

# NJ Electrification Coaching Network

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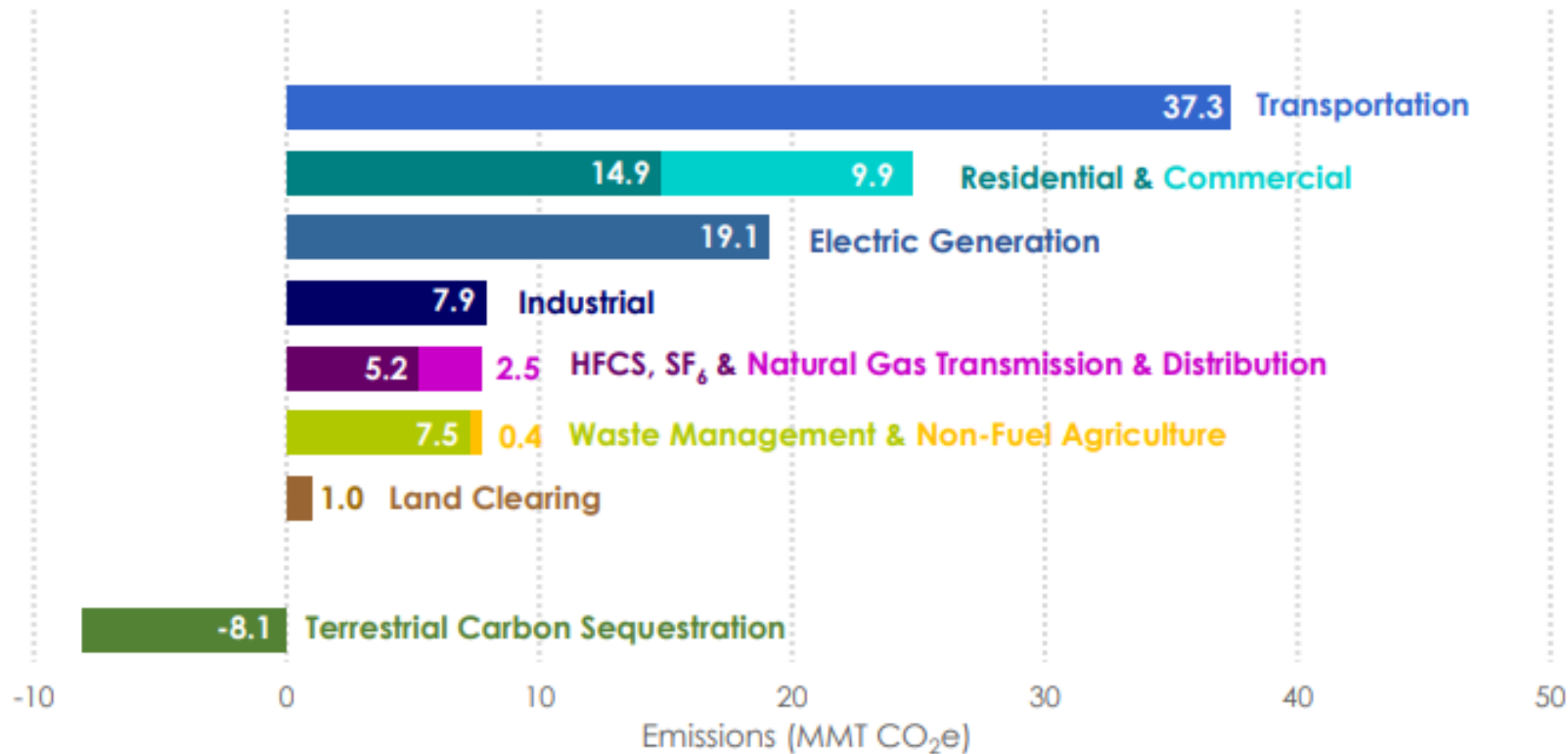
**November 19, 2024**

# 2024 NJ Greenhouse Gas Emissions Inventory Report

New Jersey Department of Environmental Protection

Figure ES-1. 2021 Emissions by Sector (GWP<sub>100</sub> and GWP<sub>20</sub>)

GWP<sub>100</sub>



# Top 3 Greenhouse Gas (GHG) Emissions Sources in NJ: 81% of All Emissions

- **Electricity generation (19%)**
- **Transportation (37%)**
- **Residential/commercial buildings (25%)**

**REDUCE ALL 3**

Source: 2024 NJ Greenhouse Gas Emissions Inventory Report  
New Jersey Department of Environmental Protection

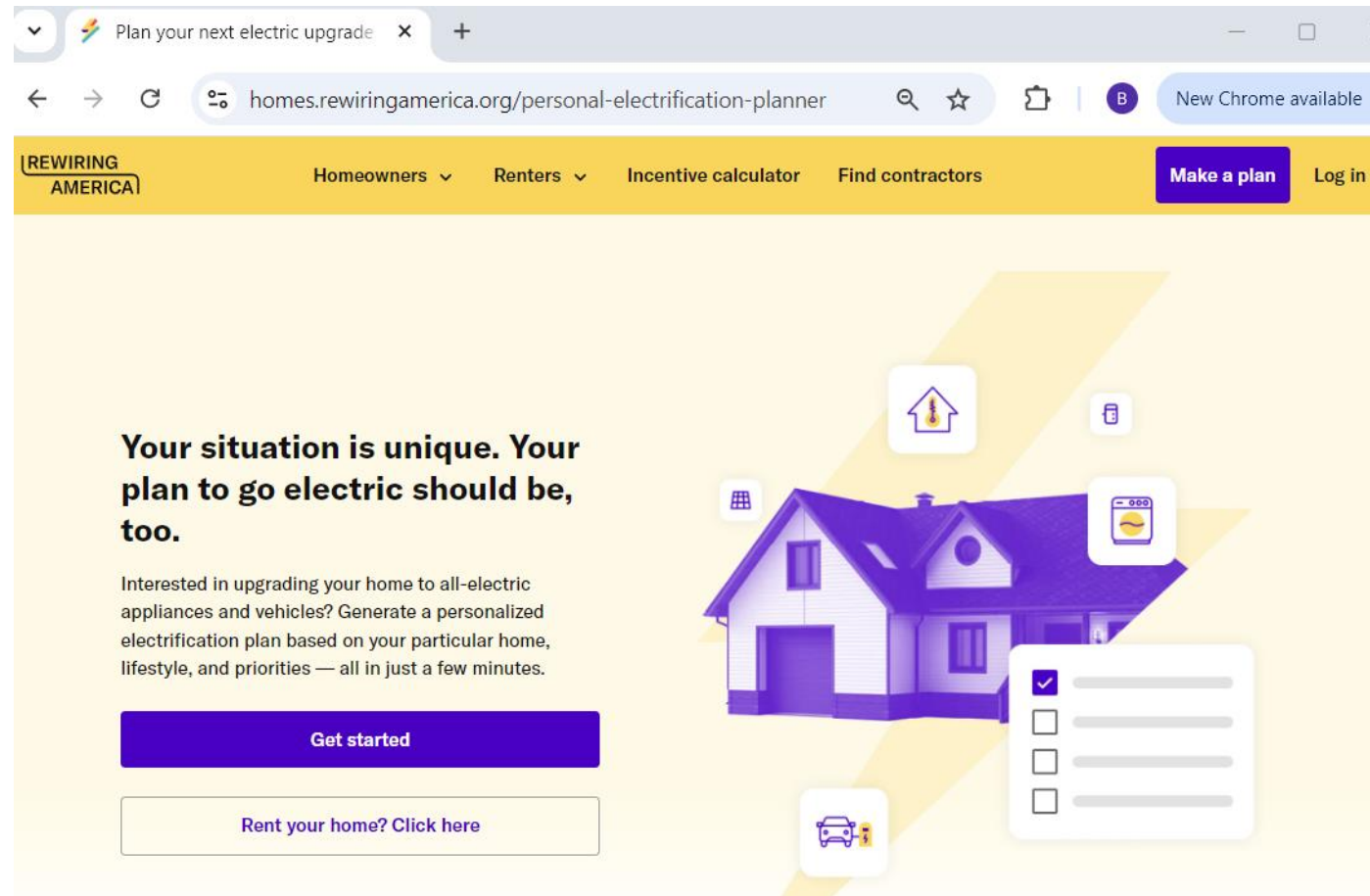
# NJ Electrification Coaching Network

How does a coaching session proceed?

Without a good plan, you can't expect good results!

# Quick tour: Rewiring America's Personal Electrification Planner

*Your coach will ask similar questions and be able to account for special situations not covered here, as well as explaining the process.*



# Enter data about yourself and your home

## Tell us about your home



What type of home do you own?

- ☒ House
- ☐ Townhouse
- ☐ Apartment
- ☐ Mobile home

Great! To begin, let's create your account.

Create account

We'll create and save a plan for you and send you new resources and updates as they become available. View our [terms of use](#).



ADDRESS

07647, USA

OWNERSHIP STATUS

I Own My Home

HOME TYPE

House

## Home profile

INTERIOR HOME AREA	1,800	sqft
HEATING FUEL	Gas	
HEATING SYSTEM	Unknown	
COOLING SYSTEM	Central AC	
WATER HEATING FUEL	Gas	
CLOTHES DRYING FUEL	Gas	
STOVE/RANGE FUEL	Gas	
SOLAR PANEL TYPE	None	

# Enter data about yourself and your home

**Primary vehicle**

Do you have a vehicle?

☒ Yes ☐ No

What best describes the car or truck you drive the most?

VEHICLE TYPE

ENGINE TYPE

HOME EV CHARGER

**Household info**

HOUSEHOLD INCOME

TAX FILING STATUS

HOUSEHOLD SIZE

*Household income is used to determine whether you are a low or moderate income household, which affects the rebates and credit amounts*

## Select your top 2 motivations for electrifying

- ☐ Lower my energy bills
- ☐ Maximize government incentives
- ☒ Lower my climate impact
- ☐ Improve health and comfort
- ☐ Future-proof my home
- ☒ Modernize my equipment

[← Back](#)

[Next](#)

# Electrification Plan (Cont'd)


REWIRING  
AMERICA

[My plan](#) [My projects](#) [Settings](#)


Exit

Project list

☐


 Add an electric vehicle

BILL IMPACT


 ~\$1,100/yr

[View project](#)

☐


 Upgrade to a heat pump and weatherize

BILL IMPACT


 ~\$65/yr

[View project](#)

☐


 Install a heat pump water heater

BILL IMPACT

 ~\$25/yr

[View project](#)

☐


 Purchase an electric lawn mower

BILL IMPACT


N/A

[View project](#)

☐


 Install a heat pump clothes dryer

BILL IMPACT


 ~\$15/yr

[View project](#)

☐



 Install an electric/induction stove

BILL IMPACT

 ~\$30/yr

[View project](#)

Completed projects

  Solar panels installed!

[View project](#)

FEEDBACK

Additional click on down arrow next to  
“Vet Your Contractor” step, then right  
arrow for details:



#### Vet your contractor candidates



Vetting your contractor candidates is key for a seamless heat pump install. Ask your candidate these questions to make sure they can do a great job:

Have you participated in recent manufacturer trainings for the systems you install? >

What heat pump options and brands can you provide for my home? >

How will you size the heat pump? Are you going to do a “Manual J” load calculation when you design the system? >

Will you use any subcontractors in the process? >

Do you know about incentives or rebates available to me, and will you provide assistance in applying for them? >

Will you be evaluating our building envelope for air leakage and thermal performance as you design the system? >

Will I need any electrical service upgrade or panel upgrade to accommodate the heat pumps? Will there still be capacity to electrify other items in my home once you’re complete? >



#### How will you size the heat pump? Are you going to do a “Manual J” load calculation when you design the system?

Answer you’re looking for:

Your contractor should know how to properly size your heat pump, which requires knowing how much energy your home gains and loses over the course of a day — known as the “load calculation.”

This calculation has been standardized in the industry as “Manual J,” and the graphic below shows the standard inputs such as your climate and home position, the quality of the insulation, and the size and number of openings.



Make sure your contractor team doesn’t resort to using rules of thumb or best guesses when designing your heat pump system; heat pump technology performs better when sized correctly (i.e. when the capacity of the heat pump matches the heat gain/loss of your home)

Follow up question: Do you use software to do load calculations?

## Find an HVAC contractor

### Try our contractor network directory

We've curated a list of contractor networks that provide the talent you're looking for. Check it out!

[Contractor network directory](#)



## Find a contractor through networks that qualify their members

Contractor networks provide lists of contractors that have been independently qualified by the network. We've curated a list of these networks for you. Fill out the form to search. As always, follow our project guides when working with contractors.

ENTER YOUR HOME'S ZIP CODE

07647

PROJECT TYPE

Heat pump Install

Search

We've found 3 networks near you



### BPI-Certified Contractors



BPI is the nation's premier standards development and credentialing non-profit for residential upgrade work.



### Mitsubishi Contractors



Discover Mitsubishi Electric Diamond Contractors, offering expertise in heating and cooling solutions for your home.



### LG Pro Contractors



Discover LG Pro Contractors, offering expertise in heating and cooling solutions for your home.

# Home Efficiency and Electrification Utility Rebates and IRA Tax Credits

\* Numbers are VERY uncertain, due to pending NJ BPU decisions and to possible national political changes, talk to your coach

	Utility rebate (approved for 2025)	25C tax credit**	25D tax credit
Electrical wiring			
Electrical panel		30% to \$600	
Cold-climate heat pump^	\$2,000	30% to \$2,000	
Heat pump water heater	\$750	30% to \$2,000	
Heat pump clothes dryer	\$500		
Electric/induction stove	\$150		
Ground source heat pump	\$10,000		30% no \$ limit
Rooftop solar			30% no \$ limit^^^
Battery storage			30% no \$ limit
Weatherization		30% to \$1,200^^	
Increase house efficiency 20-35%			
Increase house efficiency > 35%			
Increase house efficiency 5-32.5%	\$2,000-\$7,500		
** \$2,000/year maximum rebate: heat pumps combined; \$1,200/year all other items combined ^ \$750 for a non-cold climate heat pump ^^ Includes replacing windows and doors and to \$150 for home energy audit ^^^ Credit can also include any cost for electrical panel if needed			

# INTAKE FORM

## NJ Electrification Coaches Network: Going Electric Intake Form

With your answers to the questions on this form, the NJ Electrification Coaches Network will be able to assign you an electrification coach. Your electrification coach will guide you through selecting HVAC equipment and/or electric appliances for your home or apartment so that you can save money and become a contributor to our clean energy economy.

Your information will not be shared or distributed beyond the Electrification Coaching group.

NJ Electrification Coaches Network

Ila Vassallo  
NOVEMBER 2024

The purpose of the “**Going Electric Intake Form**” is to assign you an electrification coach to help you on your electrification journey.





## GOING ELECTRIC INTAKE FORM

Provide your name, city,  
county, state, and email

Answer a few  
simple questions

Why do you want to electrify your home /  
apartment?

Do you have an anticipated time frame to  
start on your electrification journey?

Do you have an estimated cost in mind for  
your electrification improvements?

Are you familiar with Rewiring America  
and their Personal Electrification Planner?

**IT'S**  
*That*  
**EASY**

Link to Intake Form:  
<https://tinyurl.com/yc2ew6rc>



An electrification  
coach will contact you  
to get started

# NJ ELECTRIFICATION COACHING NETWORK

## KAREN CASE STUDY, NEPTUNE CITY, NJ 2024-11-19





# My electrification plan

I'm electrifying to:

- \$ MAXIMIZE GOVERNMENT INCENTIVES
- 🌿 LOWER MY CLIMATE IMPACT

[EDIT](#)



## Pework

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

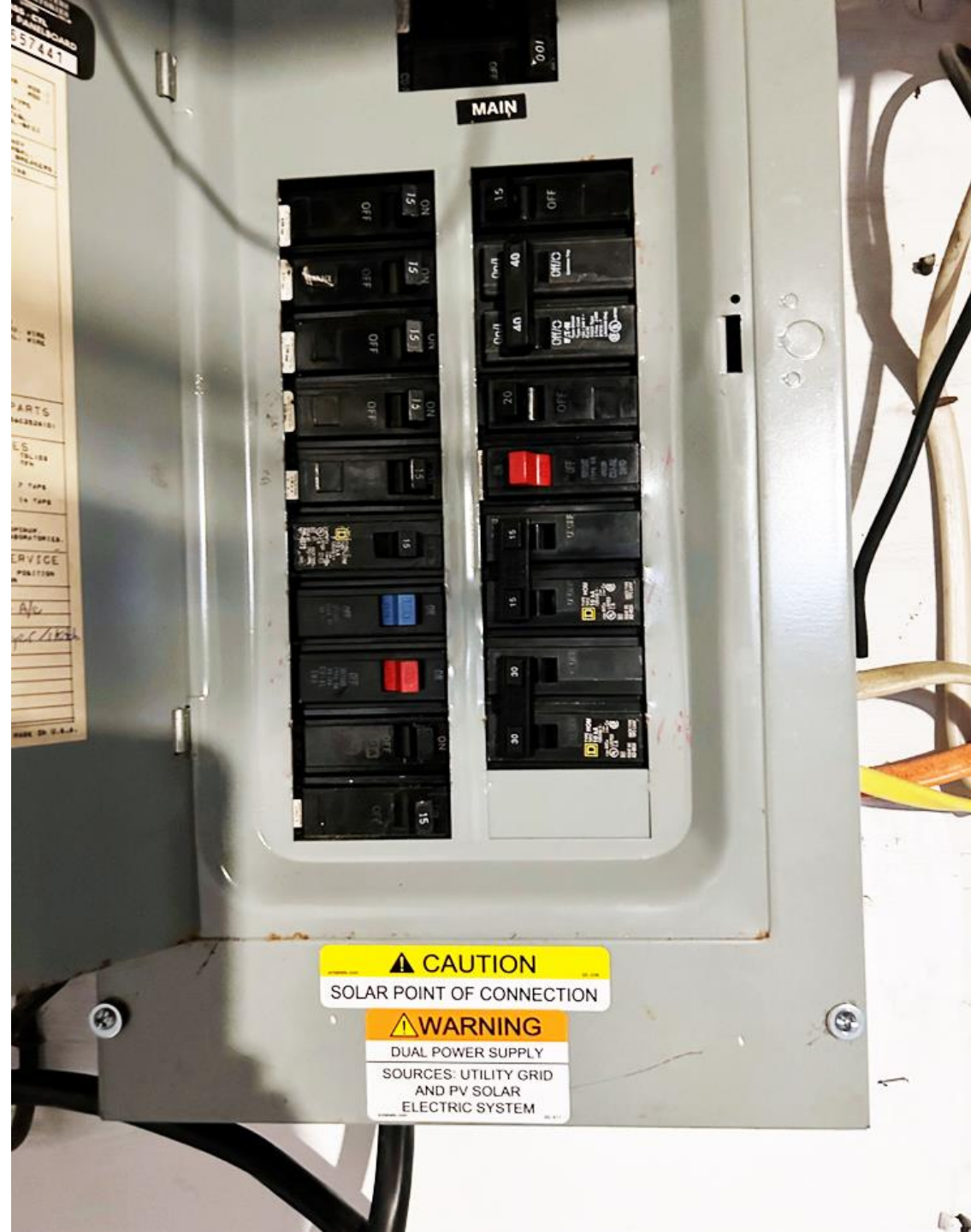
<input type="checkbox"/>		Get a home energy audit	BILL IMPACT	None	<a href="#">View project</a>
<input type="checkbox"/>		Pre-wire your home to get it ready	BILL IMPACT	None	<a href="#">View project</a>

## Project list

<input type="checkbox"/>		Upgrade to a heat pump and weatherize	BILL IMPACT	▼ ~\$780/yr	<a href="#">View project</a>
<input type="checkbox"/>		Install a heat pump water heater	BILL IMPACT	▼ ~\$75/yr	<a href="#">View project</a>
<input type="checkbox"/>		Install a heat pump clothes dryer	BILL IMPACT	~\$0/yr	<a href="#">View project</a>
<input type="checkbox"/>		Purchase an electric lawn mower	BILL IMPACT	N/A	<a href="#">View project</a>

## Completed projects

		EV added!	<a href="#">View project</a>
		Solar panels installed!	<a href="#">View project</a>
		Electric stove installed!	<a href="#">View project</a>





MODEL NO./ MODELE N° RA1424BJ1NA  
SERIAL NO./ N° DE SERIE W181934857

MFQ./FAB 05/2019  
OUTDOOR USE/  
UTILISATION EN EXTÉRIEUR  
9539

COMPRESSOR CODE / CODES DE COMPRESSEUR  
208/230

PHASE. 1

HERTZ 60

VOLTS

COMPRESSOR/ COMPRESSEUR

R.L.A. 10.9/10.9

L.R.A. 62.9

OUTDOOR FAN MOTOR/  
MOTEUR VENTIL. EXT.

F.L.A. 0.75

H.P. 1/8

MIN. SUPPLY CIRCUIT AMPACITY/  
COURANT ADMISSIBLE D'ALIM. MIN.

15/15

A

MAX. FUSE OR CKT. BKR. SIZE\*/  
CAL. MAX. DE FUSIBLE/DISJ\*

25/25

A

MIN. FUSE OR CKT. BRK. SIZE\*/  
CAL. MIN. DE FUSIBLE/DISJ\*

20/20

A

DESIGN PRESSURE HIGH/  
PRESSION NOMINALE HAUTE

450 PSIG/3102 kPa

DESIGN PRESSURE LOW/  
PRESSION NOMINALE BASSE

250 PSIG/1723 kPa

OUTDOOR UNITS FACTORY CHARGE/  
CHARGE USINE D'UNITÉS EXTÉRIEUR

80 oz/2268g

R410A

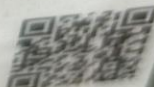
R410A

TOTAL SYSTEM CHARGE/  
CHARGE TOTALE DU SYSTÈME

SEE INSTRUCTIONS INSIDE ACCESS PANEL /  
VOIR LES CHARGES INSTRUCTIONS À L'INTÉRIEUR DU PANNEAU D'ACCÈS

RHEEM SALES COMPANY  
FORT SMITH, ARKANSAS

INSTALL PROHIBITED IN SOUTHWEST  
"HARD TYPE BREAKER FOR U.S.A."  
DISJONCTEUR DIFFÉRENTIEL



ASSEMBLED  
IN  
MEXICO  
100%

NOTICE/AVIS









# A SIMPLE DO-IT-YOURSELF PROJECT

## DUCT SEALING

**CAULKING  
CORD**

**PRESSURIZED  
FOAM  
FOR LARGE GAPS**

**ALUMINUM  
FOIL TAPE  
TO SEAL JOINTS  
IN INSULATION**

**DUCT SEALANT  
WATER BASE**



**REFLECTIVE  
BUBBLE WRAP**

**WRAP  
AIR DUCTS IN  
UNHEATED AREAS**









# AUTOMATIC STORAGE WATER HEATER



## ANSI Z21.10.1-CSA 4.1-2014

MODEL NUMBER		NOMINAL CAPACITY US GAL	GAS TYPE	ITEM ID	
GCRL-40 400		40	NATURAL	100217972	
INPUT BTU/HR	RECOVERY US GAL/HR	SERIAL NUMBER		ALTITUDE FT.	
40000	40.94	1835111730815		MIN	MAX
				0	10100
GAS PRESSURES IN W.C.			MAX WORKING PRESSURE PSI		
MANIFOLD	MAX INLET	MIN INLET	BUILD DATE		
4	14	5	150		
			08/30/2018		

A. O. SMITH CORPORATION  
MCBEE, SC. USA



Model Number GCRL-40 400

1600



Serial Number 1835111730815



Hazlet

6AM



07730

What can we help you find today?



Shop All

Services

DIY

Log In

Cart

Rheem

## Performance Platinum ProTerra 50 Gal. 120-Volt Plug-in Smart Heat Pump Water Heater with 10-Year Warranty

★★★★★ (38) Questions & Answers (76)



Hover Image to Zoom

## SHOP BLACK FRIDAY DEALS

Limit 3 per order

**BULK PRICE**  
ELIGIBLE

**\$1698<sup>30</sup>**

Was \$1998.00

Save \$299.70 (15%)

Get up to \$2,750 in Rebates for 07730



**\$142.00/mo\*\*** suggested payments with 12 months\*\* financing [Apply Now](#)

- Heat pump water heater plugs into standard 120V outlet
- Easy replacement for standard gas tank and 4.5x more efficient
- Built in WiFi enables hot water control and energy usage tracking
- [View More Details](#)

Nominal Tank Capacity (gallons): **50 gal**

40 gal

**50 gal**

65 gal

80 gal

Pickup at [Hazlet](#)

Delivering to [07730](#)

### Ship to Store

**Dec 4 - Dec 9**  
25 available

**FREE**

### Delivery

**Saturday, Nov 23**  
25 available



**Get Expert Water Heater Installation**

Need help fast? Call [1-855-650-2786](tel:1-855-650-2786)

## Induction Ranges May 2024

**\$1,098:** Frigidaire FCFI3083AS



<https://www.frigidaire.com/en/pr/kitchen-ranges/induction-ranges/FCFI3083AS>

**\$1,099:** Samsung NSI6DG9100SRAA



<https://www.bestbuy.com/site/samsung-bespoke-6-3-cu-ft-slide-in-electric-induction-range-with-anti-scratch-glass-cooktop-stainless-steel/6569010.p?skuid=6569010>

**\$530:** Lowest Price Gas  
**\$530:** Lowest Price Electric  
Resistance  
**\$840:** IRA Rebate

<https://www.rewiringamerica.org/app/ira-calculator>

**\$1,215:** GE Profile PB900YVFS



**\$5,574:** Bosch 800 36" Induction





# • EV CHARGING

- TESLA “WALL CONNECTOR”
- \$420 (Amazon); 24 foot cable
- Program for your available power and car capability:  
max currents of  
48A, 40A, 32A, 24A, 16A, 12A

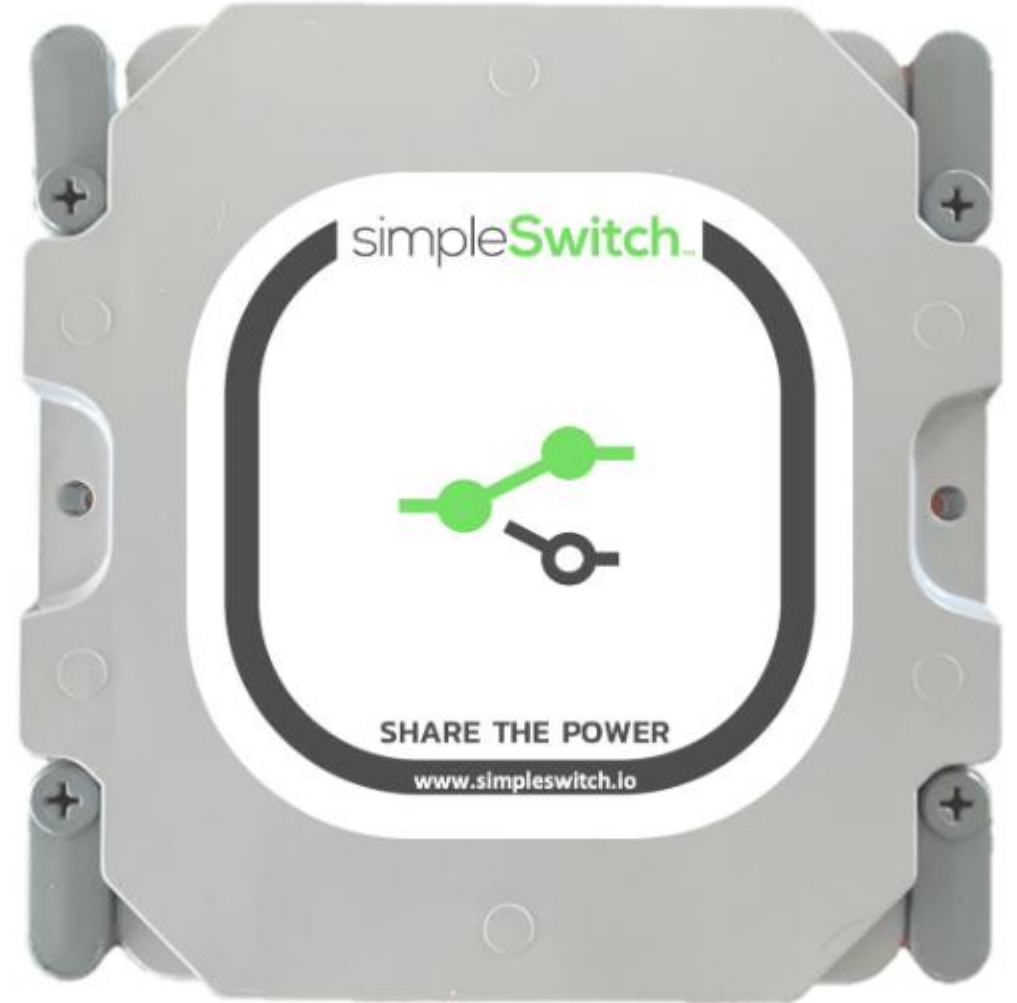


**EV Charging Circuits And  
Miles of Range Per Hour Added**

Circuit Breaker (Amps)	Maximum Output (Amps)	Power Delivery @240V (kW)	Miles of Range Added (Per Hour)	Miles of Range Added (Overnight - 10 hrs)	Approx kWh Added (Overnight - 10 hrs)
100	80	19.2	35 - 75	350 - 750	175
60	48	11.5	20 - 45	200 - 450	105
50	40	9.6	18 - 38	175 - 375	85
40	32	7.6	15 - 30	150 - 300	70
30	24	5.7	10 - 22	100 - 220	50
20	16	3.8	7 - 15	70 - 150	35
15	12	2.8	5 - 11	50 - 110	25



**SHARE A 40 AMP CIRCUIT (ELECTRIC STOVE SHOWN HERE) WITH AN EV CHARGER  
(NO INCREASE IN PANEL ELECTRICAL LOAD)**



### A Pocket Guide to All-Electric *Retrofits* of Single-Family Homes



A Big Chill Retro Induction Range


A Water Vapor Fireplace by Nero Fire Design

A NeoCharge Smart Circuit Splitter


REDWOOD ENERGY

April 2022

### Product Guide Quick Reference



Electric Cooking	Heat Pump Water Heaters	Electric Dryers	Heat Pump Space Heating and Cooling	Electric Vehicles	Energy Management Systems	Solar PV Panels	Back-up Batteries
p. 41	p. 60	p. 64	p. 46	p. 85	p. 75	p. 78	p. 80



Heat Pump Pool and Spa Heating	Electric Saunas	Electric Fireplaces	Electric Outdoor Heating	Electric Landscaping	Electric Barbeques
p. 66	p. 69	p. 68	p. 70	p. 72	p. 71

# USEFUL REFERENCES – pg 1

Redwood Energy (talks, plus research booklets) Several “pocket guides” available - see right panel of 1st page

BEST: <https://www.redwoodenergy.net/research/a-pocket-guide-to-all-electric-retrofits-of-single-family-homes> (being updated)

## TOOLS:

"Electrification of Homes Without an Electrical Service Upgrade":  
Redwood Energy; appliance swapping; load-sharing devices;

"Watt Diet Calculator" Redwood Energy; (calculate electrical panel remaining capacity; share circuits; calculate house heat loss)

# USEFUL REFERENCES- pg 2

**ALL REFERENCES:** <https://climate.smiller.org/REF/> (600+)

**“Climate Change and What you Can DO “ (5/16/2024)**

<https://smiller.org/REF1.docx>

**How To Identify Best Contractors & Best Heat Pumps**

<https://climate.smiller.org/50x30/building-electrification/vendor-recommendations.html>

**Weatherization overview:** <https://climate.smiller.org/50x30/building-electrification/vendor-recommendations-1.html>

**JCP&L Weatherization programs:**

<https://residential.energysavenj.com/jersey-central/MIWX/>

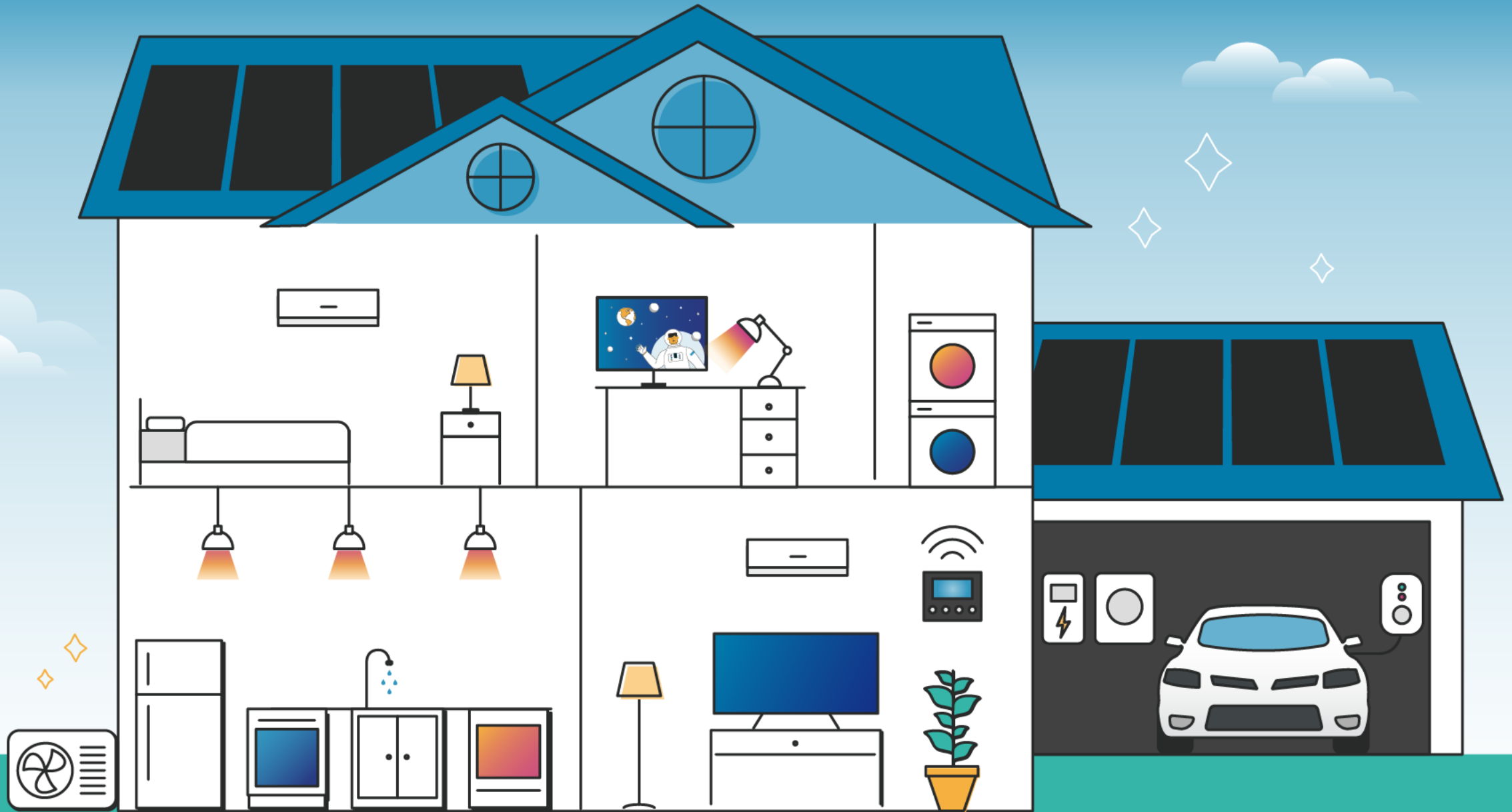
# ELECTRIFY EVERYTHING

in Your Home



A GUIDE TO COMFY, HEALTHY,  
CARBON-FREE LIVING

BY JOEL ROSENBERG, REWIRING AMERICA



I DIG  
YOUR ENERGY!



I HAVE  
ZERO CHILL  
about  
HEAT PUMPS.

INTRODUCING  
ELECTRIC  
ENTHUSIASTS!

I ♥ YOUR  
ELECTRIC  
ENTHUSIASM.



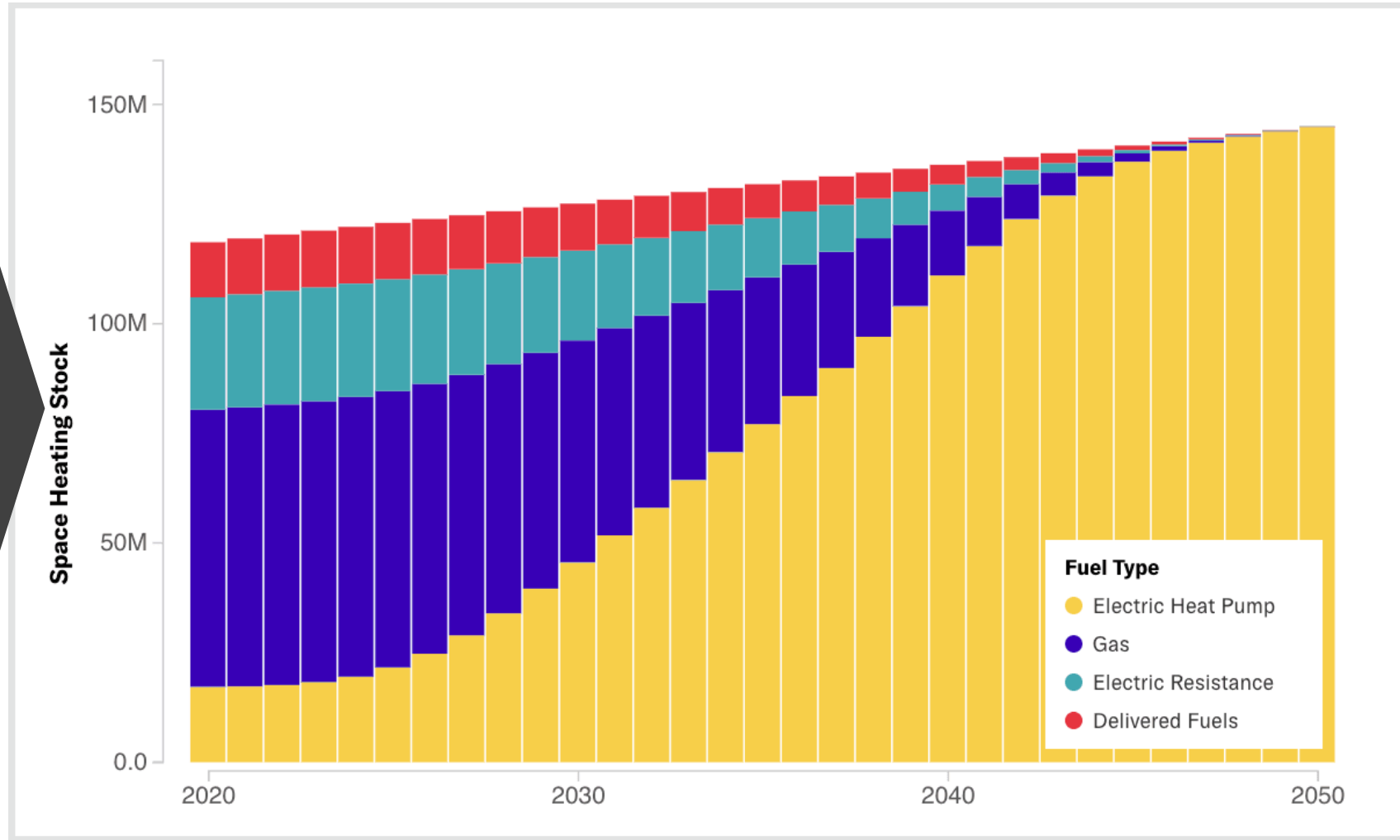
ELECTRIC  
IS BETTER

WILL  
TALK  
ELECTRIC  
WITH YOU.



# Ex: Space Heating: 140 Million homes to convert by 2050

We need  
many  
Electrification  
Coaches and  
trained  
Contractors



# Anyone can become an electric coach

If you're a community leader, grandparent, teacher, elected representative, real estate professional, or contractor, this comprehensive and interactive course is for you!

Homeowners ▾

Renters ▾

Incentive calculator

Find contractors



- Are you looking to level-up your electrification knowledge so that you can confidently persuade others to make the switch?
- Do you want to help your friends, family, and community electrify their homes?
- Do you want to create an abundant future that isn't powered by dirty fossil-fuels?
- Our free Electric Coach certification program is here to help!

[Apply for the next cohort](#)

**4-week cohort-based training**  
**Five coaching specializations**  
**8+ hours of live coursework**  
**15+ hours of supplementary on-demand content**  
**700+ member community of #ElectrifyEverything**  
**leaders**

Homeowners ▾

Renters ▾

Incentive calculator

Find contractors

**“10/10! This course is essential for the decarbonization and electrification of our building stock.”**

—Joe, High School Teacher & Nonprofit Executive Director

# Volunteers Needed!

- If you would like to learn how to become an Electrification Coach
  - Email Steve Miller at [stevemiller@comcast.net](mailto:stevemiller@comcast.net)
    - Chris Proulx at [chrisproulx98@yahoo.com](mailto:chrisproulx98@yahoo.com),