives connected to long-term leasing and maintenance of most efficient equipment types. This may also include identifying best strategies connected to implementation and adoption of relevant federal appliance and equipment standards; identifying depreciation incentives; support for research, development and demonstration of new technologies and other measures.
- **Environmental Product Declarations:**  
Develop strategies to encourage the utilization of Type III Environmental Product Declarations and industry supported embodied carbon calculator tools and resources in specification for new and existing commercial construction.
- **Equity Priorities:**
  - Identify and develop legislative strategies that incentivize workforce and business development growth targeting low-income and disadvantaged communities, connected to energy efficiency investments more broadly, but particularly when commercial energy efficiency investments target low-income and disadvantaged communities.
  - Explore pathways that include acceleration of green leasing and certifications in low-income and disadvantaged communities, e.g., heightened 179D deductions or other increased incentives.

## 2 Transportation

### Issue

Transportation accounts for 28% of U.S. energy consumption [9] and 27% of U.S. GHG emissions.[10] While light-duty vehicles accounted for the majority of GHG emissions from transportation (57%), medium- and heavy-duty vehicles contributed to more than one-quarter of highway emissions despite only accounting for 9% of all vehicle miles traveled (VMT) - with VMT expected to grow by more than 30% by 2050. Freight transportation, which encompasses commercial aircraft, rail, trucking, and other modes of transportation contributed 32% of all U.S. GHG emissions from transportation in 2020, and that number is projected to increase.[11] Marine transportation in the U.S. is responsible for 32.3 million metric tons CO<sub>2</sub>e, or roughly 2% of GHG emissions from the transportation sector.[12]

While the IIJA and IRA included substantive policy inputs for light-duty vehicle emissions, there are additional opportunities for emissions reductions across the transportation sector including expanding existing incentives for alternative fuel heavy-duty vehicles and creating new incentives for increased freight and marine transport efficiency.

### Proposals

- **Heavy-Duty Vehicles:** Identify and develop pathways to achieve optimal energy efficiency for Class 7 and 8 vehicles, including but not limited to incentives related to the purchase and manufacturing of zero and very low-emission vehicles, in addition to establishing higher fuel efficiency standards. An example of increased incentives would include raising the tax incentives passed in the Inflation Reduction Act, e.g., 40% versus 30%, and \$80,000 versus \$40,000.
- **Vehicle Grid Integration:** Develop and support strategies, including research and development, that accelerate the establishment and use of vehicle-to-grid/vehicle-to-load technologies, e.g., the Bidirectional Act, Including a focus on necessary grid Investments.
- **Vehicle Miles Traveled (VMT):** Support the Department of Transportation's proposed GHG performance measure or another state specific GHG planning measure for transportation legislation.
- **Freight Miles Traveled (FMT):** Expand federal freight performance measures to explicitly include CO<sub>2</sub> and require GHG as part of state freight planning efforts. Additionally, the U.S Department of Transportation should help establish the data infrastructure and collaborative processes needed to foster digital freight optimization.

## 2 Transportation (Continued)

### Proposals

- **Outdoor and Roadway Lighting:**

Roadway and outdoor lighting is responsible for nearly 20 GWh of electricity consumption and nearly 6 million tons of CO<sub>2</sub> emissions annually. Converting non-LED light points can achieve nearly 14 GWh in energy savings and \$2.3 billion in energy costs, with an estimated 3-year payback period. That said, approximately two-thirds of existing roadway and outdoor lighting is owned at the utility level, but a number of barriers exist that disincentivize utilities from making the necessary investments.[13] Pathways to lower these hurdles include:

  - Develop incentives and strategies to accelerate the deployment of LED and advanced smart lighting technologies at the utility level while also providing incentives to those utilities who are already actively engaged in deploying LED and advanced smart lighting technologies.
- **Equity Priorities:**
  - Support and develop strategies that prioritize adoption of zero and very low emission vehicles and deployment of vehicle to grid/vehicle to load technologies in low-income and disadvantaged communities, including easy and substantial access to electric vehicle charging infrastructure.
  - Prioritize heavy-duty and freight incentives when vehicles are substantially connected to or located in low-income and disadvantaged communities, such as intermodal and distribution centers, as well as charging and maintenance facilities.
  - Support Equitable access to zero and very low emission vehicles.

## 3 Industry

### Issue

Industry accounts for 33% of end-use energy consumption in the U.S. [14] and 24% of GHG emissions.[15] Industry's enormous energy requirements, diverse landscape, and large scale create challenges for decarbonization and energy reductions, but also opportunities for investments and programs to improve the sector's energy efficiency, including financial mechanisms and minimum standards to incentivize investment in process and building efficiency. Targeted industrial energy efficiency investments have the ability to lower emissions, reduce energy costs, and enhance U.S. competitiveness and productivity.

## 3 Industry (Continued)

### Proposals

- **Assessments and Upgrades:** Develop and support funding and other mechanisms to facilitate energy assessments and upgrades for industrial and manufacturing facilities. Key strategies include:
  - Cost-sharing initiatives that incentivize completing an energy study of industrial and manufacturing facilities to identify and evaluate opportunities to reduce energy costs and GHG emissions and incorporate clean energy into an owner's capital planning. Resulting studies would provide a targeted analysis on how best to implement clean energy and/or energy efficiency technologies, including through a strategic energy management (SEM) process. New York State's Flexible Technical Assistance program is an example of this strategy.
  - Rebate programs to help cover the cost of industrial facility energy efficiency retrofits, connected to the development and utilization of energy efficiency best practices within the industrial and manufacturing sectors.
  - Grant and loan guarantees for commercial-scale implementation of transformative industrial technologies, with a focus on the processes with the largest energy use and GHG emissions.
  - Grants and other funding mechanisms to facilitate industrial cluster energy efficiency innovation and adoption, including through research, development, and demonstration initiatives.
  - Identify incentives related to depreciation to accelerate replacement of old and inefficient equipment with new equipment that meets available best standards.
- **Equity Priorities:** Support and develop strategies that prioritize industrial energy efficiency investments in low-income and disadvantaged communities, potentially including:
  - Targeting R&D and training investments toward Historically Black Colleges and Universities (HBCUs) and other minority-serving institutions.
  - Identifying and addressing industrial facilities where emissions and energy consumption are highest in low-income and disadvantaged communities, while also ensuring to avoid contributing to environmental hazards.



## 4 Utilities

### Issue

Electricity production accounts for 25% of U.S. GHG emissions, second only to transportation [16], but new demand flexibility and grid-integrated efficient buildings (GEBs) technologies coupled with other substantive energy efficiency investments have the ability to greatly reduce energy demand, load, and GHG emissions. According to the Lawrence Berkeley National Lab, “Over the next two decades, national adoption of GEBs could be worth between \$100-\$200 billion in U.S. electric power system cost savings...[and] decrease CO2 emissions by 80 million tons per year by 2030, or 6% of total power sector CO2 emissions.”[17]

Savings from GEBs and energy efficiency investments will be important for grid stability as adoption of electric vehicles (EVs) continues to accelerate. Widespread EV adoption will create significant growth in grid load, requiring up to \$125 billion in grid investments to support 20 million EVs. These vehicles will add 60-95 terra-watt hours (TWh) of electricity demand to the grid annually and 10-20 gigawatts (GW) of peak load, requiring 12-18 GW of generation capacity from renewable energy.[18]

### Proposals

- **Demand Flexibility and Grid-Integrated Efficient Buildings:** Accelerate the deployment of demand flexibility and GEBs technologies as a necessary strategy to optimize the impact of energy efficiency on grid reliability, energy affordability, and carbon emission reductions. Strategies would include but are not limited to funding and financing mechanisms for utilities and consumers; tax incentives for utilities and consumers; incentives for states to lead in demand flexibility and GEBs deployment; funding to support research, development, and demonstration of demand flexibility and GEBs technologies; incentives that increase and facilitate the secure use and protection of consumer data; and other mechanisms. Some investments may be required in advance market cost-effectiveness to support readiness for future grid needs.
- **Equity Priorities**
  - Prioritize demand flexibility and GEBs investments in low-income and disadvantaged communities, e.g., additional funding for the Department of Energy Buildings Technology Office to support GEBs demonstration projects, and heightened incentives for utilities, equipment manufacturers, and consumers.

## 5 Consumer

### Issue

According to the University of Michigan, “Financial barriers are often cited as the principle (*sic*) impediment to the adoption of energy efficiency measures,”[19] but the opportunities for energy and cost savings and GHG reductions through residential efficiency can be challenging, particularly in the context of low and moderate-income families. Rebate programs and tax incentives are important, but are insufficient tools in overcoming the initial financial barriers to energy efficiency adoption as many households lack access to the upfront capital necessary to invest in energy efficiency.[20] Overcoming consumer financial barriers could result in significant GHG emissions reductions and cost savings.

### Proposals

- **Consumer-Focused Incentives:** Identify and develop strategies beyond rebate programs and tax incentives that provide consumers increased spending flexibility and opportunities to make energy efficiency investments for their homes— including insulation and sealing the building envelope, in addition to the use of zero to very low emissions energy efficient vehicles, regardless of whether they are renters or homeowners.
- **Equity Priorities**
  - Identify and develop consumer-based spending flexibility strategies that are easily accessible by low-income and disadvantaged communities, and easily integrated into existing energy efficiency related initiatives, including but not limited to the Weatherization Assistance Program (WAP) and the Low Income Home Energy Assistance Program (LIHEAP).

# REFERENCES

1. "Local Energy Efficiency Benefits and Opportunities" EPA.gov, <https://www.epa.gov/statelocalenergy/local-energy-efficiency-benefits-and-opportunities>
2. "Residential Energy Consumption Survey." Residential Energy Consumption Survey (RECS) - Energy Information Administration, U.S. Energy Information Administration - EIA - Independent Statistics and Analysis, May 2022, <https://www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%2011.1.pdf>
3. "An Assessment of National and Metropolitan Energy Burden across the United States How High Are Household Energy Burdens?" Drehobl, Ariel, et al. Aceee.org, Sep 2020, [www.fdac.gov/content/download/96425/file/ACEEE\\_HouseholdEnergyBurdensStudy.pdf](http://www.fdac.gov/content/download/96425/file/ACEEE_HouseholdEnergyBurdensStudy.pdf)
4. EIA (2020), 2020 RECS Survey Data
5. ACEEE (2020), "How High Are Household Energy Burdens?"
6. "United States Energy & Employment Report 2022." U.S. Department of Energy, Jun 2022, [https://www.energy.gov/sites/default/files/2022-06/U.S.EER%202022%20National%20Report\\_1.pdf](https://www.energy.gov/sites/default/files/2022-06/U.S.EER%202022%20National%20Report_1.pdf)
7. Goldstein, Benjamin, et al. "The Carbon Footprint of Household Energy Use in the United States | PNAS." PNAS.org, Proceedings of the National Academy of Sciences of the United States of America, <https://www.pnas.org/doi/10.1073/pnas.1922205117>
8. "About the Commercial Buildings Integration Program." Energy.gov, <https://www.energy.gov/eere/buildings/about-commercial-buildings-integration-program>
9. "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." Use of Energy for Transportation - U.S. Energy Information Administration (EIA), 17 June 2022, <https://www.eia.gov/energyexplained/use-of-energy/transportation.php>
10. "Fast Facts on Transportation Greenhouse Gas Emissions." EPA, Environmental Protection Agency, 14 July 2022, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P10153PC.pdf>
11. Energy Efficiency Impact Report, The Alliance to Save Energy, <https://energyefficiencyimpact.org/transportation/#Section45>
12. EPA (2022), "Fast Facts on Transportation Greenhouse Gas Emissions"
13. Outdoor Lighting Slide Deck. Signify, 10 Nov. 2022.

14. "Uses of Energy Explained." U.S. Energy Information Administration (EIA), 13 June 2022,  
<https://www.eia.gov/energyexplained/use-of-energy/>
15. "Sources of Greenhouse Gas Emissions." EPA, Environmental Protection Agency, 5 Aug. 2022,  
<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>
16. "Sources of Greenhouse Gas Emissions." EPA, Environmental Protection Agency, 5 Aug. 2022,  
<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>
17. A National Roadmap for Grid-Interactive Efficient Buildings. U.S. Department of Energy- Office of Energy Efficiency and Renewable Energy, 17 May 2021,  
<https://gebroadmap.lbl.gov/A%20National%20Roadmap%20for%20GEBs%20-%20Final.pdf>
18. "Getting to 20 Million EVs by 2030." The Brattle Group, June 2020,  
[https://www.brattle.com/wp-content/uploads/2021/05/19421\\_brattle\\_-\\_opportunities\\_for\\_the\\_electricity\\_industry\\_in\\_ev\\_transition\\_-\\_final.pdf](https://www.brattle.com/wp-content/uploads/2021/05/19421_brattle_-_opportunities_for_the_electricity_industry_in_ev_transition_-_final.pdf)
19. Erickson, Jim. "Targeting Minority, Low-Income Neighborhoods for Hazardous Waste Sites." University of Michigan News, University of Michigan, 19 Jan. 2016,  
<https://news.umich.edu/targeting-minority-low-income-neighborhoods-for-hazardous-waste-sites/>
20. "Sources of Greenhouse Gas Emissions." EPA, Environmental Protection Agency, 5 Aug. 2022,  
<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

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TO SAVE ENERGY**  
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2040**

