

Home Energy and the Inflation Reduction Act

January 22, 2025

AUGUST 2024

Keith Turner

Successfully completed Rewiring America's
Electric Coach Certification of Knowledge (ECC)

The program includes 8 hours of instructor-led learning and
associated coursework covering weatherization, heat pumps, whole
home electrification technologies, and strategic communications.

Edith Buhs

EDITH BUHS
Manager of Training
and Development

abode
OUR PLANET. YOUR HOME.

**REWIRING
AMERICA.**



20
24

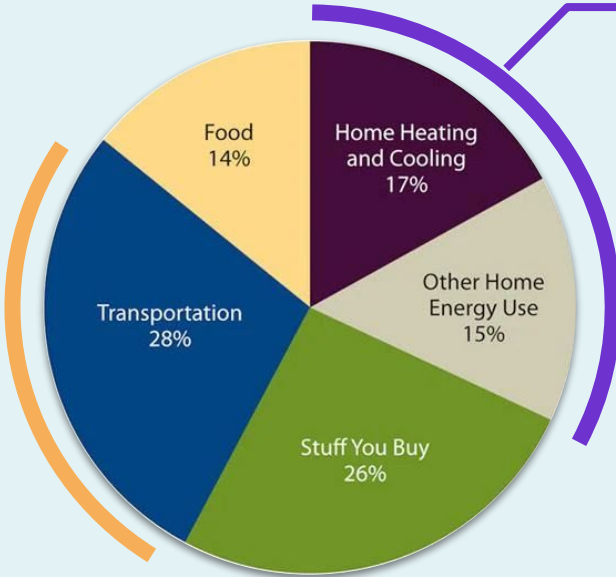


REGENALL

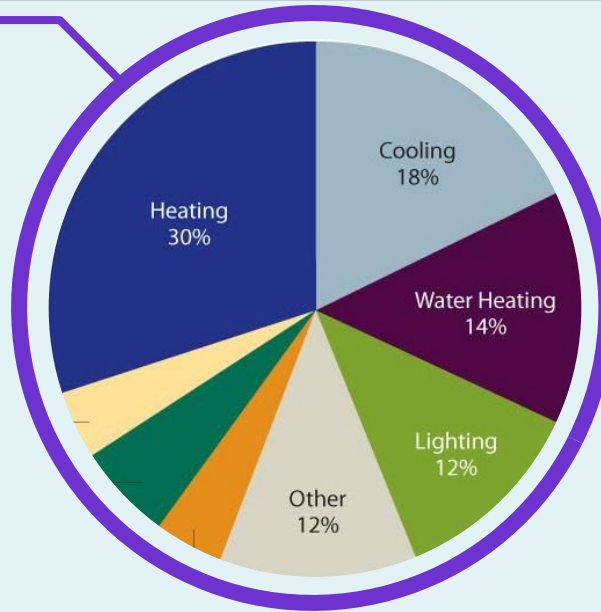


**REWIRING
AMERICA.**

Home Energy and the Inflation Reduction Act



Carbon Emissions



Approx. 10 Tons CO₂e*

- U.S. households spent on average 5.6% of their income on energy (2022)
- Low-income households spent on average 17.8%
- One in Four (25%) households spent more than 12%
- Rural households 50% higher than urban households.

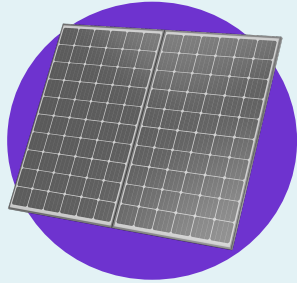
*US Averages, EPA Data 2020-2022

11,000 kilowatt-hours (kWh) avg. = 9,700 lbs CO₂e

96 million BTUs natural gas heating avg. = 11,232 lbs CO₂e

<https://www.epa.gov/ghgemissions/assumptions-and-references-household-carbon-footprint-calculator#:~:text=Source%3A%20EPA%20eGRID%20Summary%20Tables,in%20the%20U.S.%20Table%20CE2.>

THE INFLATION REDUCTION ACT



1. Climate Change and Energy Initiatives

- Investments
- Tax credits
- Domestic Manufacturing
- Methane Emissions

2. Healthcare Provisions

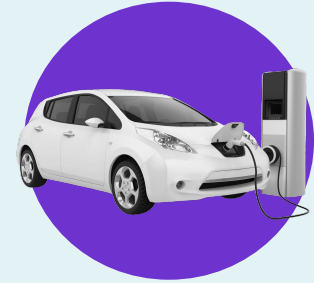
3. Corporate Tax Reform

4. Deficit Reduction



5(a). Consumer and Residential Benefits

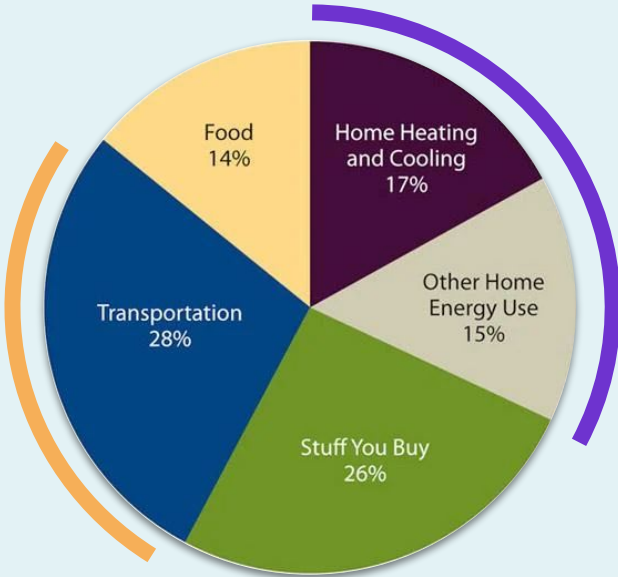
- **Home Energy Efficiency Incentives:** rebates and tax credits
- **Reduced Energy Costs**
\$500-\$1,000/yr utility savings
- **\$9,000 to \$18,000**
lifetime electricity saving
up to **\$14,000** in upfront costs
(Income limited)



5(b). Consumer and Residential Benefits


- **Electric Vehicle Incentive**
- **Expands tax credits**
with conditions on
manufacturing location and
material sourcing.

Home Energy and the Inflation Reduction Act



Carbon Emissions


Graphs Source: Union of Concerned Scientists 2012





[About Us](#)[Our Impact](#)[Our Priorities](#)[Take Action](#)[Donate](#)


[Carbon Footprint](#)[Carbon Offset](#)[Carbon Calculator](#)[Climate Action Plan](#)[FAQs](#)


Carbon Footprint Calculator


Demographic


Home Energy

Transportation

Food

Materials

Services

Annual CO₂ Footprint

Number of people in your household

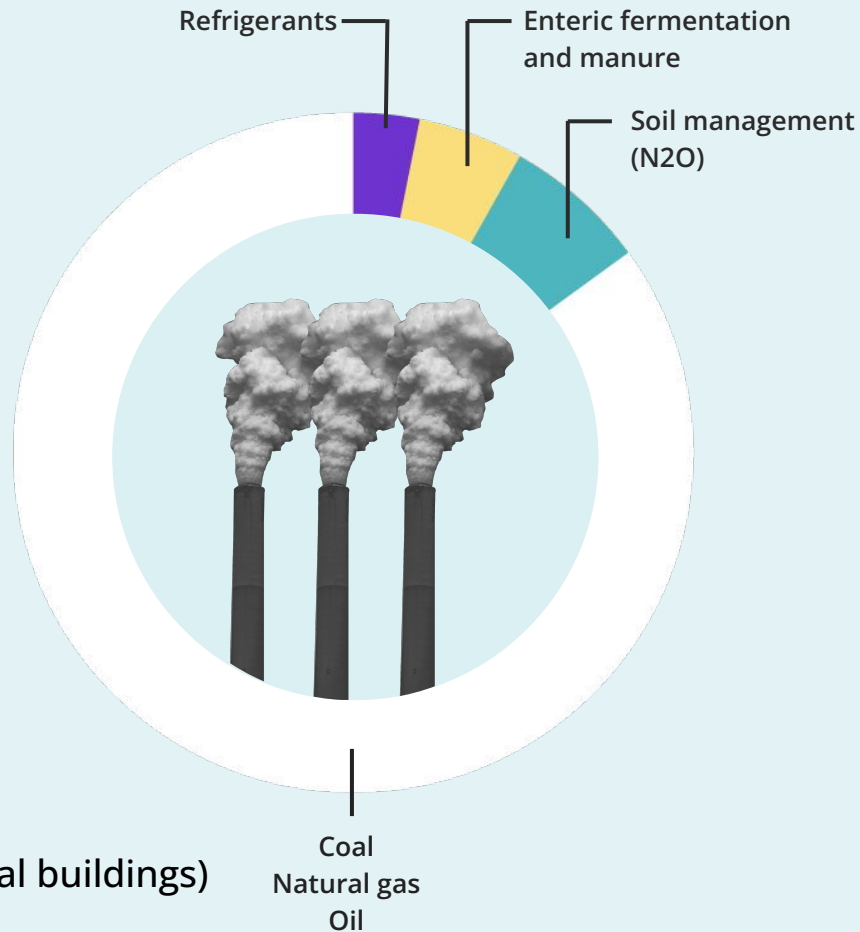
Zip Code

Next

87%

of emissions come from energy

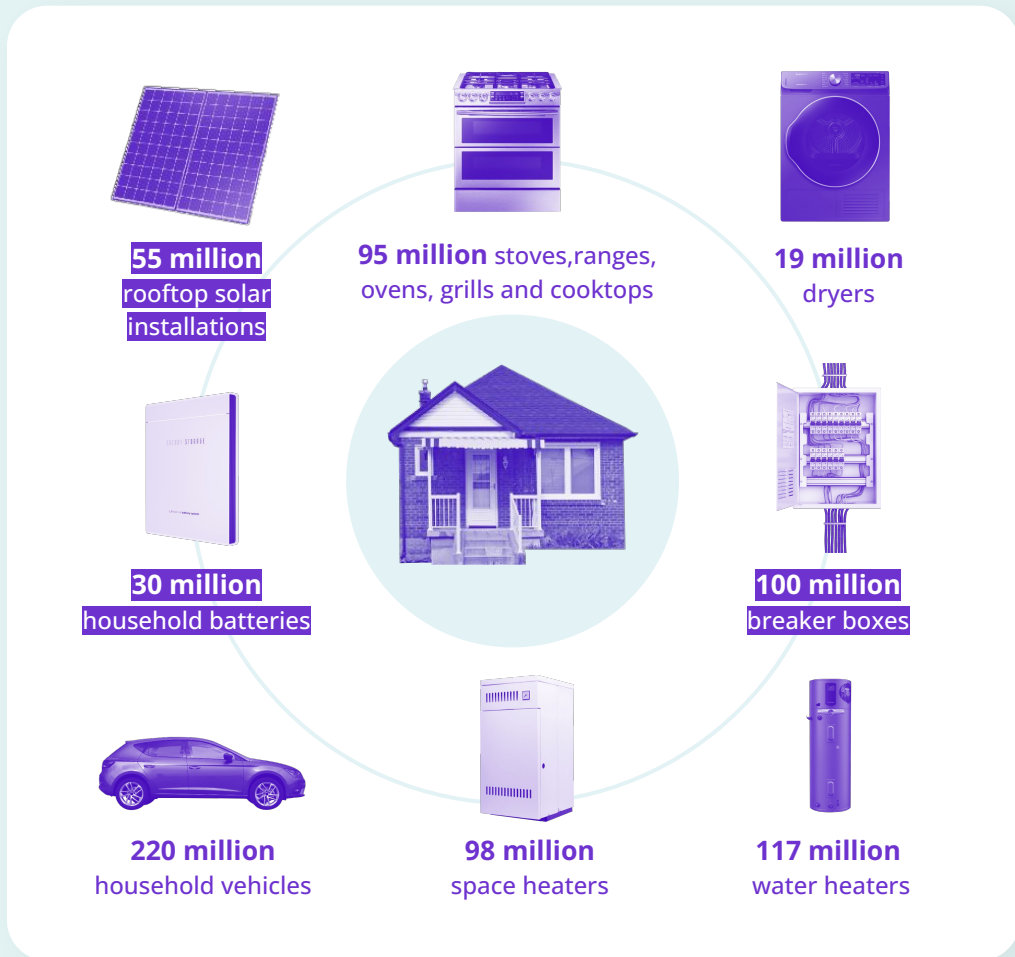
- Electricity
- Manufacturing (industrial heat)
- Transportation
- Heating & Cooling (residential & commercial buildings)



42%

of our energy-related emissions come from decisions made around the kitchen table.

That's how we heat and cool our homes, cook our food, dry our clothes, and get around. And it's a huge opportunity to take meaningful personal action. This doesn't have to happen all at once - in fact it's usually more efficient to replace appliances as they age out.

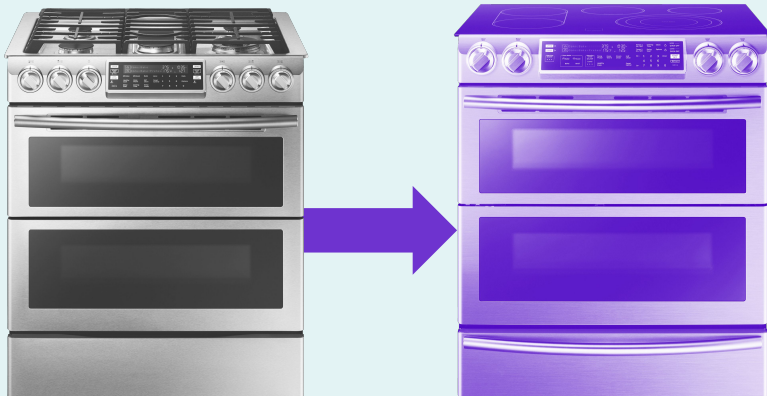


ELECTRIFICATION

The Big Idea Electrify Everything

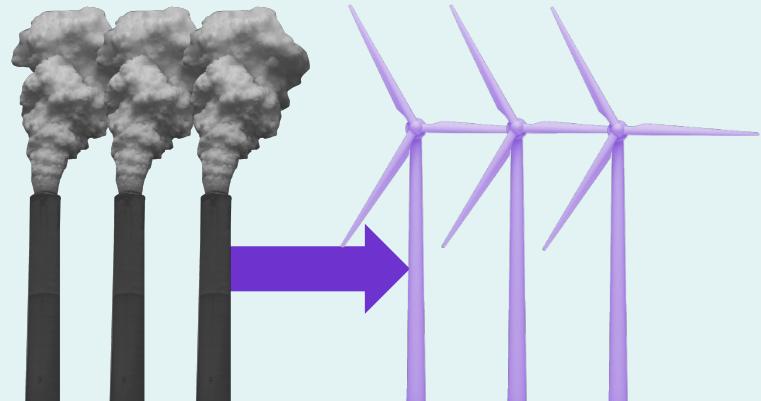
1

Replace any machine that currently burns fossil fuels with an electric version.



2

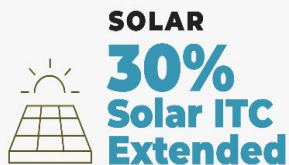
Power that electric machine with clean, renewable energy.



THE IRA TAX CREDITS

Not Capped

1 The Solar Investment Tax Credit (ITC) is expanded to 30% for the next 10 years, which allows eligible households to receive higher tax refunds for solar panels.¹



2 The Solar Investment Tax credit now includes credits for batteries and geothermal too.²



Capped **\$3,200** aggregate



**HEAT
PUMP
WATER
HEATER**

Tax credit:
\$2000
max



HEAT PUMPS

Tax credit:
\$2000
max

**HOME
ENERGY
AUDITS** 

Tax credit:
\$150
max

**HOME
INSULATION
WINDOWS/
DOORS**

Tax credit:
\$600/
\$500



30% of Cost
\$1,200 /year

→ \$250 Per window or door
→ \$500 Max for doors
→ \$600 Max for windows/skylights
→ PPL Rebates for insulation

Source: <https://joinmosaic.com>

Annual Limits on Energy Efficient Home Tax Credits

\$3,200 Aggregate

\$1,200 for any combination of home envelope improvements

(windows/doors/skylights, insulation, electrical)

Any combination of heat pumps, heat pump water heaters and biomass stoves/boilers are subject to an annual total limit of \$2,000.

Note: ENERGY STAR certified [geothermal heat pumps](#) are eligible for a separate tax credit and not counted against these limits.

Credit Limit for Each Property

- **\$1,200 for insulation or air sealing material system.**
- **\$250 for one exterior door and \$500 for all exterior doors.**
- **\$600 for windows.**
- **\$600 for central air conditioners.**
- **\$600 for natural gas, propane, or oil water heaters.**
- **\$600 for natural gas, propane, or oil furnace or hot water boilers.**
- **\$600 for improvements or replacements of panelboards, sub panelboards, branch circuits, or feeders.**
- **\$150 for home energy audits.**
- **\$2,000 for heat pumps and heat pump water heaters; biomass stoves and biomass boilers.**

THE IRA REBATES AND EV TAX CREDITS

Tac Credit with Income Limits




\$300,000 for married couples filing jointly or
a surviving spouse
\$225,000 for heads of households
\$150,000 for all other filers

Source: <https://joinmosaic.com>

PA PROGRAM PENDING

Rebate with Income Limits

**HEAT PUMP
WATER
HEATER** 
Rebate:
\$1750 max

**HOME INSULATION
WINDOWS/ DOORS** 
Rebate:
\$1600 max

**HEAT
PUMPS** 
Rebate:
\$8000 max

 **UPDATED
BREAKER
BOX**
\$4000 max

**UPDATED
ELECTRIC
WIRING** 
\$2500 max

**HEAT
PUMP
DRYER** 
\$840 max

**ELECTRIC
STOVE**
\$840 max

- **State Administered**
- **Coming in 2025** (may be impacted by new administration)
- **<150% of Median Income = 50% Rebate**
- **<80% of Median Income = 100% Rebate**

Income Limits

For Individual Households

Low Income (Below 80% AMI): **100% of project costs**, up to the maximum rebate limit.

Moderate Income (81%-150% of AMI): **50% of project costs**.

For Multifamily Buildings

At least 50% of the residents must meet the income limits.

80% Area Median Income (AMI)

Household Size	1	2	3	4
	\$58,800	\$67,200	\$75,600	\$84,000

150% Area Median Income (AMI)

	\$110,250	\$126,00	\$141,750	\$157,500
--	-----------	----------	-----------	-----------

THE IRA REBATES

PA PENDING

Upgrade Type	Qualified Product	Max Rebate
Appliance	Heat Pump Water Heater	\$1,750
	Heat Pump - Heating and/or Cooling	\$8,000
	Electric Stove, Cooktop, Range, Oven	\$840
	Heat Pump Clothes Dryer	\$840
Building Material	Electric Load Service Center	\$4,000
	Insulation, Air Sealing, Ventilation	\$1,600
	Electrical Wiring	\$2,500
	Maximum rebate \$14,000 combined appliances & materials	

THE IRA TAX CREDITS

The screenshot shows the Energy Star website's page for federal tax credits. The header includes the Energy Star logo, navigation links (Find Products, Save at Home, New Homes, Commercial Buildings, Industrial Plants), and a search bar. The main content area is titled 'Federal Tax Credits for Energy Efficiency' and features a video thumbnail with the text 'Upgrade Your Home for Savings with Federal Tax Credits'. Below the video, it states 'Homeowners Can Save Up to \$3,200 Annually on Taxes for Energy Efficient Upgrades'. A sidebar on the left lists various energy-efficient products and technologies, including Air Source Heat Pumps, Battery Storage Technology, Biomass Stoves/Boilers, Central Air Conditioners, Electric Panel Upgrade, Electric Vehicles (EV), Exterior Doors, Fuel Cells (Residential Fuel Cell and Microturbine System), Furnaces (Natural Gas, Oil), Geothermal Heat Pumps, Heat Pump Water Heaters, Home Energy Audit, Hot Water Boilers (Natural Gas, Propane, Oil), Insulation, Small Wind Turbines (Residential), Solar Energy Systems, Water Heaters (Natural Gas), Windows & Skylights, Tax Credit for Home Builders, Tax Deductions for Commercial Buildings, Tax Credit Information, Definitions, EV Chargers Tax Credit, Newsroom, Public Notices, and Kids Page. A right sidebar contains links to 'SEE TAX CREDITS FOR HOME BUILDERS' and 'SEE TAX DEDUCTIONS FOR COMMERCIAL BUILDINGS'.

The banner features the IRS logo and the text 'Fact Sheet'. It includes contact information for the Internal Revenue Service, Media Relations Office, Washington, D.C., and provides a media contact number (202.317.4000) and a public contact number (800.829.1040). The main headline reads 'Updates to frequently asked questions about Energy Efficient Home Improvements and Residential Clean Energy Property Credits'.

IRS Fact Sheet

<https://www.irs.gov/pub/taxpros/fs-2024-15.pdf>

IRS Website

<https://www.irs.gov/credits-deductions/energy-efficient-home-improvement-credit>

Energy Star Tax Credit Website

<https://www.energystar.gov/about/federal-tax-credits#homeowners>

DOE Website

<https://www.energy.gov/save>

DOE Resources

<https://www.energy.gov/energysaver/resources>

DOE Inflation Reduction Act

<https://www.energy.gov/energysaver/articles/inflation-reduction-act-2022-what-it-means-you>

DOE Solar

<https://www.energy.gov/eere/solar/homeowners-guide-federal-tax-credit-solar-photovoltaics>

THE IRA TAX CREDITS

Form **5695** **Residential Energy Credits** OMB No. 1545-0074
 Department of the Treasury Internal Revenue Service **2024** (40th year) Sequence No. **75**
 Go to www.irs.gov/Form5695 for instructions and the latest information.
 Your social security number

Part I Residential Clean Energy Credit (See instructions before completing this part.)

Note: Skip lines 1 through 11 if you only have a credit carryforward from 2023.

Enter the complete address of the home where you installed the property and/or technology associated with lines 1 through 4 and 5b. For more than one home, see instructions.

Number and street	Unit no.	City or town	State	ZIP code
1 Qualified solar electric property costs			1	
2 Qualified solar water heating property costs			2	
3 Qualified small wind energy property costs			3	
4 Qualified geothermal heat pump property costs			4	
5a Qualified battery storage technology. Does the qualified battery storage technology have a capacity of at least 3 kilowatt hours? (See instructions.) If you checked the "No" box, you cannot claim a credit for qualified battery storage technology.			5a	<input type="checkbox"/> Yes <input type="checkbox"/> No
b If you checked the "Yes" box, enter the qualified battery technology costs			5b	
6a Add lines 1 through 5b			6a	
b Multiply line 6a by 30% (0.30)			6b	
7a Qualified fuel cell property. Was qualified fuel cell property installed on, or in connection with, your main home located in the United States? (See instructions.) If you checked the "No" box, you cannot claim a credit for qualified fuel cell property. Skip lines 7b through 11.			7a	<input type="checkbox"/> Yes <input type="checkbox"/> No
b Enter the complete address of the main home where you installed the fuel cell property.				
Number and street	Unit no.	City or town	State	ZIP code
c If the special rule for joint occupants applies, check here <input type="checkbox"/> and attach a statement. (See instructions.)				
8 Qualified fuel cell property costs			8	
9 Multiply line 8 by 30% (0.30)			9	
10 Kilowatt capacity of property on line 8 above			10	x \$1,000
11 Enter the smaller of line 9 or line 10			11	
12 Credit carryforward from 2023. Enter the amount, if any, from your 2023 Form 5695, line 16			12	
13 Add lines 6b, 11, and 12			13	
14 Limitation based on tax liability. Enter the amount from the Residential Clean Energy Credit Worksheet. (See instructions.)			14	
15 Residential clean energy credit. Enter the smaller of line 13 or line 14. Also include this amount on Schedule 3 (Form 1040), line 5a			15	
16 Credit carryforward to 2025. If line 15 is less than line 13, subtract line 15 from line 13			16	

For Paperwork Reduction Act Notice, see your tax return instructions. Cat. No. 13040P Form **5695** (2024)

Form **8936** **Clean Vehicle Credits** OMB No. 1545-2137
 Department of the Treasury Internal Revenue Service **2024** (40th year) Sequence No. **69**
 Attach to your tax return. Go to www.irs.gov/Form8936 for instructions and the latest information.
 Identifying number

Notes: • Complete a separate Schedule A (Form 8936) for each clean vehicle placed in service during the tax year.
 • Individuals who transferred the credit to the dealer at the time of sale must file this form and Schedule A (Form 8936).
 • Modified Adjusted Gross Income (MAGI) Amount

Part I Modified Adjusted Gross Income (MAGI) Amount

1a Enter the amount from line 11 of your 2023 Form 1040, 1040-SR, or 1040-NR: Estates and trusts, Form 1041, see instructions

1b Enter any income from Puerto Rico you excluded

1c Enter any amount from Form 2555, line 45

1d Enter any amount from Form 2555, line 50

1e Enter any amount from Form 4563, line 15

2 Add lines 1a through 1e

3a Enter the amount from line 11 of your 2023 Form 1040, 1040-SR, or 1040-NR: Estates and trusts, Form 1041, see instructions

3b Enter any income from Puerto Rico you excluded

3c Enter any amount from Form 2555, line 45

3d Enter any amount from Form 2555, line 50

3e Enter any amount from Form 4563, line 15

4 Add lines 3a through 3e

5 Enter your 2023 filing status (S, MFS, etc., see chart below)

Individuals, estates, or trusts exceeding the following MAGI limits for both 2023 and 2024 can't claim the applicable credit:

Filing Status	Part II/III Limits	Part IV Limits
Single (S)	\$150,000	\$75,000
Married filing separately (MFS)	\$150,000	\$75,000
Head of household (HOH)	\$225,000	\$112,500
Married filing jointly (MFJ)	\$300,000	\$150,000
Qualifying surviving spouse (QSS)	\$300,000	\$150,000
Estates and trusts	\$150,000	N/A

Part II Credit for Business/Investment Use Part of New Clean Vehicles

6 Enter the total credit amount figured in Part II of Schedule(s) A (Form 8936)

7 New clean vehicle credit from partnerships and S corporations (see instructions)

8 Business/investment use part of credit. Add lines 6 and 7. Partnerships and S corporations, stop here and report this amount on Schedule K. All others, report this amount on Form 3800, Part III, line 1y

Part III Credit for Personal Use Part of New Clean Vehicles

9 Enter the total credit amount figured in Part III of Schedule(s) A (Form 8936)

10 Enter the amount from Form 1040, 1040-SR, or 1040-NR, line 18

11 Personal credits from Form 1040, 1040-SR, or 1040-NR (see instructions)

12 Subtract line 11 from line 10. If zero or less, enter -0- and stop here. You can't claim the personal use part of the credit

13 Personal use part of credit. Enter the smaller of line 9 or line 12 here and on Schedule 3 (Form 1040), line 6f. If line 12 is smaller than line 9, see instructions

Part IV Credit for Previously Owned Clean Vehicles

14 Enter the total credit amount figured in Part IV of Schedule(s) A (Form 8936)

15 Enter the amount from Form 1040, 1040-SR, or 1040-NR, line 18

16 Personal credits from Form 1040, 1040-SR, or 1040-NR (see instructions)

17 Subtract line 16 from line 15. If zero or less, enter -0- and stop here. You can't claim the Part IV credit

18 Enter the smaller of line 14 or line 17 here and on Schedule 3 (Form 1040), line 6n. If line 17 is smaller than line 14, see instructions

Part V Credit for Qualified Commercial Clean Vehicles

19 Enter the total credit amount figured in Part V of Schedule(s) A (Form 8936)

20 Qualified commercial clean vehicle credit from partnerships and S corporations (see instructions)

21 Add lines 19 and 20. Partnerships and S corporations, stop here and report this amount on Schedule K. All others, report this amount on Form 3800, Part III, line 1aa

For Paperwork Reduction Act Notice, see separate instructions. Cat. No. 37791E Form **8936** (2024)

Form 5695

<https://www.irs.gov/pub/irs-pdf/f5695.pdf>

Form 5695 Instructions

<https://www.irs.gov/pub/irs-pdf/i5695.pdf>

Form 8936 Clean Vehicle Credits

<https://www.irs.gov/pub/irs-pdf/f8936.pdf>

PPL Electric Utilities Residential Energy Efficiency Program



Energy-efficient products can increase the comfort of your home while helping you save energy and money. We offer rebates to help customers save money and upgrade to the latest energy-efficient equipment. To apply for one of our rebates, visit ppl electric.com/howtoapply.

Shop our online marketplace for instant discounts on energy-saving products. Visit ppl electric.com/marketplace to explore rebates.

Residential equipment rebates are for existing homes and residential rate code customers. See rebate webpage or application for full list of requirements.

Program Overview

ppl electric.com/rebates

Major upgrades that qualify for Comprehensive Retrofit Bonus rebates are shown in bold.

Home Improvement	Rebates	Qualifying Notes
Home Energy Assessments		

- **Energy Audit \$200-300**
- **Attic Insulation up to \$500**
- **Basement insulation up to \$200**
- **Thermostat \$50-100**
- **Heat Pump \$300-\$450**
- **Energy Star Refrigerator \$50**
- **Appliance recycling \$10-\$50**

Inflation Reduction Act

- **Tax Laws re-written** but IRA likely to remain in some form
- **Bipartisan support** in house for portions of IRA
- **EV Tax Credits probably vulnerable**
- Rebate funding **committed, not distributed**
- Potential for slow roll-out or stalling?
- **Pennsylvania Rebate Program:**
in-progress, **status?**

Electricity Rates

- Electricity Demand Growth
- Electricity price generally linked to Natural Gas (this may change in the long term)

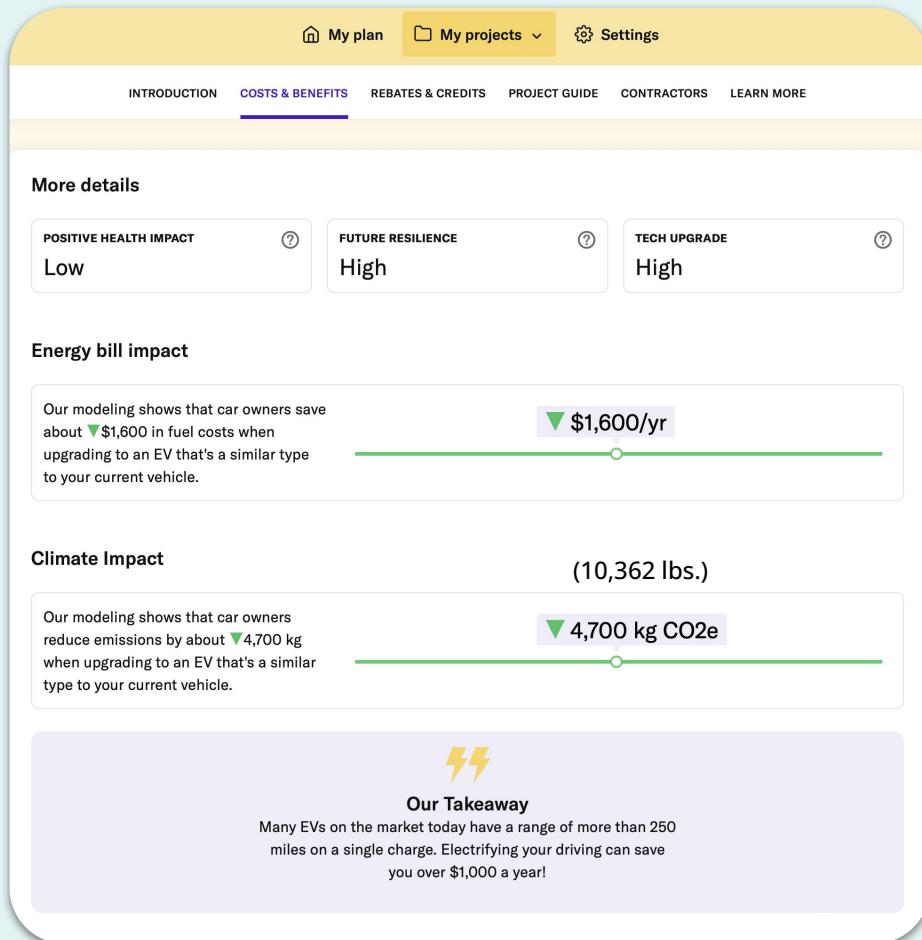
Equipment Costs

- Tariffs - many already in place
- US manufacturing increasing





Transportation accounts for approximately **28% of CO2** emissions. It is the biggest single source of CO2 emissions, and the vast majority comes from cars and trucks. EVs are quieter, **less expensive to operate, last longer**



CAR AND DRIVER

Update 10/28/2022:

Three-Year Ownership Cost Comparison Based on fuel, maintenance costs, and depreciation over a three-year period here's what we've found for the cost-of-ownership of our subject vehicles.

<https://www.caranddriver.com/shopping-advice/a32494027/ev-vs-gas-cheaper-to-own/>

Hyundai Kona: \$19,385

Hyundai Kona Electric: \$13,926*

Ford F-150: \$26,505

Ford F-150 Lightning: \$16,340*

***With Tax Credit**

**Net
Savings
w/ EV**

\$5,459

\$10,165

Vehicle Comparisons

Vehicle Type	Internal Combustion Engine		Electric Vehicle	
	Vehicle (Upfront Price)	7-Year TCO	Vehicle (Upfront Price)	7-Year TCO
Compact Sedan	Toyota Corolla LE (\$22,050)	\$42,348	Chevrolet Bolt EUV* (\$22,550)	\$31,768
Sedan	Toyota Camry SE Nightshade (\$28,960)	\$44,307	Tesla Model 3 (\$38,990)	\$44,180
Compact SUV	Nissan Rogue SV (\$29,700)	\$44,209	Volkswagen ID.4 (\$31,495)	\$37,110
Full Size SUV	Toyota Highlander L (\$39,270)	\$48,286	Tesla Model Y (\$42,490)	\$43,925
Pickup Truck	Ford F-150 XL Supercrew (\$43,515)	\$50,622	Ford F-150 Lightning* (\$42,495)	\$47,797

Vehicles are model year 2024, except those with an asterisk (*), which are model year 2023.

Total cost of ownership comparison for electric and gasoline-fueled vehicles | *Atlas Public Policy*

**Net
Savings
w/ EV**

\$10,581

\$127**

\$7,099

\$4,361

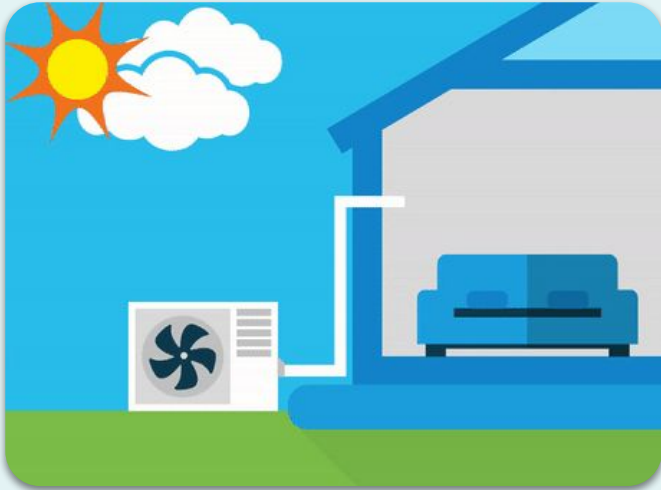
\$2,825

**All three trims in the updated Tesla Model 3 lineup are now eligible for the full \$7500 tax credit. Car and Driver January 17, 2025

HEAT PUMPS



Heat pumps move heat from outside to inside in the winter, and inside to outside in summer.



A heat pump is 300%-400% more efficient than a gas furnace.

A 2024 heat pump is **2X+** more efficient than 1980's HP.
And they work at below zero (with good efficiency ratings)

Heat Pump Benefits

- **Less expensive** to operate than **Oil, Propane, Electric Baseboard** (Radiant), Natural Gas cost comparison - many variables
- **Quiet**
- **Zone-able - Saves money and increases comfort**
- **Space-saving (vs. Radiators)**
- **Reduced GHG Emissions**
- **Good Synergy w/ Solar Panels**



HEAT PUMP IRA Tax Credits & Rebates

Tax credits

30%

up to

\$2,000 / yr.

One (1) hot water or heating/cooling appliance per year

Except

30%

**for ground source
(geothermal) heat pump
no maximum**

Rebates

up to

\$8,000

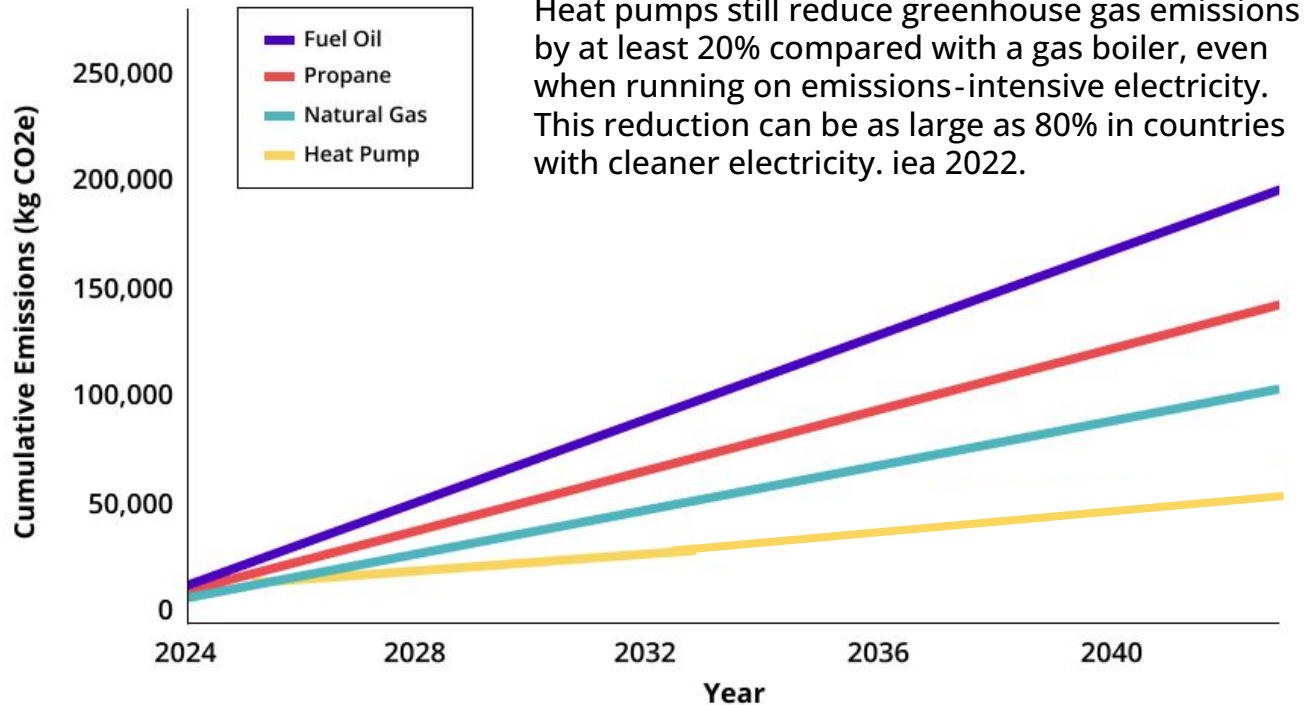
NOT YET AVAILABLE

Income Limits

Low Income (Below 80% AMI)
100% of project costs

Moderate Income (81%-150% AMI):
50% of project costs.

42-70% less CO₂ emissions on average than fossil fuels appliances



GROUND SOURCE HEAT PUMP

Geothermal (ground source) heat pumps (GHPs)

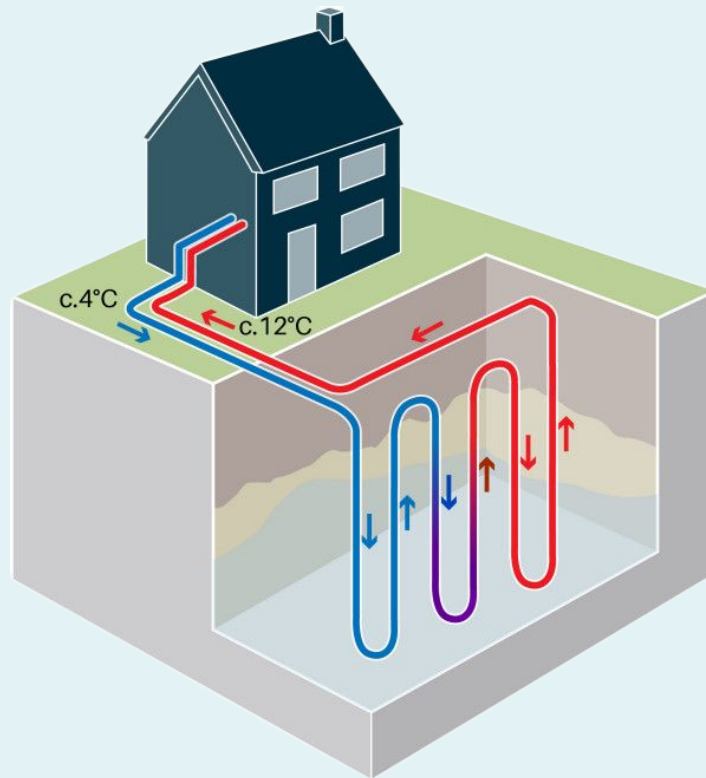
- **Efficiency**
300% to 600%



- **Energy savings**
GHPs can reduce energy consumption by **25% to 50%** compared to air source heat pump systems. They can also cut energy bills by up to **65%**.

- **Lifespan**
GHPs can last around 25 years for indoor components and 50+ years for ground loops.

- **Payback period**
The payback period for a geothermal system is typically between 5 and 10 years



Heat Pump Hot Water Heaters & Dryers

- **50%-60% in annual energy savings**
- **HP Dryer with IRA tax credit or rebate plus \$500 lifetime energy saving will pay for itself.**
- **HP Hot Water heater with IRA tax credit or rebate plus \$3,800 lifetime energy saving will pay for itself.**



Many Possible Priorities

- Lower my energy bills
- Lower my climate impact
- Future-proof my home
- Maximize incentives
- Improve health and comfort
- Replace aging equipment

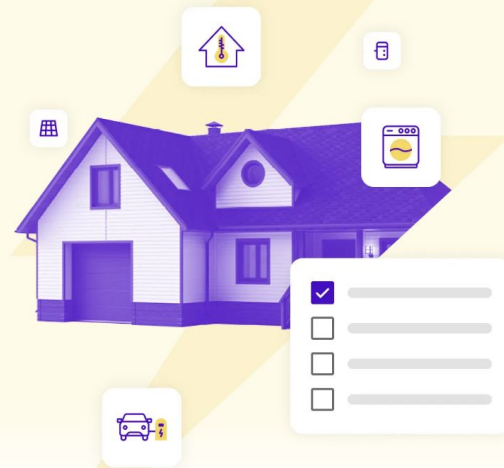
REWIRING AMERICA

Your situation is unique. Your plan to go electric should be, too.

Interested in upgrading your home to all-electric appliances and vehicles? Generate a personalized electrification plan based on your particular home, lifestyle, and priorities — all in just a few minutes.

[Get started](#)

[Rent your home? Click here](#)



ENERGY PLANNER

REWIRING AMERICA

<https://homes.rewiringamerica.org/personal-electrification-planner>



Homeowners ▾

Renters ▾

Incentive calculator

Find contractors

English Español

YOUR SAVINGS CALCULATOR

See how much you could save on electric appliance upgrades

There are many savings programs for energy-efficient appliances and upgrades.
Enter your household info to see the programs you're eligible for.

Your household info

Reset

RENT OR OWN ⓘ

Homeowner ▾

ZIP ⓘ

12345

ELECTRIC UTILITY ⓘ

Select utility ▾

Enter your ZIP code to select a utility.

HOUSEHOLD INCOME ⓘ

\$0

TAX FILING ⓘ

Single ▾

HOUSEHOLD SIZE ⓘ

1 person ▾

EMAIL ADDRESS (OPTIONAL)

you@example.com

View results

By sharing your email, you agree to our [terms](#) and to receive updates from Rewiring America. We'll store and protect your data in accordance with our [privacy policy](#).

Powered by the Rewiring America API

Decision Points

- Home Energy Efficiency
- Aging Equipment and Appliances
- Fuel Source
- Heating and Cooling Type
- Finances
- Annual Mileage
- Rent or Own?
- Solar Orientation, Shade, Roof
- Policy Changes

My plan
 My projects
 Settings

My electrification plan

I'm electrifying to:

- LOWER MY ENERGY BILLS
- IMPROVE HEALTH AND COMFORT

[EDIT](#)

Pework

[HOW TO READ MY PLAN](#) | [HOW THE DATA WORKS](#)

<input type="checkbox"/>	Get a home energy audit	BILL IMPACT	None	View project
<input type="checkbox"/>	Pre-wire your home to get it ready	BILL IMPACT	None	View project

Project list

<input type="checkbox"/>	Install solar panels	BILL IMPACT	▼ ~\$1,200/yr	View project
<input type="checkbox"/>	Add an electric vehicle	BILL IMPACT	▼ ~\$810/yr	View project
<input type="checkbox"/>	Upgrade to a heat pump water heater	BILL IMPACT	▼ ~\$250/yr	View project



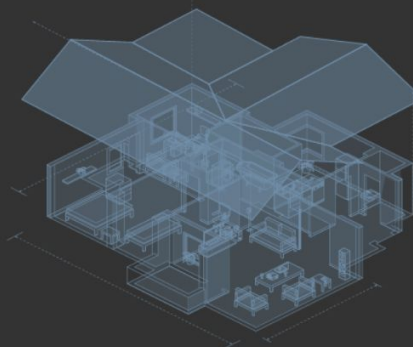
ENERGY AUDIT

US homes lose **15 to 25 percent** of heating in winter / cooling in summer.
That's equivalent to leaving a window in your home wide open all the time.



Energy Saver 101: Home Energy Audits

Take the first step to improving your home's energy efficiency: get a home energy audit.



What is a home energy audit?

A home energy audit helps you pinpoint where your house is losing energy and **what you can do to save money**. A home energy auditor will also assess health and safety issues that might exist in your home.

The audit involves two parts: the **home assessment** and **analysis** using computer software.

<https://www.energy.gov/energysaver/articles/energy-saver-101-infographic-home-energy-audits>

Energy Auditors

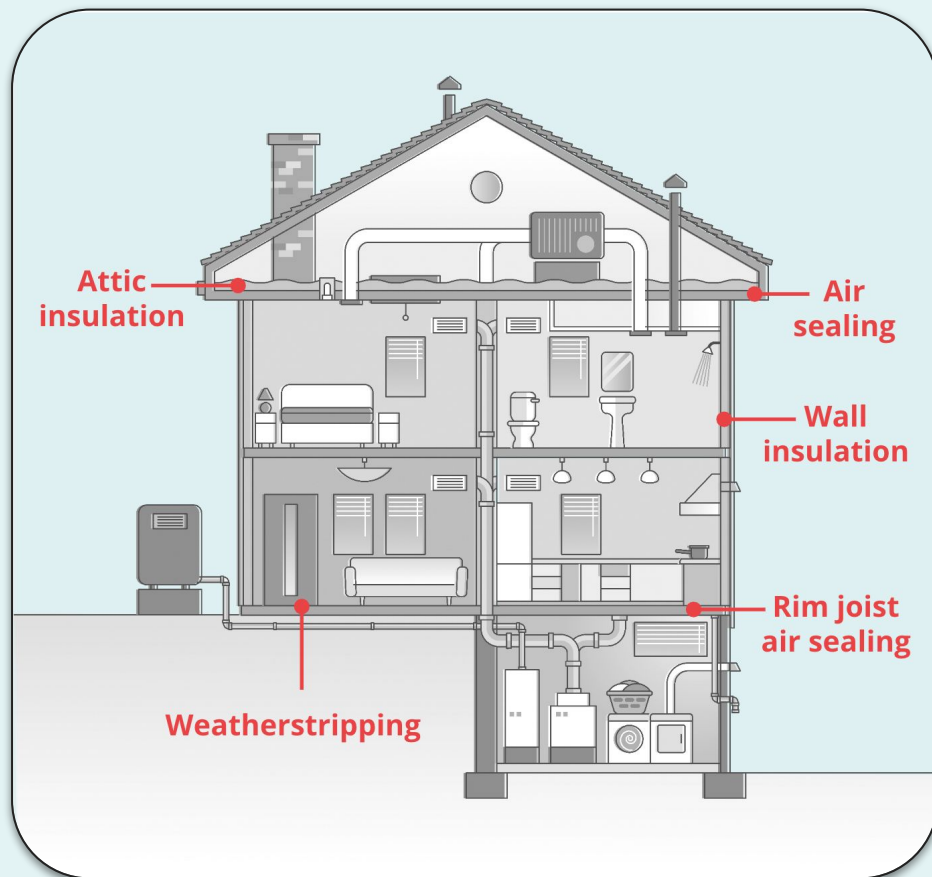
<https://www.energy.gov/eere/buildings/us-department-energy-recognized-home-energy-auditor-qualified-certification-programs>

WEATHERIZATION



Make your home heat pump and solar ready

- Low cost
- Quick payback
- Improved comfort
- Depending on the extent of the improvements, the payback period typically ranges from 2 to 5 years.
- May reduce HP and Solar requirements



SOLAR ENERGY



Tax credits

30%

Uncapped

Solar Panels

Fuel Cells

Wind Turbine

Geothermal Power

Battery Storage

(3kWh min)

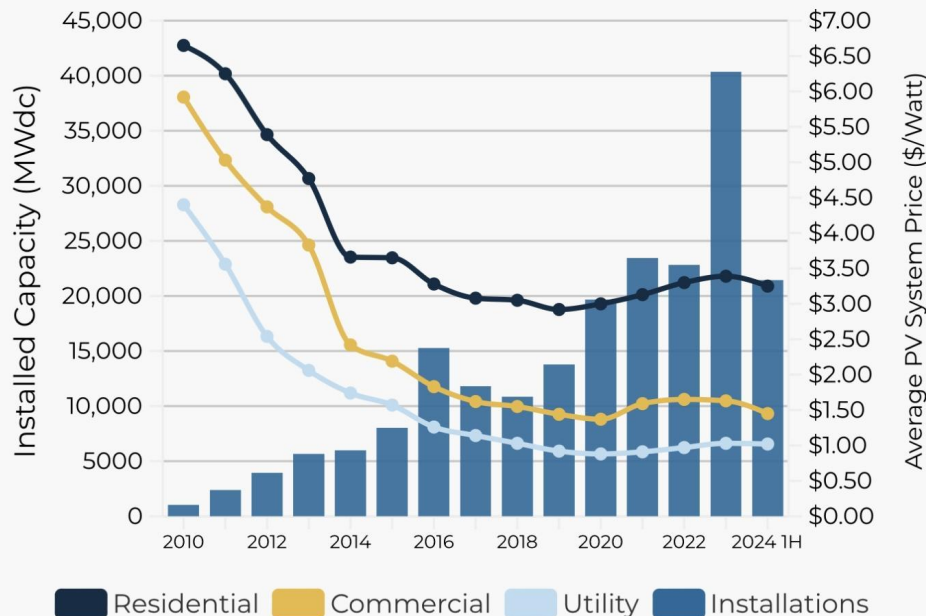


Solar Economics

Cost of PV System

- Residential solar systems cost about \$3 per watt
- Down from almost \$7 in 2010
- Varies by state and size of array
- Within a local area, price varies by installer

U.S. Solar PV Pricing Trends & Deployment Growth



Source: SEIA/Wood Mackenzie Power & Renewables U.S. Solar Market
Insight Q3 2024

Vendor Marketplace

- Provide basic information on home, including electric bills
- Vendors submit detailed proposals by email within 1-2 days
- Vendors send follow-up emails, but stop when you tell them you've made a decision

EnergySage



Sunny Savings in Under a Minute

Compare multiple offers online, no phone calls

Shop for solar in 3 easy steps — no pushy sales calls.



Complete our short form



Get matched with top-rated installers



Compare and choose the right installer for you

EnergySage

3 of 5

Nova Solar | My Savings

Utility Cost Without Solar

\$132,864

Lifetime Savings

\$110,784

Net System Price

\$22,080

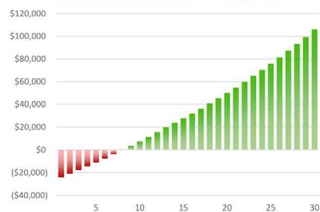
Annual ROI

15.0%

System Price	\$42,400.00
Federal Tax Credit	\$12,720.00
Fairfax Property Tax	
Savings	\$2,400.00
SRECs	\$5,200.00
Cost after Incentives	\$22,080.00

Year	Savings + SRECs	Cumulative Cash Flow
1	\$3,083.40	(\$24,196.61)
2	\$3,163.90	(\$21,032.71)
3	\$3,246.81	(\$17,785.89)
4	\$3,332.22	(\$14,453.68)
5	\$3,420.18	(\$11,033.49)
6	\$3,510.79	(\$7,522.70)
7	\$3,604.11	(\$3,918.59)
8	\$3,700.24	(\$218.35)
9	\$3,799.24	\$3,580.89
10	\$3,901.22	\$7,482.12
11	\$4,006.26	\$11,488.37
12	\$4,114.45	\$15,602.82
13	\$4,225.88	\$19,828.70
14	\$3,940.66	\$23,769.36
15	\$4,058.88	\$27,828.23
16	\$4,180.64	\$32,008.87
17	\$4,306.06	\$36,314.94
18	\$4,435.24	\$40,750.18
19	\$4,568.30	\$45,318.48
20	\$4,705.35	\$50,023.83
21	\$4,846.51	\$54,870.34
22	\$4,991.91	\$59,862.24
23	\$5,141.66	\$65,003.91
24	\$5,295.91	\$70,299.82
25	\$5,454.79	\$75,754.61
26	\$5,618.43	\$81,373.04
27	\$5,786.99	\$87,160.03
28	\$5,960.60	\$93,120.62
29	\$6,139.41	\$99,260.04
30	\$6,323.60	\$105,583.63

Lifetime Solar System Savings (Year)



30-Year Utility Price	\$132,863.63
30-Year Solar Price	\$22,080.00
Savings Amount	\$110,783.63
Savings %	83%
Return on Investment	15.0%
Breakeven (Years)	8.1
Est Home Value Increase	\$46,200.00

Nova Solar | My System

Panels

35 Aptos DNA-144-MF26-440W

Inverters

35 Enphase Microinverters

System Size

15,400 W

Solar Offset

102%

Annual Production

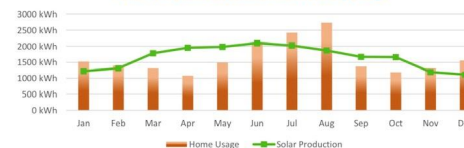
19,877 kWh

Monthly Production

1,656 kWh



Solar Production vs. Home Electricity Usage



Solar United Neighbors



Solar energy is under attack. Join the fight.

This Tuesday: Join our Solar Advocacy 101 training to learn how to hold effective meetings with your elected officials to protect your energy rights.

[Register for Solar Advocacy 101](#)

 **SOLAR UNITED
NEIGHBORS**

[Get started with solar](#) ▾ [Resources](#) ▾ [About](#) ▾ [Q](#)

[Get involved](#) ▾

[Donate](#)

[Solar in your area](#) [Get help](#) [En español](#)

Energy freedom starts with solar.

We help people go solar and fight for their energy rights.

[Join us](#) 

Screenshot

IDEAL ELECTRIFICATION PATH

1

Understand home performance and energy load

Tools

- Home energy audits
- Heat load calculation

2

Reduce load and increase performance

Strategies

- Weatherization
- Efficient replacements for existing equipment

3

Add New Load and New Supply

Systems

- New loads (heat pumps, induction, EV charging)
- Solar and batteries

RESOURCES



RegenAll Carbon Footprint Calculator

<https://regenall.org/carbon-footprint/#calculator>



Rewiring America Electrification Planner

<https://homes.rewiringamerica.org/personal-electrification-planner>



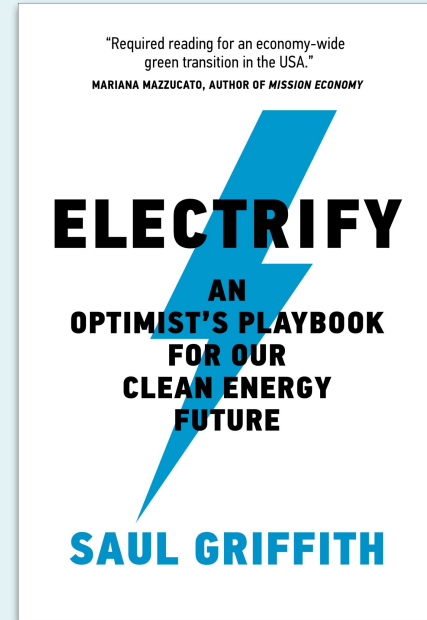
Solar United Neighbors

<https://solarunitedneighbors.org/>



Energysage (Solar)

<https://www.energysage.com/>

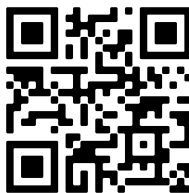


<https://mitpress.mit.edu/9780262545044/electrify/>

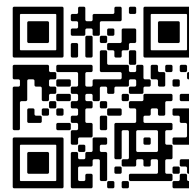
RESOURCES



Energy Star Tax Credit Website
<https://www.energystar.gov/about/federal-tax-credits#homeowners>



IRS Energy Efficient Homes
<https://www.irs.gov/credits-deductions/energy-efficient-home-improvement-credit>



Energy Auditors
<https://www.energy.gov/eere/buildings/us-department-energy-recognized-home-energy-auditor-qualified-certification-programs>



DOE Website
<https://www.energy.gov/save>



DOE Inflation Reduction Act
<https://www.energy.gov/energysaver/articles/inflation-reduction-act-2022-what-it-means-you>

Keith W Turner
kwturn.arch@gmail.com
415-530-1717

Thank you!



REWIRING
AMERICA



<https://regenall.org>



<https://rewiringamerica.org>