

HOW THE INFLATION REDUCTION ACT CAN HELP HOMEOWNERS TRANSITION OUT OF FOSSIL FUELS

Presented to: CCL Mid-Atlantic Conference
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What is the Inflation Reduction Act?

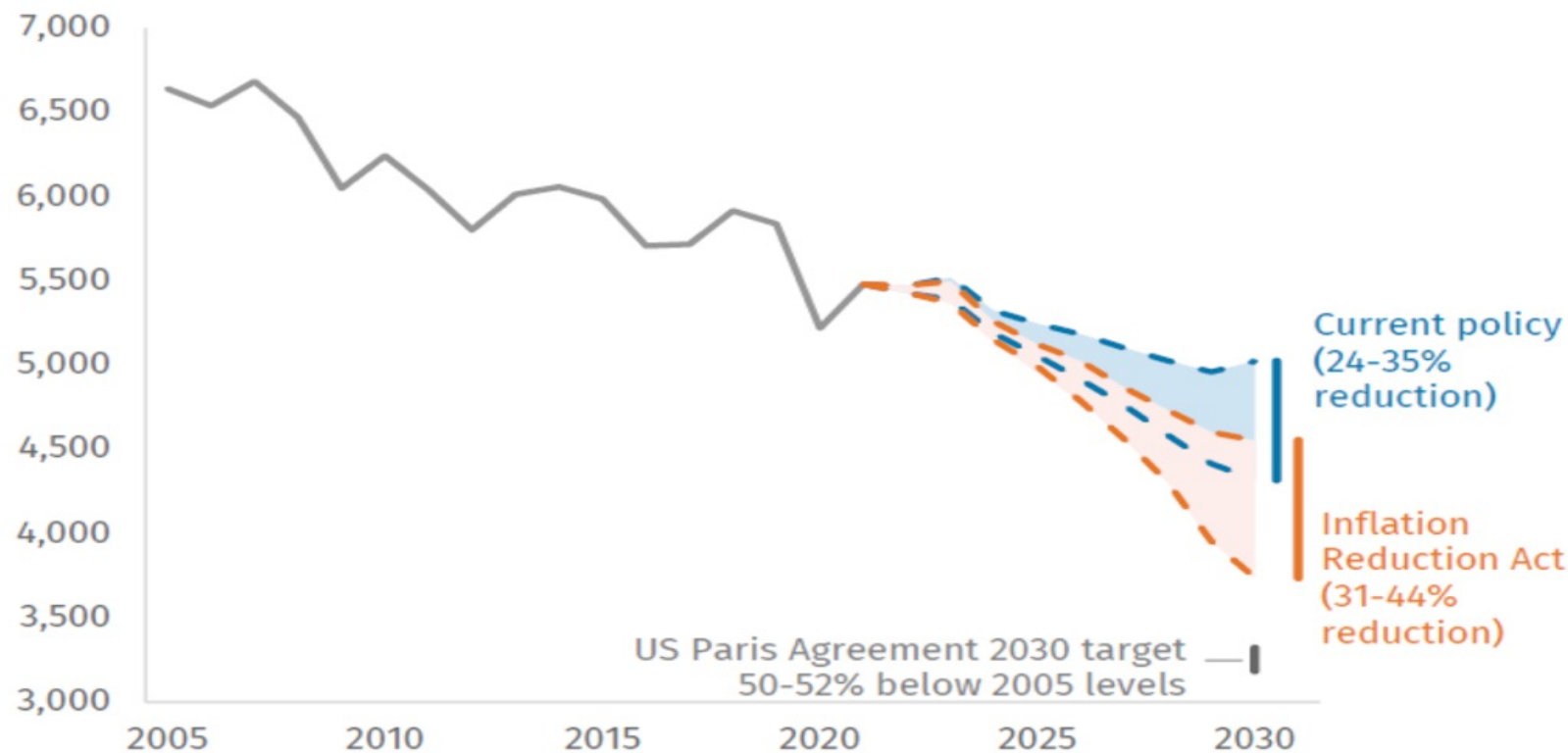
- The Inflation Reduction Act is a new law that implements the largest clean energy investment the United States has ever made.
- For the homeowners and renters there are up-front discounts, tax credits and low-cost financing.
- All of these incentives aim to help the transition to all electric homes.



FIGURE 1

US greenhouse gas emissions

Net million metric tons (mmt) of CO₂-e



Source: Rhodium Group. The range reflects uncertainty around future fossil fuel prices, economic growth, and clean technology costs. It corresponds with high, central, and low emissions scenarios detailed in [Taking Stock 2022](#). Under the central scenario (not shown), the IRA accelerates emissions reductions to a 40% cut from 2005 levels.

Terminology Used

This presentation will refer to these shortcuts:

- HEEHRA (High Efficiency Electric Home Rebate Act): refers to up-front rebates originally defined under this legislation.
- Rebates not available until later in 2023 (State dependent)

The tax credits under the IRA refer to sections of the Internal Revenue Service tax code*:

- 25C, 25D, 25E, 30D, 30C

*See: <https://www.irs.gov/inflation-reduction-act-of-2022>

Definition of Income Categories Used

Rebate amount is based on the local Area Median Income (AMI)

- **Low Income:** 100% cost coverage for incomes less than 80% of AMI up to \$14,000 total for all electrification projects.
- **Mid income:** 50% cost coverage for incomes between 80% and 150% of AMI up to \$14,000 total for all electrification projects, but can also take advantage of tax credits.
- **High income:** Incomes over 150% of local AMI qualify for 30% tax credits.
- Up front electrification discounts, tax credits and EV credits are available for renters.
- Low cost financing is also expected in the months ahead.
- For what's available to you visit: <https://www.rewiringamerica.org/app/ira-calculator>



*For your local AMI: <https://ami-lookup-tool.fanniema.com/amilookuptool/>

Our Agenda

- Why go electric?
- Heat pump space heating
- Heat pump water heating
- Heat pump clothes dryer
- Induction stoves
- Home weatherization
- Electric vehicles
- Rooftop Solar and Batteries



Why Go Electric?

42% of energy-related emissions come from our homes and vehicles!

Benefits:

- **Money:** American households would save \$1,800 per year on average by going fully electric
- **Health:** Burning fossil fuels indoors is a major source of health problems like childhood asthma
- **Climate:** Fossil fuel burning in buildings is a major source of climate pollution



What is a Heat Pump?

- Heat pumps use electricity to move heat from one place to another to cool & warm buildings
- They are 3–5x more efficient than most current fossil fuel heating systems. It's easier to move heat around than to generate it
- Because they're so efficient, they save energy and reduce emissions even with today's electric grid



Heat Pumps Reduce Energy Bills

Estimated Homeowner Savings with Heat Pumps

Current heating equipment	Average annual savings
Natural gas furnace	\$105
Electric furnace	\$815
Propane furnace	\$855
Baseboard heaters	\$1,287
Fuel oil boiler	\$929
Fuel oil furnace	\$947
Natural gas boiler	\$199

Will they Work in Cold Climates?

- Yes! The Mitsubishi H2i works down to -13°F
- US companies are developing heat pump units that can work below -20°F
- 60% of homes in Norway, 43% in Sweden, and 41% in Finland have heat pumps



IRA Heat Pump Incentives

- HEEHRA rebates for heat pump costs up to \$8,000 (in effect mid-2023)
 - 100% of cost covered for low-income households
 - 50% of cost covered for mid-income households
- 25C 30% tax credit up to \$2,000 (now available)
- Available on property placed in service: after Jan. 1, 2023 and before Jan. 1, 2033



Heat Pump Water Heaters

- Heat pump water heaters work the same way
- They are 2–3x more efficient than most current hot water systems
- This translates to hundreds of dollars per year in energy savings for an average household

RHEEM heat pump water heater uses 120 V for operation. Available now at many retailers.



IRA Heat Pump Water Heater Incentives

- HEEHRA rebates for heat pump water heater costs up to \$1,750 (in effect mid-2023)
 - 100% of cost covered for low-income households
 - 50% of cost covered for mid-income households
- 25C 30% tax credit up to \$2,000 (now available)
 - 25C tax credit resets every year – consider upgrading space and water heating in different years
 - Available on property placed in service: after Jan. 1, 2023 and before Jan. 1, 2033



IRA Heat Pump Clothes Dryer Incentives

- HEEHRA rebates for heat pump clothes dryer costs up to \$840 (in effect mid-2023)
 - 100% covered for low-income households
 - 50% covered for mid-income households



Black and Decker heat pump clothes dryer.

Electric Induction Stoves

- Traditional electric resistance stoves heat up a metal element (like a toaster)
- Induction stoves transfer energy to the pan through a time varying magnetic field
- Induction is super fast, accurate, and safe (cooktop surface doesn't get very hot)
- Much healthier: no methane gas use or indoor air pollution created!
- NRDC estimates national methane release equivalent to climate impact 500,000 cars.



Photo: [By Erik1980, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=1835324](https://commons.wikimedia.org/w/index.php?curid=1835324)

Gas Stoves are Bad for Kids' Health

- A 2013 analysis of 41 studies found kids living in homes with gas stoves had a 42% higher risk of experiencing asthma symptoms, and a 24% increase in the risk of being diagnosed with asthma over their lifetime
- A December 2022 study found similar numbers for the USA: 35% of homes using gas stoves, which are responsible for 13% of asthma cases in American kids (20% in California, which has lots of gas stoves)



IRA Electric Stove Incentives

- HEEHRA rebates for electric stove costs up to \$840 (in effect mid-2023)
 - 100% covered for low-income households
 - 50% covered for mid-income households



What is Home Weatherization?

- Weatherization refers to a series of steps you can take to reduce the amount of energy required to heat & cool your home
- Weatherization may involve air sealing, insulation, door & window upgrades, and ventilation improvements.
- First step is a home energy audit



Weatherization Saves Energy & \$\$\$

- Up to 20% of the money spent on home energy by an average American is wasted
- Weatherizing homes reduces energy waste and bills
- Low income households could save up to 35% on their energy bills through weatherization projects



IRA Home Weatherization Incentives

- HEEHRA rebates for insulation, air sealing, ventilation costs up to \$1,600 (mid-2023)
 - 100% of cost covered for low-income households
 - 50% of cost covered for mid-income households
- 25C 30% tax credit (now available, resetting every year) up to \$1,200 per year:
 - \$150 for home energy audits
 - \$1,200 for insulation and air sealing
 - \$250 per door up to 2 doors
 - \$600 for windows
 - Completion between Jan 1, 2023 and Jan. 1, 2033



Inflation Reduction Act Incentives

Home energy retrofits modeled to achieve or have achieved big energy savings ineligible for HEEHRA can instead qualify for the Hope for Homes upfront rebate (in effect mid-2023):

- $\geq 35\%$ energy savings: lesser of \$4,000 or 50% of project costs
- 20–34% energy savings: lesser of \$2,000 or 50% of project costs
- 15–20% energy savings: a payment rate per kWh saved up to \$2,000 for a 20 percent reduction in energy use
- For low-income households: those rebates are doubled up to 80% of project costs
- Households with electric resistance heating who don't qualify for HEEHRA rebates can claim rebates



Electric Vehicles

- EVs are more efficient than gasoline cars and save money (EV: 60%, Gas: 20%)
 - About one-third the fuel cost per mile
 - About one-half the maintenance cost
- Better for health & the environment
 - No tailpipe pollution
 - Lower lifetime greenhouse gas emissions
 - Mining for battery components like lithium happens once; drilling for oil is unending



IRA **New** EV Incentives (2023 – 2032)

- 30D tax credit up to \$7,500 for **new** EVs assembled in North America if meeting these criteria:
 - New car MSRP up to \$55k, vans/SUVs/trucks up to \$80k
 - Individuals earning under \$150k, or \$300k jointly
 - Can be fully applied until Treasury & IRS issue guidance on critical mineral & battery component requirements (March?)
 - Then, \$3,750 tax credit applies if most of the battery's critical minerals come from the US or free trade partners
 - \$3,750 if most battery components made/assembled in USA
 - Loophole: All leased EVs qualify for \$7,500 tax credit, but dealership gets the rebate.
- In 2024 the tax credits become transferable to auto dealers, essentially converting them to upfront discounts



IRA **Used** EV Incentives (2023 – 2032)

- 25E tax credit for **used** EVs is the lesser of \$4,000 or 30% of the sales price if meeting these criteria:
 - Individuals earning under \$75k, or \$150k jointly
 - EV is at least 2 years old
 - Price cannot exceed \$25k
 - Weighs less than 14,000 lbs.
 - Battery capacity must be at least 7 kWh (roughly a 32-mile electric range)
 - No made in North America or sourcing requirements
- In 2024 the tax credits become transferable to auto dealers, essentially converting them to upfront discounts



IRA EV Charger Incentives

30C 30% tax credit for an EV charger up to \$1,000 if living in a rural or low-income community. “Low income” refers to communities in which one of the following applies:

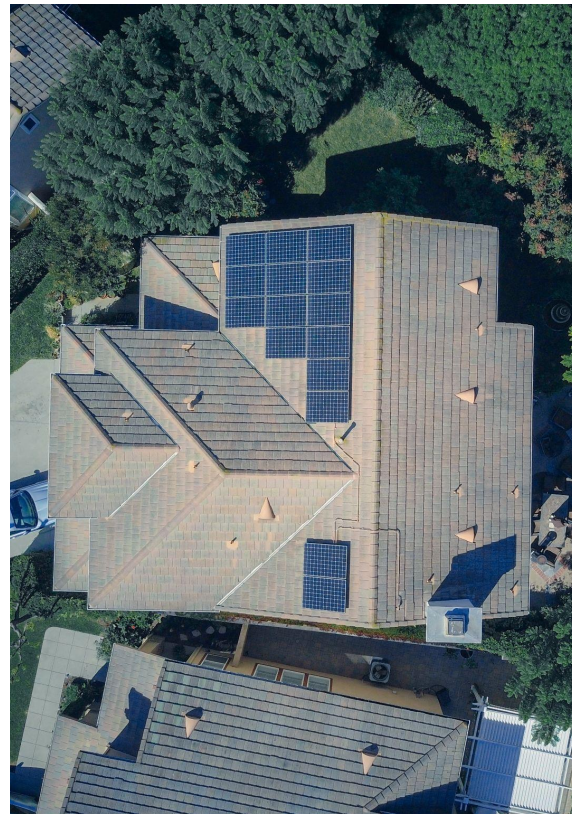
- Local poverty rate at least 20%
- If in a metropolitan area: median local family income doesn't exceed 80% of the greater of statewide median family income or the metro area median family income
- If outside a metropolitan area: local median family income doesn't exceed 80% of statewide median family income*



* <https://worldpopulationreview.com/state-rankings/median-household-income-by-state>

Rooftop Solar and Batteries

- Produces zero-emissions electricity
- Mining for minerals only happens once; extracting fossil fuels is unending
- Solar plus battery storage can protect against power outages
- Guards against fluctuating electricity rates



IRA Solar and Battery Incentives

- 25D 30% uncapped tax credit for rooftop solar (available now)
 - Average 6 kW solar system costs \$15,300; 30% tax credit would be worth \$4,600
- 25D 30% uncapped tax credit for electrical panel upgrade if in conjunction with rooftop solar
- 25D 30% uncapped tax credit for battery storage
 - Average battery storage installation costs \$16,000; 30% tax credit would be worth \$4,800
- Projects must be completed between Dec. 31, 2021 and Jan. 1, 2033. Battery incentives start in 2023.



IRA Electrical Panel & Wiring Incentives

- All of these new electricity demands may require electrical panel and/or wiring upgrades
- HEEHRA rebates for panel costs up to \$4,000, wiring costs up to \$2,500 (mid-2023)
 - 100% covered for low-income households
 - 50% covered for mid-income households
- 25C 30% tax credit (now available, resetting every year) up to \$600 per year in conjunction with another upgrade like heat pumps



How Do I Apply?

- Rebates are in the process of being set-up and are state dependent. Once they're up and running, the DOE suggests visiting the Database of State Incentives for Renewables and Efficiency which tracks incentives in all 50 states: <https://www.dsireusa.org/>
- Tax credits are available now and can be claimed at tax time by filing:
 - New and used EV's: form 8936
 - Residential energy credits: form 5695

Thank You!

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Thanks to Dana Nuccitelli for help with slide development



www.citizensclimatelobby.org



Backup Slides



Citizens' Climate Lobby

www.citizensclimatelobby.org



New EV Requirements from the IRS

To qualify, a vehicle must:

- Have a battery capacity of at least 7 kilowatt hours
- Have a gross vehicle weight rating of less than 14,000 pounds
- Be made by a qualified manufacturer. See our [index of qualified manufacturers and vehicles](#).
- Undergo final assembly in North America

The sale qualifies only if:

- You buy the vehicle new
- The seller reports required information to you at the time of sale and to the IRS.
- Sellers are required to report your name and taxpayer identification number to the IRS for you to be eligible to claim the credit.

In addition, the vehicle's manufacturer suggested retail price (MSRP) can't exceed:

- \$80,000 for vans, sport utility vehicles and pickup trucks
- \$55,000 for other vehicles
- MSRP is the retail price of the automobile suggested by the manufacturer, including options, accessories and trim but excluding destination fees. It isn't necessarily the price you pay.
- To confirm whether a vehicle is a van, sport utility vehicle, pickup truck or other, see our [qualified vehicles and manufacturers](#).
- To claim the credit, file [Form 8936, Qualified Plug-in Electric Drive Motor Vehicle Credit \(Including Qualified Two-Wheeled Plug-in Electric Vehicles\)](#) with your tax return. You will need to provide your vehicle's VIN.

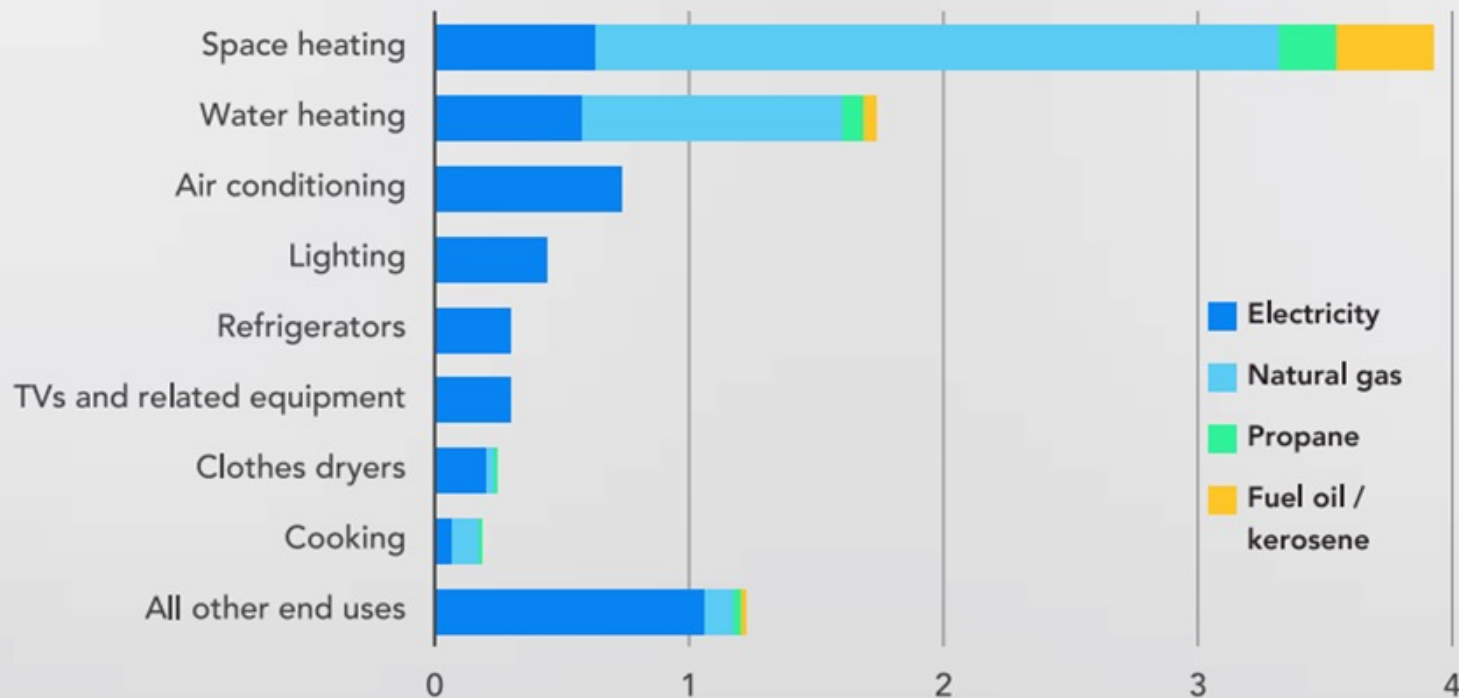
Why the Delay in HEEHRA Rebates?

To get the HEEHRA rebates :

- States must apply for the money and set up systems to implement the rebates
- In Maryland, the Maryland Energy Administration (MEA) will submit an implementation plan to DOE to review and approve.
- The MEA will then implement the plan
- Once this happens, the language of the bill will allow the rebates to take effect at the point of sale.

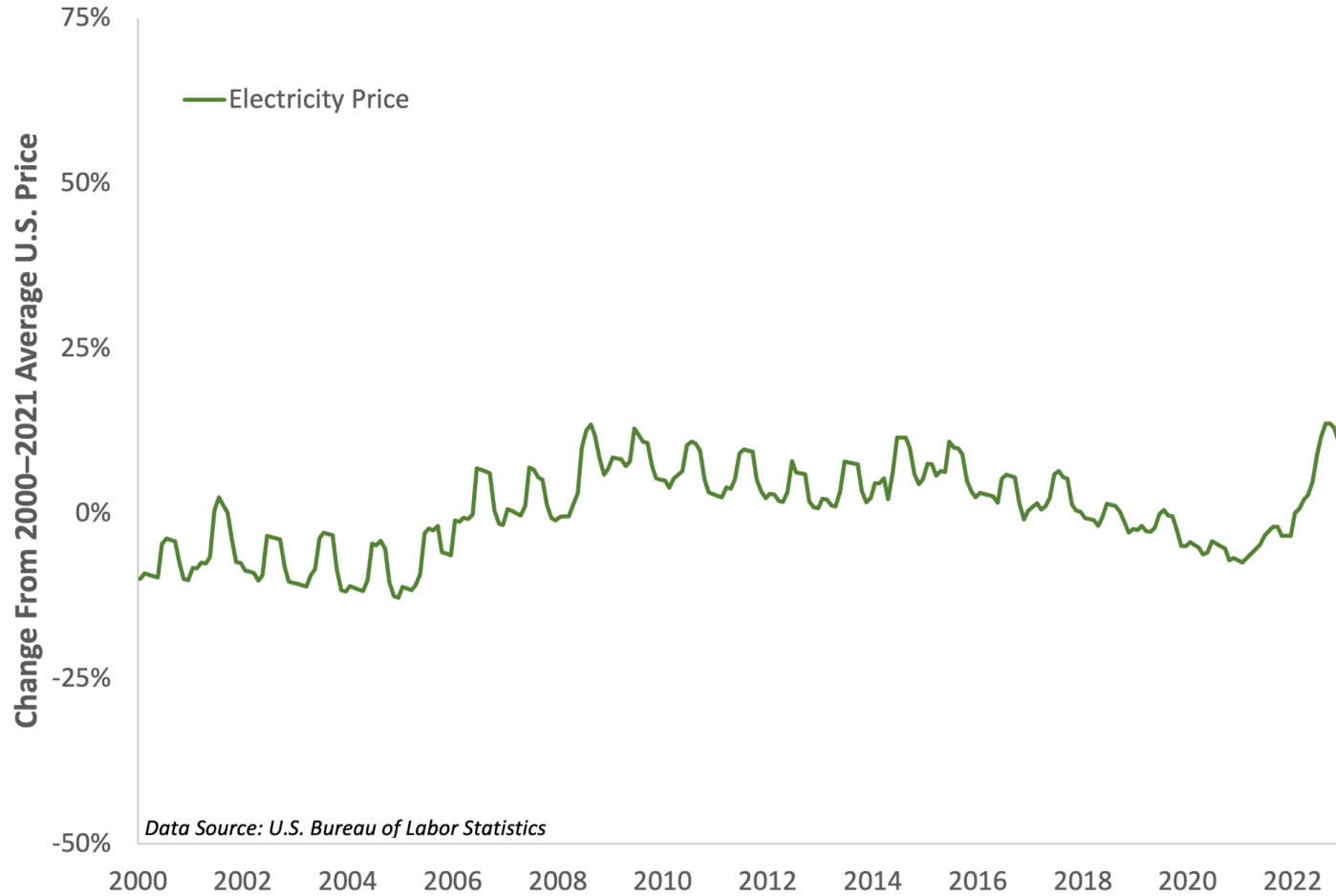
Heating dominates building emissions

Figure 1: US household energy end-use consumption by fuel

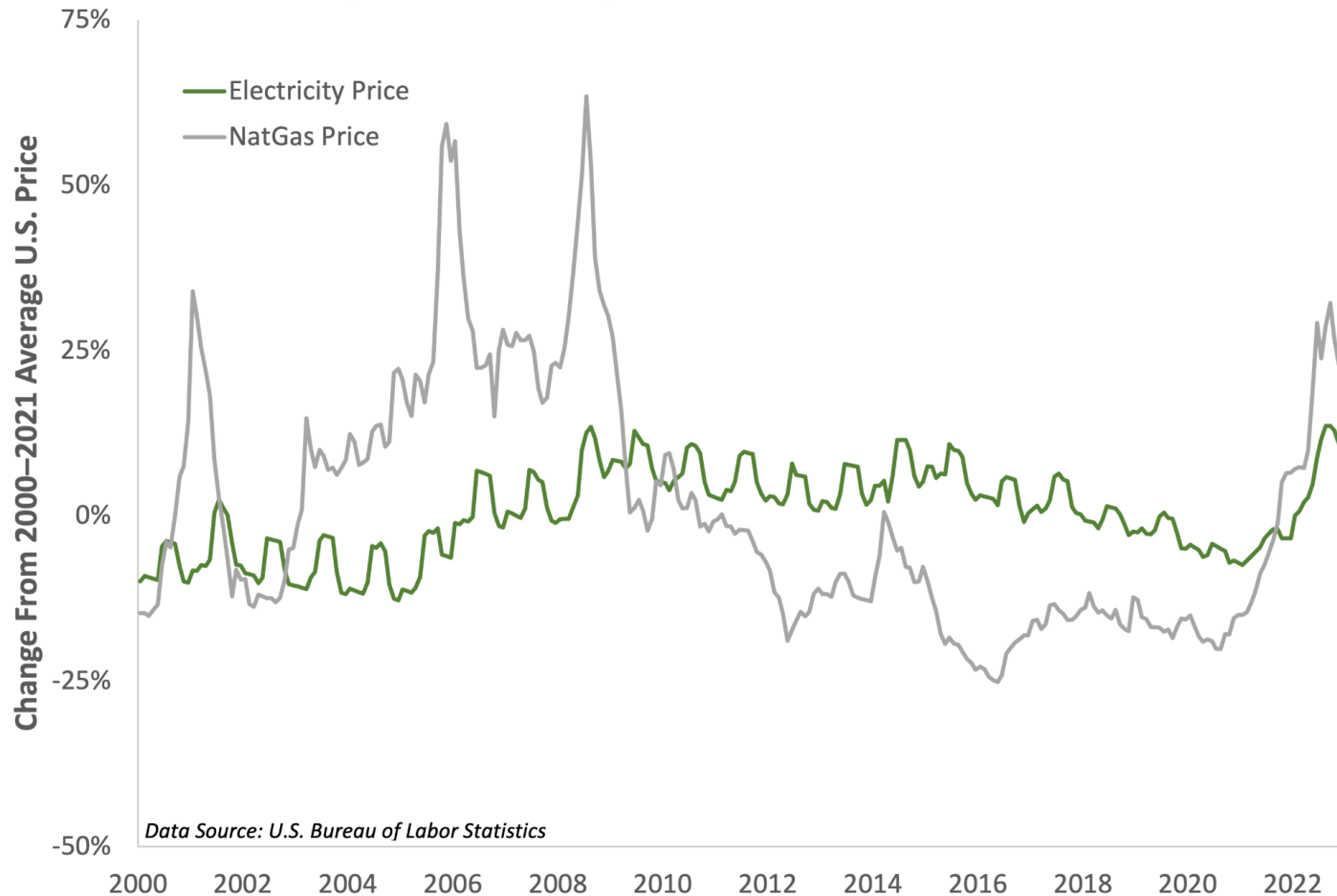


Source: EIA 2015 Residential Energy Consumption Survey

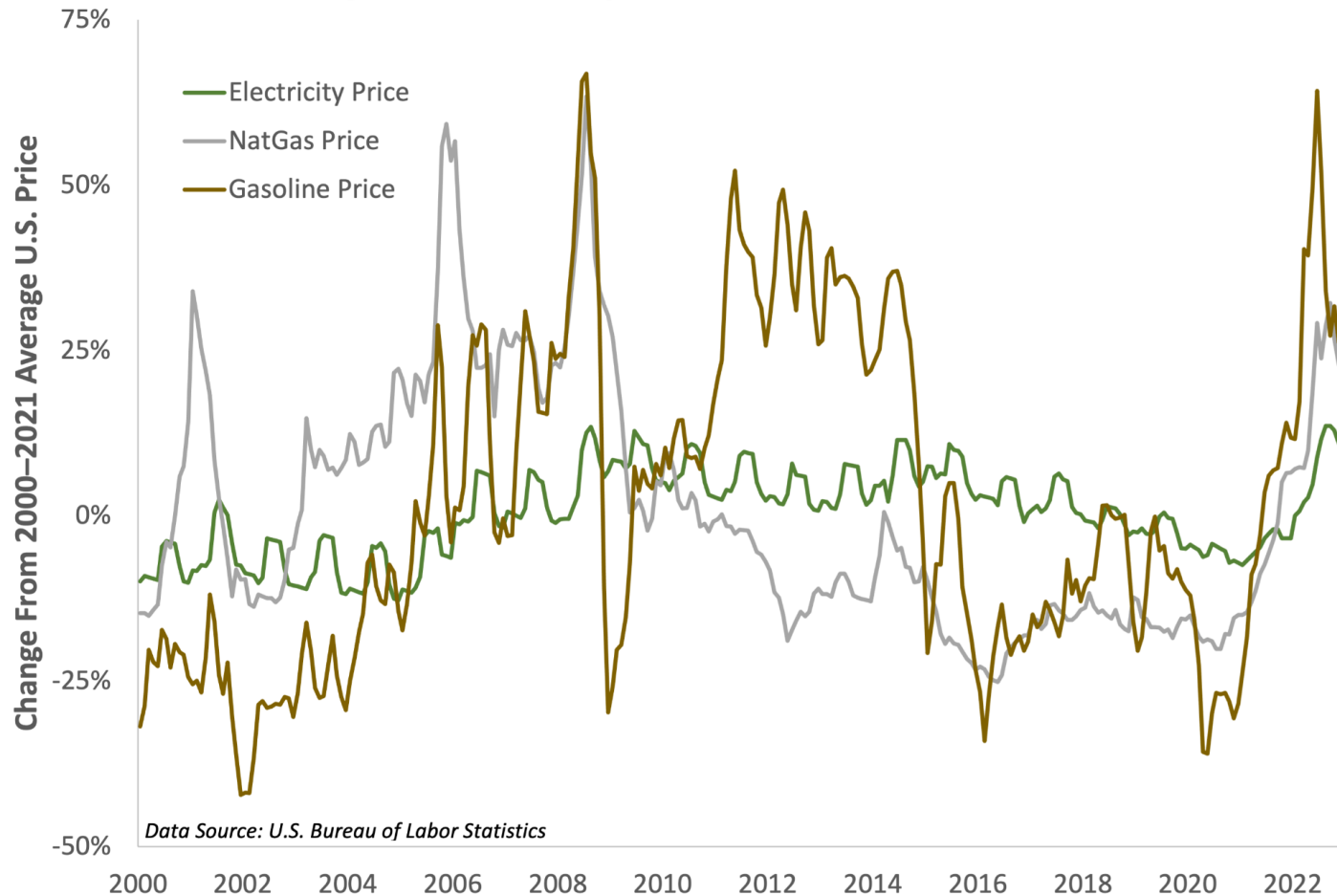
% Change in U.S. Electricity, NatGas, and Gasoline Prices Since 2000



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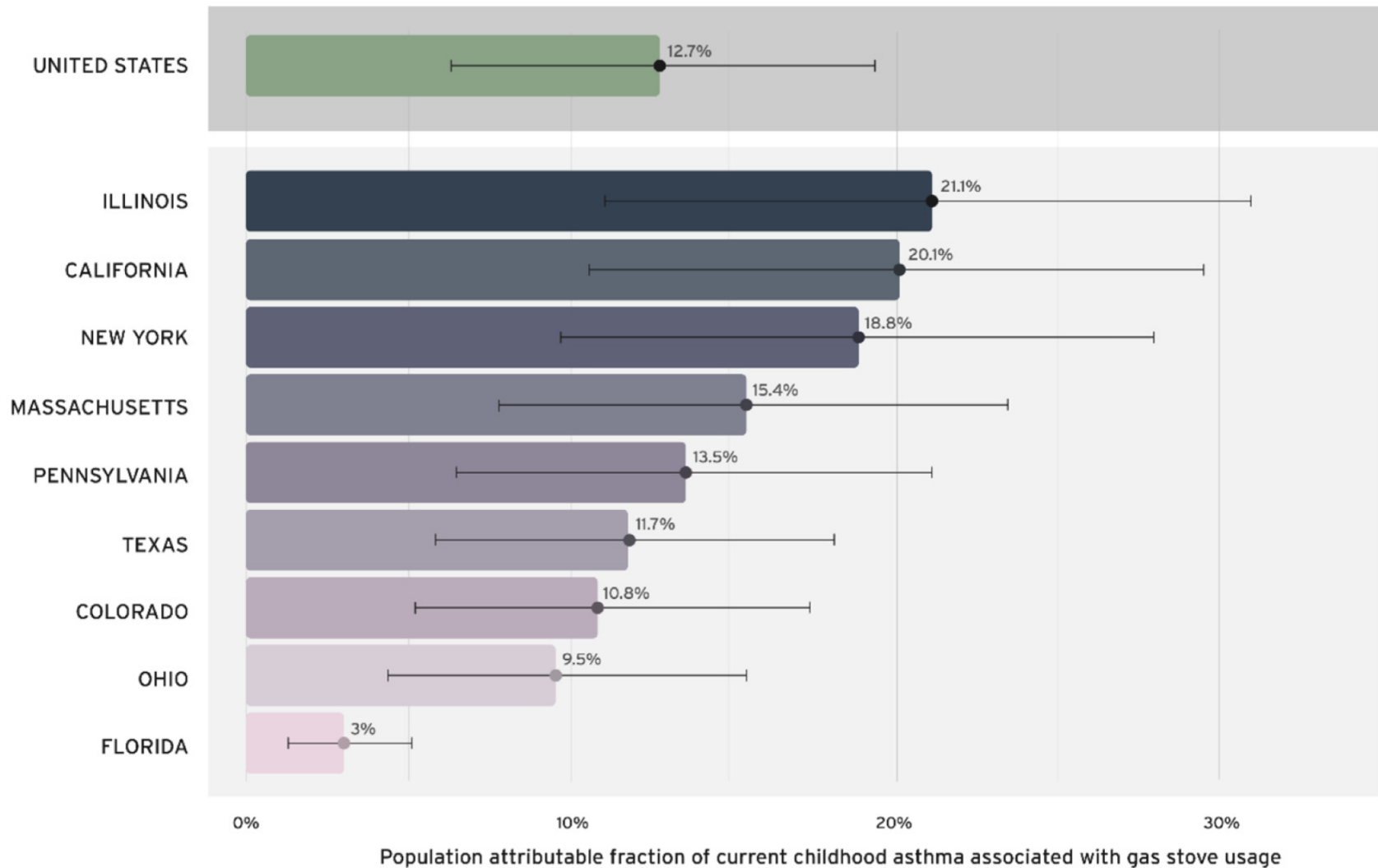


FIGURE 1. EV Emissions Vary by Regional Electricity Supply

