

NJ Electrification Coaching Network

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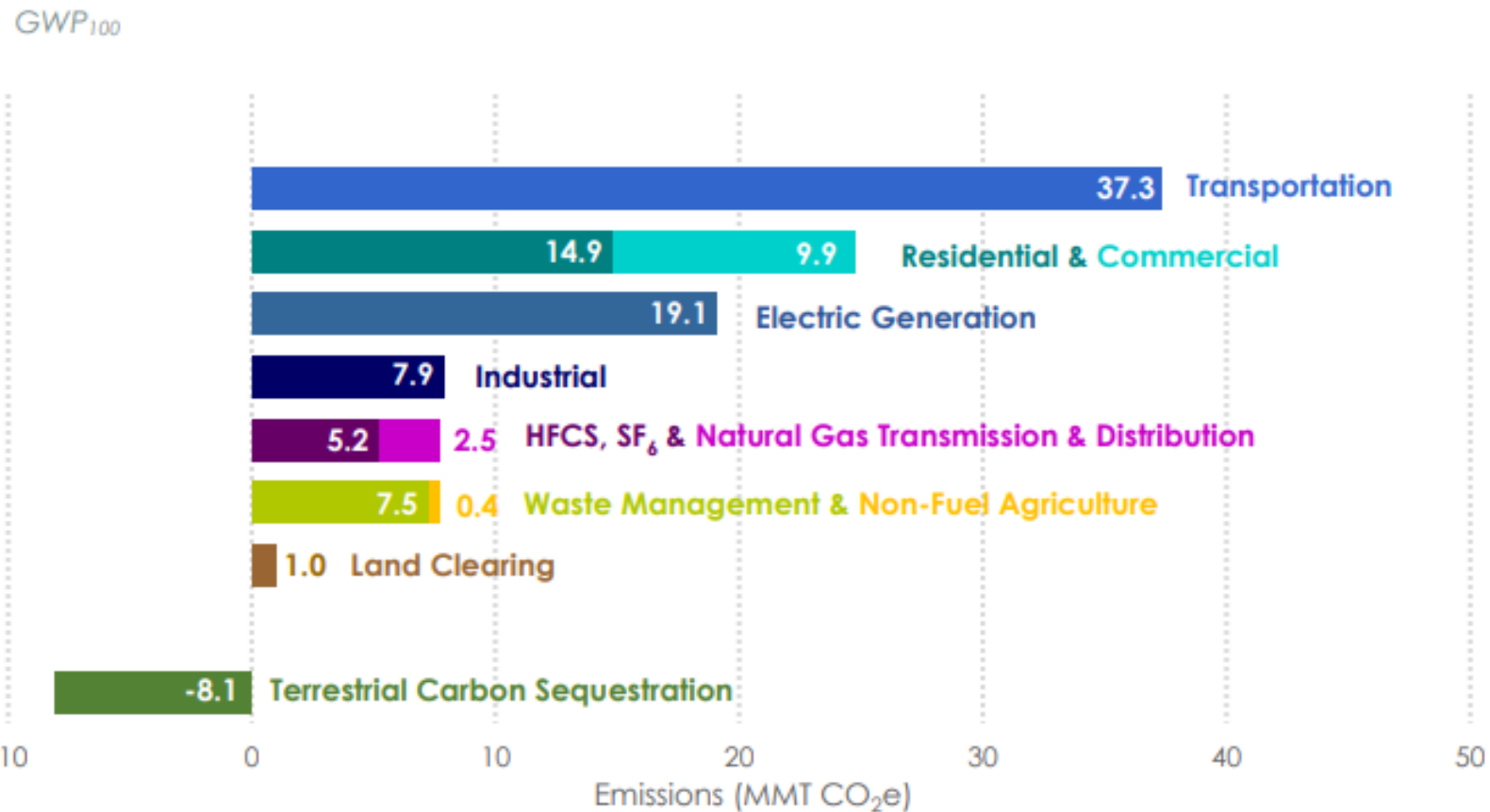


November 21, 2024

2024 NJ Greenhouse Gas Emissions Inventory Report

New Jersey Department of Environmental Protection

Figure ES-1. 2021 Emissions by Sector (GWP₁₀₀ and GWP₂₀)



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 Coach 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.

The screenshot shows a web browser window with the URL `homes.rewiringamerica.org/personal-electrification-planner`. The page features a yellow header with the Rewiring America logo and navigation links for Homeowners, Renters, Incentive calculator, and Find contractors. A prominent purple button labeled "Make a plan" and a "Log in" link are also visible. The main content area has a light yellow background with a central illustration of a house. Surrounding the house are icons for a house with a lightning bolt, a smartphone, a car with a lightning bolt, and a refrigerator. A checklist overlay on the right side of the house shows a checked box and three unchecked boxes. The text on the page reads: "Your situation is unique. Your plan to go electric should be, too." followed by a paragraph: "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." Below this text are two buttons: a purple "Get started" button and a white "Rent your home? Click here" button.

Plan your next electric upgrade

homes.rewiringamerica.org/personal-electrification-planner

REWIRING AMERICA

Homeowners ▾ Renters ▾ Incentive calculator Find contractors

Make a plan Log in

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

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 Results

REWIRING AMERICA


My plan My projects Settings Exit

My electrification plan



I'm electrifying to:

- LOWER MY CLIMATE IMPACT
- MODERNIZE MY EQUIPMENT

EDIT



Prework [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

Plan (Cont'd)


REWIRING AMERICA

My plan My projects Settings Exit

Project list

<input type="checkbox"/>	 Add an electric vehicle	BILL IMPACT	▼ ~\$1,100/yr	View project
<input type="checkbox"/>	 Upgrade to a heat pump and weatherize	BILL IMPACT	▼ ~\$65/yr	View project
<input type="checkbox"/>	 Install a heat pump water heater	BILL IMPACT	▼ ~\$25/yr	View project
<input type="checkbox"/>	 Purchase an electric lawn mower	BILL IMPACT	N/A	View project
<input type="checkbox"/>	 Install a heat pump clothes dryer	BILL IMPACT	▲ ~\$15/yr	View project
<input type="checkbox"/>	 Install an electric/induction stove	BILL IMPACT	▲ ~\$30/yr	View project

Completed projects

<input checked="" type="checkbox"/>	 Solar panels installed!			View project
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FEEDBACK


Clicking “View Project” for Heat Pumps shows:

REWIRING AMERICA

My plan My projects Settings

Upgrade your heating and cooling with a heat pump


INTRODUCTION COSTS & BENEFITS REBATES & CREDITS PROJECT GUIDE CONTRACTORS LEARN MORE



The best way to heat your home in the winter and cool your home in the summer is with a heat pump. Heat pumps are more energy efficient than other heating and cooling systems like gas furnaces, oil heat, and central air.

- WHY DO IT?**
Homes with heat pumps use less energy and save money on their utility bills.
- WHEN?**
When your current HVAC unit is nearing end of life (usually about 15 years).
- WHO IS THIS FOR?**
Whole-home heat pump systems for homeowners; portable and window units for renters.

[Read more about heat pumps](#)



Weatherization

Weatherizing your home can save you hundreds on your energy bills by reducing the amount of energy needed to keep your home comfortable. Weatherization projects include air sealing, insulation, and upgrades to doors and windows.

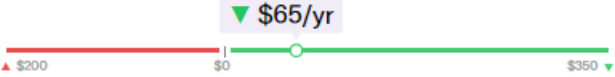
INTRODUCTION **COSTS & BENEFITS** REBATES & CREDITS PROJECT GUIDE CONTRACTORS LEARN MORE

More details

POSITIVE HEALTH IMPACT High	FUTURE RESILIENCE High	TECH UPGRADE Medium
AVERAGE LIFESPAN 10-20 years	FEATURES Both heats and cools your home	DIFFICULTY Hard, hire an HVAC contractor
ENERGY SAVINGS Heat pumps are ~3x more efficient than most fossil-fuel heating systems		

Energy bill impact


Our modeling shows that the majority of homes like yours have annual energy bill changes from Δ \$200 to ∇ \$350, with a median of ∇ \$65.



Δ \$200	\$0	∇ \$350
----------------	-----	----------------

Climate Impact

Our modeling shows that the majority of homes like yours have annual emissions reductions from ∇ 2,900 kg to ∇ 7,400 kg, with a median of ∇ 5,200 kg.



∇ 2,900 kg	∇ 5,200 kg	7,400 kg ∇
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Our Takeaway

Homeowners switching from inefficient HVAC systems that run on fuel oil, propane, or traditional electric resistance (like baseboard heat or electric furnaces) can save around \$898 per year.

Rebates and Credits

Federal

State

Local

Utility

Up to 30% off geothermal heating installation

[Learn more](#)

Federal Residential Clean Energy Credit (25D)

30% tax credit (uncapped) for geothermal install. Worth \$7,200 on average.

TAX CREDIT

Up to \$2,000 off an air source heat pump

[Learn more](#)

Federal Energy Efficient Home Improvement Credit (25C)

30% tax credit (up to \$2,000) for heat pumps and heat pump water heaters. Yearly reset.

TAX CREDIT

Up to \$1,200 off weatherization

[Learn more](#)

Federal Energy Efficient Home Improvement Credit (25C)

30% tax credit (up to \$1,200) for weatherization projects: Insulation, air sealing, doors, windows. Yearly reset.

TAX CREDIT

Upfront Costs

Heat pump costs

Our modeling shows homes like yours tend to spend between \$19,100 and \$22,100, with the median value of \$20,400.

\$19,100

\$22,100

Weatherization package costs

Weatherization costs can vary significantly depending on the measures required for your home. A comprehensive weatherization package costs around \$16,700.

About \$16,700

Air sealing	\$1,500
Attic floor insulation	\$8,000
Duct sealing	\$1,500
Wall insulation	\$5,700
Total	\$16,700

[Hide package breakdown](#)

Estimates of costs, energy bill and climate impacts are based on the installation of a moderately efficient heat pump (SEER 18, HSPF 10) and a comprehensive weatherization package. Costs may be lower for newer, better-sealed homes or for installation of hybrid systems. Costs may be higher for homes that require ductwork, more insulation, or a more complex installation. Bill impacts may vary based on factors such as specific utility rates, local climate, and existing appliance efficiency and insulation level. Details of our methodology can be found [here](#).

Project guide

Get an energy audit (optional)



Make your home heat pump ready



Source a list of contractor candidates



Vet your contractor candidates



Reach out for quotes



Sign the contract



Have the heat pump installed



Set it and forget it



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

PROJECT TYPE

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



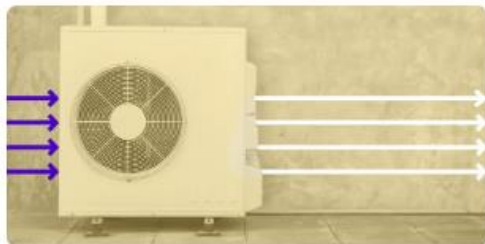
Discover LG Pro Contractors, offering expertise in heating and cooling solutions for your home.

Learn more about heat pumps

The pros and cons of heat pumps

Heat pumps are ultra-efficient heating and cooling machines. An all-in-one HVAC system has a higher upfront cost, but with rebates to help you save money, they're more affordable than you think.

Written by: Rewiring America



How heat pumps work

Written by: Rewiring America



3 ways heat pumps save you money

Written by: Rewiring America



The best AC is actually a heat pump

Written by: Rewiring America



Why heat pumps are best for reducing pollution

Written by: Rewiring America



FAQs

Do heat pumps work in cold climates?



Yes. A heat pump can keep your home warm even when the temperature dips down as low as -20° Fahrenheit. In fact, heat pumps heat roughly half the homes in Norway, Finland, and Sweden, and more than 115,000 heat pumps have been installed in Maine, one of the coldest U.S. states.

Do I need to weatherize my home before installing a heat pump?



Does a heat pump require pre-existing ductwork?



What will it cost? What will it save?

Federal Financing

BEST: Rewiring America's IRA Calculator website:
<https://www.rewiringamerica.org/app/ira-calculator>

	LIFE IN YEARS	ELECTRICAL UPGRADE	UP FRONT COST BEFORE REBATES	ANNUAL OPERATING SAVINGS	HARDER	% HOME EMISSIONS	IMPROVES AIR QUALITY	RENTER CONTROLS
1.	Purchase Renewable electricity							
			\$0					R
2.	Electrical Service							
	20-25 YRS 		\$750-4,000		✓			
3.	Heat Pump Space Heating and Cooling							
	15-20 YRS 	AT INSTALL	\$1,000 DIY, TO \$20,000+	\$\$\$	✓	25%		R
4.	Heat Pump Water Heater							
	10-15 YRS 	MAYBE	\$1,500 DIY, \$4,000 INSTALLED	\$		10%		
5.	Electric Cooking							
	13-15 YRS 	YES	\$2,000-3,000			5%		R
6.	Electric Clothes Dryer							
	10-13 YRS 	MAYBE	\$1,000-2,000	\$\$		3%		R

7.	Electric Vehicles							
	20-25 YRS 		\$10K (USED) AND UP	\$\$\$		50%		R
8.	EV Charger (240V EVSE)							
	10-15 YRS 	YES	\$500-2,500					R
9.	Rooftop Solar PV Panels							
	20-30 YRS 	AT INSTALL	\$15,000-30,000	\$\$\$	✓	HELPS ALL		
10.	Home Battery Storage							
	5-15 YRS ⁶ 		\$10,000-20,000	\$	✓	HELPS ALL		

KEY:

\$ SAVE \$50+ PER YEAR
 \$\$ SAVE \$200+ PER YEAR
 \$\$\$ SAVE \$500+ PER YEAR

INDOOR & OUTDOOR
 OUTDOOR

Financing

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

IRA – Federal Tax Credits (Now)

- No income limit
- 25C: Energy Efficient Home Improvement
 - Max dollars (30%, up to \$2000), no carryover
- 25D: Residential Clean Energy Credit
 - No max dollars (30%), can carry over unused credits

IRA Rebates*

Awaiting submission and approval of NJ plan

- NJ BPU proposal: only for multi-family buildings in low-income NJ neighborhoods (income <80% of the area median income)

	Number of Family Members							
	1	2	3	4	5	6	7	8
AMI for NJ Metro Area	82,875	94,688	106,500	118,313	127,813	137,250	146,750	156,188
80% AMI	66,300	75,750	85,200	94,650	102,250	109,800	117,400	124,950
150% AMI	124,313	142,031	159,750	177,469	191,719	205,875	220,125	234,281

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

Financial Support: excluding multi-family, low-income neighborhood rebates

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

	Utility rebate (proposed 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

IRA – Federal Energy Rebates (Now)

- Also called HOMES or HER (Home Efficiency Rebate)
- Income-dependent
- Single energy-efficient project, e.g. weatherization

	Number of Family Members							
	1	2	3	4	5	6	7	8
AMI for NJ Metro Area	82,875	94,688	106,500	118,313	127,813	137,250	146,750	156,188
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150% AMI	124,313	142,031	159,750	177,469	191,719	205,875	220,125	234,281

Energy Savings	20% to 35%	Greater than 35%
Low income*	80% of cost up to \$4,000	80% of cost up to \$8,000
Other incomes	50% of cost up to \$2,000	50% of cost up to \$4,000

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

Income from <https://www.huduser.gov/portal/datasets/il/il2023/2023summary.odn>

IRA- Federal Home Electrification and Appliance Rebate (HEEHRA/HEAR)

Waiting for federal approval of NJ Rebates in 2025

- Discounts for items that replace fossil fuel appliances
- Available only to low-to-moderate income households

Buying	HEEHRA Rebate*		25C Tax credit/yr **	25D Tax credit/yr
	Low income <80% AMI	Moderate income 80-150% of AMI	All incomes	
Weatherization	100% to \$1,600	50% to \$1,600	30% to \$1,200^	
Electrical wiring	100% to \$2,500	50% to \$2,500		
Electrical panel	100% to \$4,000	50% to \$4,000	30% to \$600	
Heat pump	100% to \$8,000	50% to \$8,000	30% to \$2,000	
Heat pump water heater	100% to \$1,750	50% to \$1,750	30% to \$2,000	
Heat pump clothes dryer	100% to \$840	50% to \$840		
Electric/induction stove	100% to \$840	50% to \$840		
Rooftop solar				30% no \$ limit^^
Battery storage				30% no \$ limit
Ground source heat pump				30% no \$ limit

* \$14,000 maximum discount: all items combined over the multi-year duration of the program
 ** \$2,000/year maximum discount: heat pumps combined; \$1,200/year all other items combined
 ^ Includes replacing windows and doors and to \$150 for home energy audit
 ^^ Credit can also include any cost for electrical panel if needed

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

Utilities

- Check for low- or zero-interest loans
- Check for posted sales on energy efficient equipment like smart thermostats, LEDs, etc.

EnergyStar Rebate Finder

Federal govt + local
utilities

ENERGY STAR Rebate Finder

A banner for the Energy Star Rebate Finder. On the left, there is a green icon of a dollar bill with a circular arrow around it, and two smaller dollar bills below it. To the right of the icon, there is text explaining that users can find rebates and special offers on ENERGY STAR certified products that meet strict energy-efficiency specifications set by the U.S. EPA, helping to save energy and money while protecting the environment. The background of the banner shows a family of four (a man, a woman, and two children) sitting on a grassy hill under a blue sky. At the bottom of the banner, there is a green bar with a white input field for a zip code (containing '07647') and a blue button labeled 'FIND REBATES'.

Find rebates and special offers near you on ENERGY STAR certified products. Products that earn the ENERGY STAR label meet strict energy-efficiency specifications set by the U.S. EPA helping you save energy and money while protecting the environment.

Enter your zip code to begin. [FIND REBATES](#)

<https://www.energystar.gov/rebate-finder>

EnergyStar Rebate Results (Partial)

66 Records Found

The links below will take you to Web sites external to the energystar.gov domain. [EXIT](#)

Filter Your Results

Filter By Product:

- Appliances
- Clothes Dryers (3)
- Clothes Washers (4)
- Dehumidifiers (purchase) (2)
- Dehumidifiers (recycling) (2)
- Freezers (recycling) (2)
- Refrigerators (purchase) (2)
- Refrigerators (recycling) (2)
- Room Air Cleaners (2)
- Building Products
- Sealing and Insulation Products (1)
- Windows, Doors, and Skylights (1)
- Heating & Cooling
- Air-Source Heat Pump - Single

Incentives offered by **Federal Government**

Air-Source Heat Pump - Single Package

30% of cost up to \$2,000

01/01/2023 - 12/31/2032

Tax Credit [?]
Federal Government |

The federal government offers a tax credit on the purchase and installation of Air-Source Heat Pumps - Single Package. Offer valid 01/01/2023 through 12/31/2032. Other restrictions may apply; please visit the website for additional details.

[Visit website to learn more](#)

Air-Source Heat Pump - Split Systems

30% of cost up to \$2,000

01/01/2023 - 12/31/2032

Tax Credit [?]
Federal Government |

The federal government offers a tax credit on the purchase and installation of Air-Source Heat Pump - Split Systems. Offer valid 01/01/2023 through 12/31/2032. Other restrictions may apply; please visit the website for additional details.

[Visit website to learn more](#)

Boilers

30% of cost up to \$600

01/01/2023 - 12/31/2032

Tax Credit [?]
Federal Government |

The federal government offers a tax credit on the purchase and installation of Boilers. Offer valid 01/01/2023 through 12/31/2032. Other restrictions may apply;

[Visit website to learn more](#)

Finding an HVAC Contractor

...and evaluating the quote

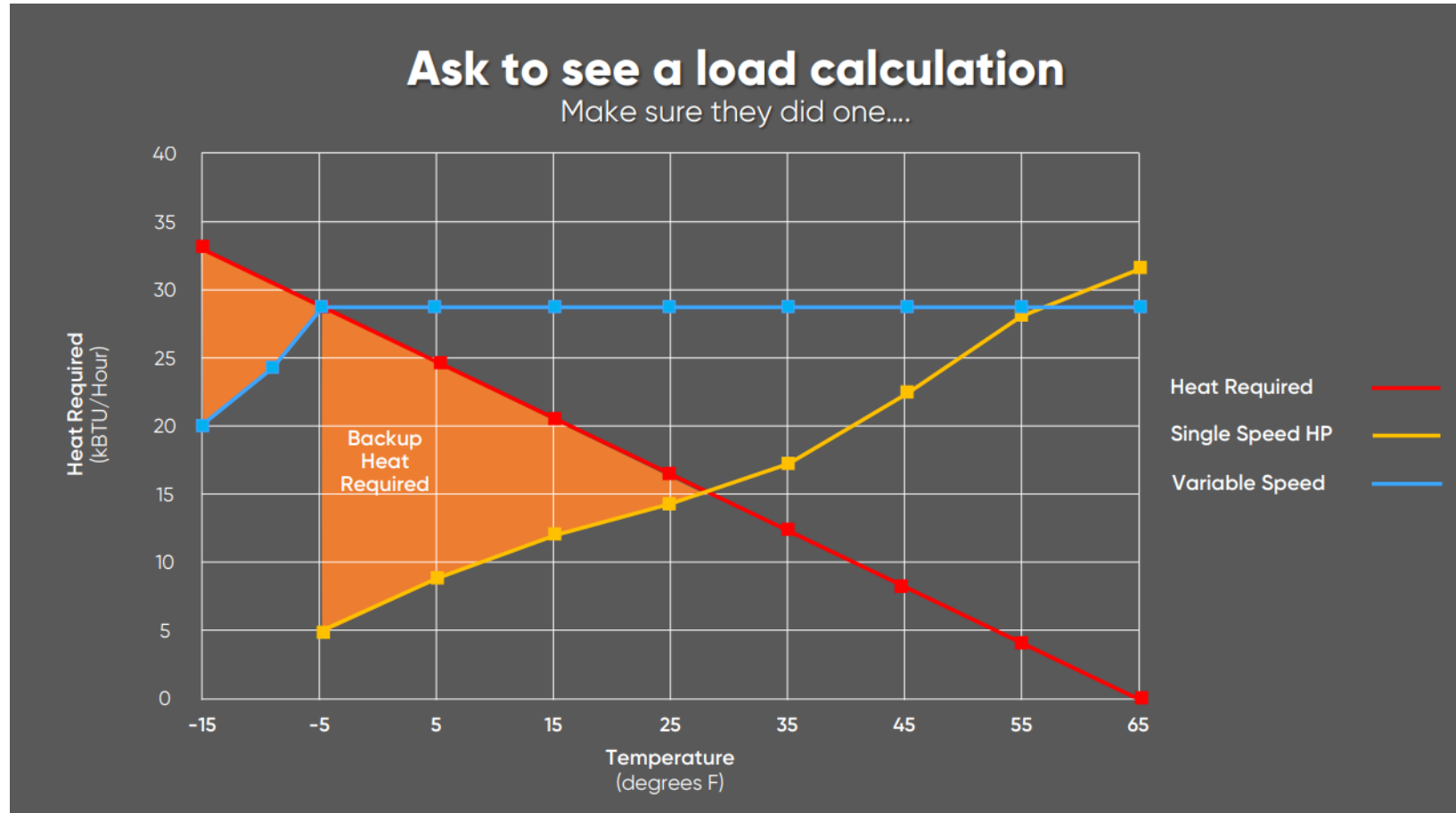
Finding a contractor

- Contractors are also scrambling to adopt newer technology
 - New rules requiring new refrigerants take effect 1/1/25
- Utilize existing certifications
 - BPI-Certification (Building Performance Institute)
 - Manufacturer Certification: Mitsubishi/LG/Daikin etc
- RewiringAmerica.org contractor recommendations
- Your utility might have recommendations, but beware whether their list has requirements that must be met, or is simply self-recommended. Note: PSE&G can use their own employees, called “Whole Home” or “Home Performance w/Energy Star” instead of HVAC contractors.
- **We (NJ Electrification Coaching Network) are developing a database!**
- Other states – NYSERDA, TheSwitchIsOn

Evaluating the Contractor and Bid

- Get at least 3 proposals/job scopes.
 - They should ask about specific problems, such as draftiness, uneven heating.
 - **Can it be done without fossil fuel?** Don't just replace one gas appliance with another.
 - If you don't have a good plan, you won't have good results!
 - Talk to your coach
- Recommendations: Ask for other customers for heat pump installations
- Financing:
 - Ask about rebates and credits, low interest or zero interest loans, and about predicted energy savings.
 - **If the job is cheaper, what is the reason? What are they not doing?**
- Technical: Ask...
 - Whether electrical panel upgrades are required and if they could be avoided, or conversely if they are enough for your future projects.
 - Whether additional weatherization measures are needed and/or beneficial (insulation, ducts, windows/doors)
 - About space/ventilation requirements

- Technical: Ask if they computed your heating/cooling load and ask to see it, including the lowest temperature supported and whether backup heat is required



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

2024-11-21






My electrification plan

I'm electrifying to:

 MAXIMIZE GOVERNMENT INCENTIVES

 LOWER MY CLIMATE IMPACT

[EDIT](#)



Prework

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

 Get a home energy audit | BILL IMPACT | None | [View project](#)

 Pre-wire your home to get it ready | BILL IMPACT | None | [View project](#)

Project list



 Upgrade to a heat pump and weatherize | BILL IMPACT |  ~\$780/yr | [View project](#)



 Install a heat pump water heater | BILL IMPACT |  ~\$75/yr | [View project](#)

 Install a heat pump clothes dryer | BILL IMPACT | ~\$0/yr | [View project](#)

 Purchase an electric lawn mower | BILL IMPACT | N/A | [View project](#)

Completed projects

  EV added! | [View project](#)

  Solar panels installed! | [View project](#)

  Electric stove installed! | [View project](#)

557441

REPAIR RECORDS
DATE
BY
DESCRIPTION
PARTS
REASON:
ELECTRICIAN
7 TAPS
14 TAPS
SERVICES
POSITION
A/C
1/1/15

MAIN

Panel of circuit breakers with various ratings and labels:

- Top row: 15A OFF, 15A OFF, 15A OFF, 15A OFF, 15A OFF, 15A OFF, 15A OFF, 15A OFF
- Second row: 15A OFF, 40A OFF, 40A OFF, 20A OFF, 15A OFF, 15A OFF, 30A OFF, 30A OFF
- Third row: 15A OFF, 40A OFF, 40A OFF, 20A OFF, 15A OFF, 15A OFF, 30A OFF, 30A OFF

CAUTION
SOLAR POINT OF CONNECTION

WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID
AND PV SOLAR
ELECTRIC SYSTEM





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

MFG./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

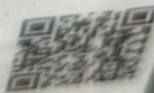
R410A

R410A

TOTAL SYSTEM CHARGE/
CHARGE TOTALE DU SYSTÈME

SEE INSTRUCTIONS INSIDE ACCESS PANEL /
VOIR LES CHARGE INSTRUCTIONS À L'INTÉRIEUR DU PANNEAU D'ACCÈS
RHEEM SALES COMPANY
FORT SMITH, ARKANSAS

INSTALL PROHIBITED IN SWITZERLAND
*HACER TYPE BREAKER FOR U.S.A./
DISJONCTEUR DIFFÉRENTIEL*



ASSEMBLED
IN
MEXICO
12345

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**





Profile

WASH DRY

Wash Options: NORMAL, DELICATES, TOWELS, BULKY, SANITIZE with Oxi, DOWNLOADED, ACTIVE WEAR, QUICK, WHITES, RINSE & DRY, ECO COOL™, SELF CLEAN

Dry Options: SmartSense™, SmartSense™, Phobos™, More Water, Extra Rinse, Timed Dry, DownWool™, Wash Complete, More Dry, White Care

Menu: SOIL, TEMP, RPM

SMARTER LAUNDRY

- SMARTER CONTROLS & NOTIFICATIONS
- NEW FEATURES & UPDATES
- ADVANCED CLEANING
- SMART TROUBLESHOOTING

10 LIMITED WARRANTY





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

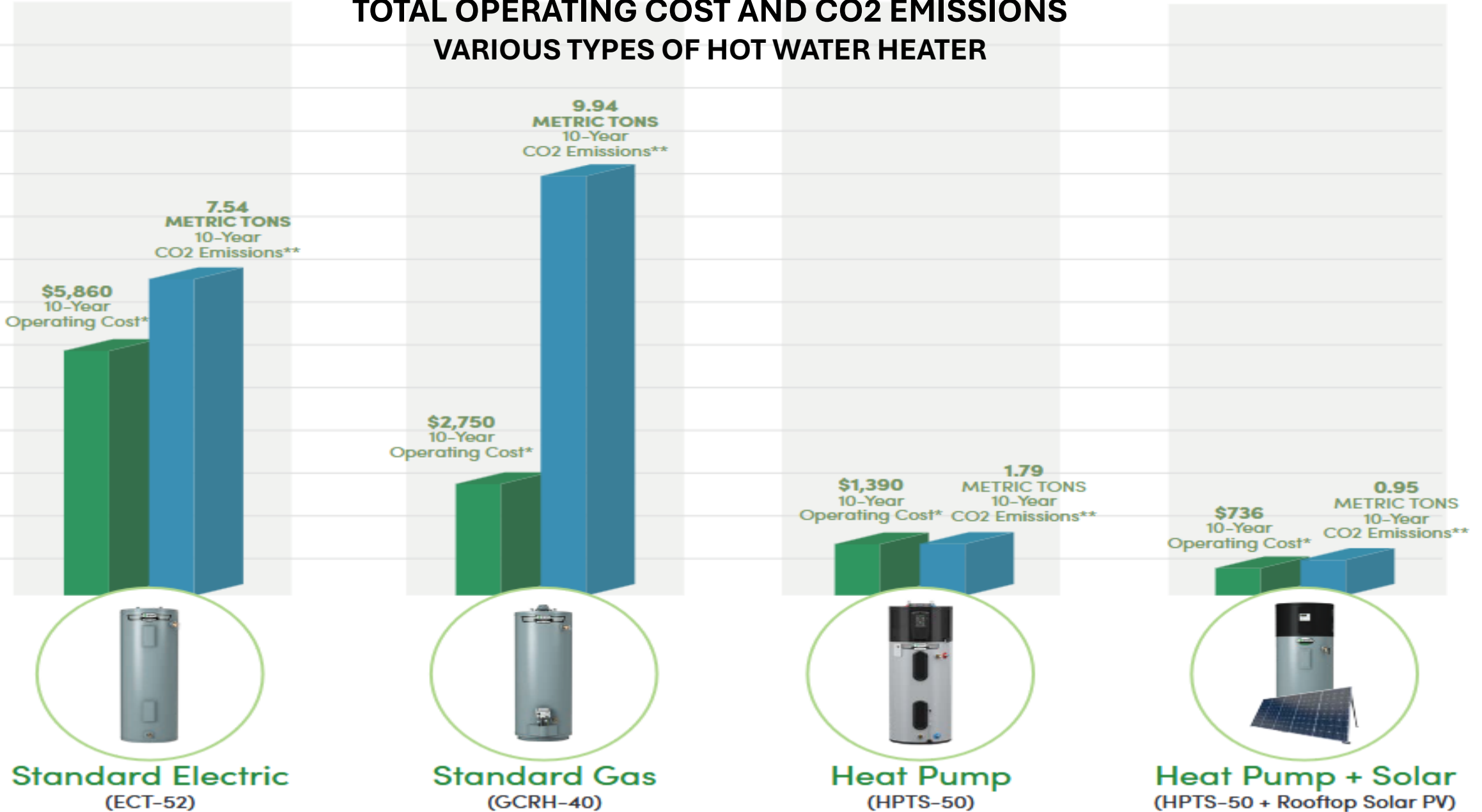
1600



Serial Number 1835111730815

10 Year Period Shown Below

TOTAL OPERATING COST AND CO2 EMISSIONS VARIOUS TYPES OF HOT WATER HEATER





Hazlet

6AM

07730

What can we help you find today?



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 **\$1698³⁰** 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/price/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

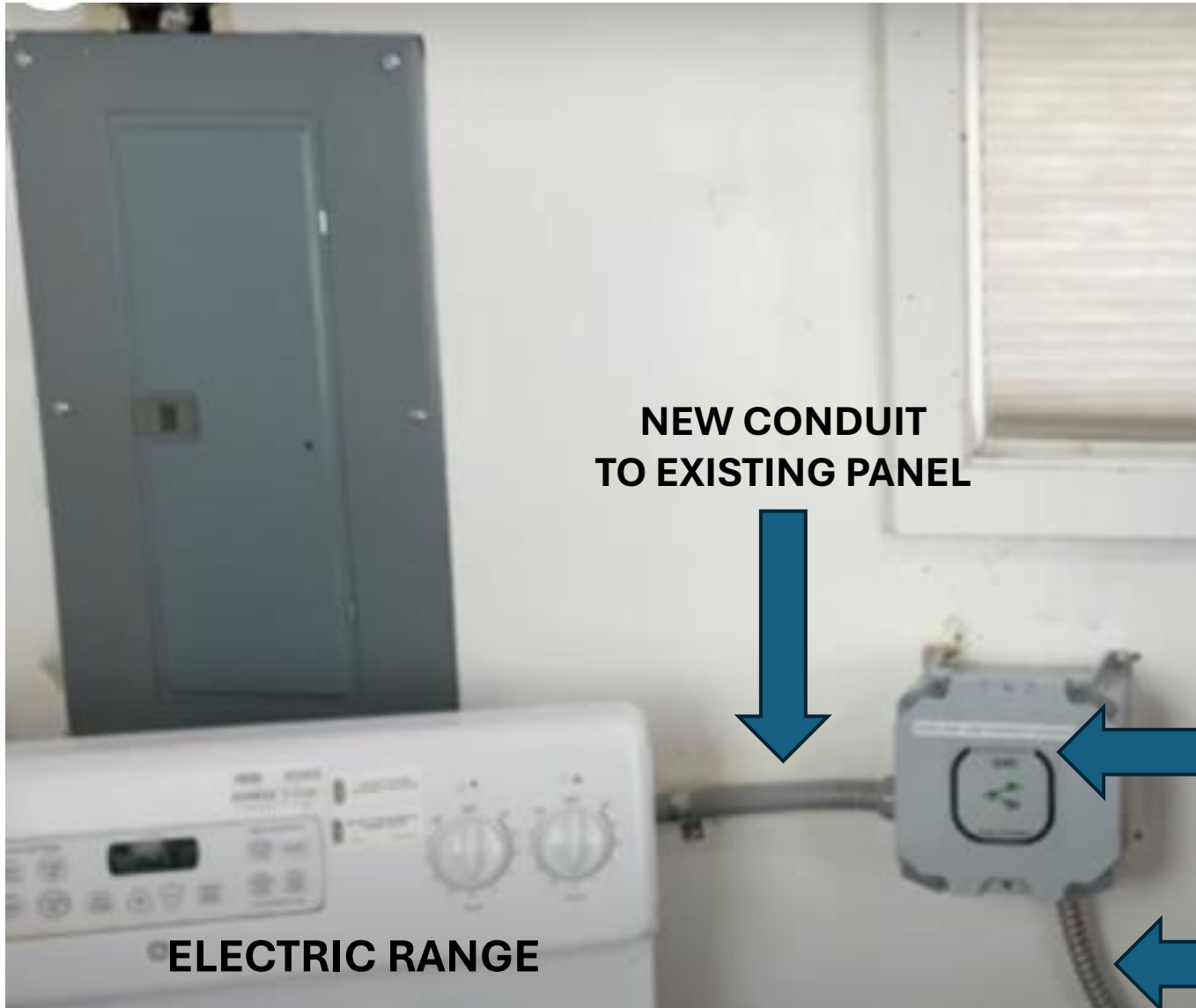


\$5,574: Bosch 800 36" Induction



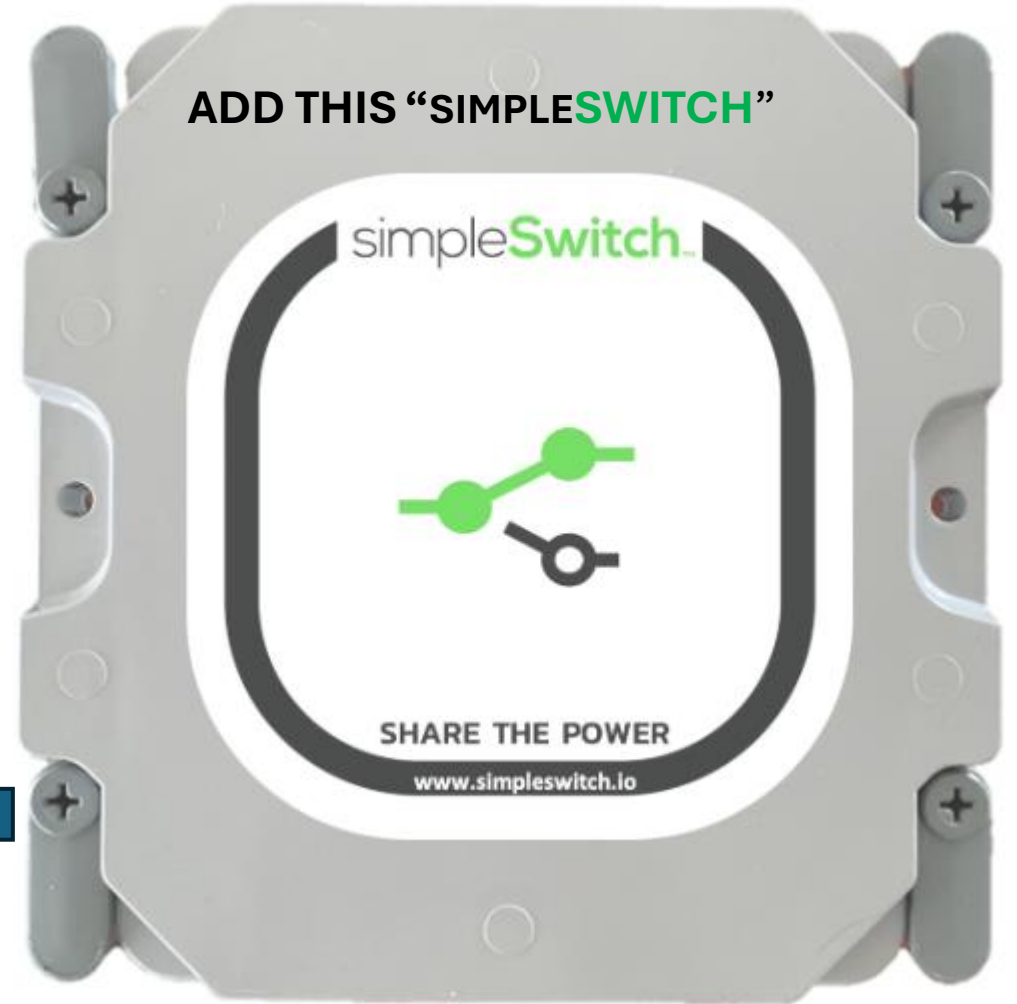


**SHARE A 40 AMP CIRCUIT (RANGE SHOWN HERE) WITH AN EV CHARGER
(NO INCREASE IN PANEL ELECTRICAL LOAD)**



**NEW CONDUIT
TO EXISTING PANEL**

ELECTRIC RANGE



ADD THIS "SIMPLESWITCH"

NEW CONDUIT TO NEW EV CHARGER



• EV CHARGING

- “UNIVERSAL WALL CONNECTOR” (mfd by Tesla)
- \$500 (Amazon); 24 foot cable
- Program for your available power and car capability:
max currents of
48A, 40A, 32A, 24A, 16A, 12A



BOTH EV STANDARDS
two in one
(Charges Chevy Bolt)



EV Charging Circuits And Miles of Range Per Hour Added

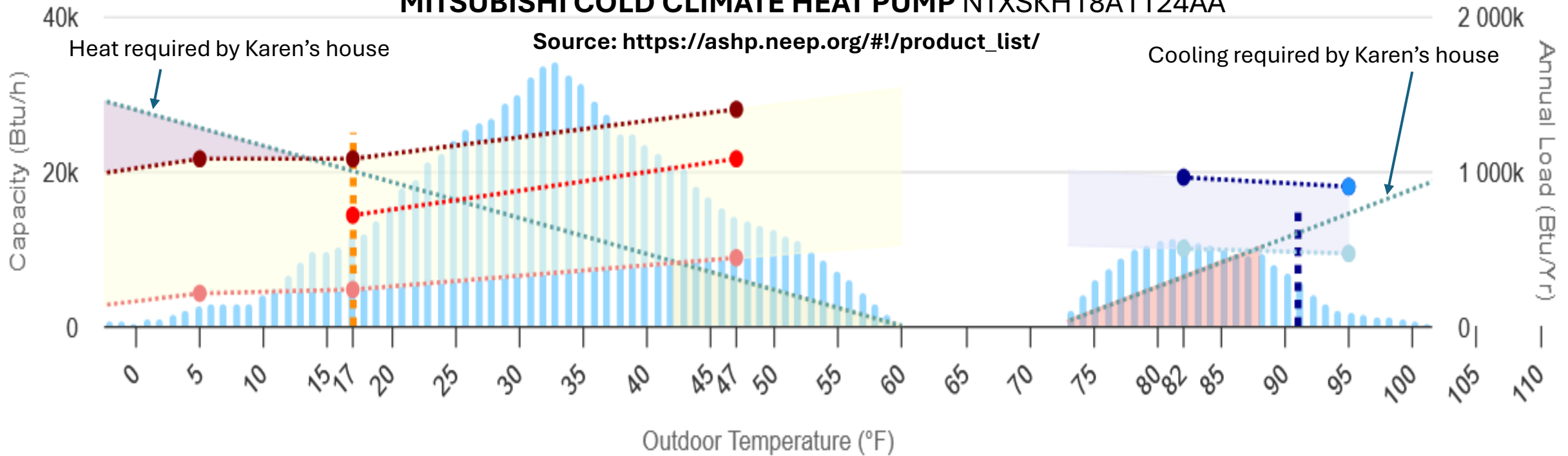
Circuit Breaker (Amps)	Maximum Output (Amps)	Power Delivery @240V (kW)	Miles of Range Added (Per Hour)	Miles of Range Added (Overnight - 10 hrs)	Approx kWh Added (Overnight - 10 hrs)
100	80	19.2	35 - 75	350 - 750	175
60	48	11.5	20 - 45	200 - 450	105
50	40	9.6	18 - 38	175 - 375	85
40	32	7.6	15 - 30	150 - 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

System Capacity, Heating and Cooling Load, and Weather Data Graph

MITSUBISHI COLD CLIMATE HEAT PUMP NTXSKH18A1124AA



Source: https://ashp.neep.org/#!/product_list/



- Supplemental Heat
- Modulating Heat Pump
- Potential Low-Load Cycling
- Design Temperature
- Heating Max. Cap.
- Heating Min. Cap.
- Heating Load Line (Btu/h)
- Cooling Modulating Zone
- Cooling Low-Load Cycling
- Cooling Design Temperature
- Cooling Load Line (Btu/h)
- Annual Load x Hours (Btu/yr)
- Heating Rated Cap.
- Annual Cooling Load x Hours (Btu/yr)
- Cooling Max. Cap.
- Cooling Rated Cap.
- Cooling Min. Cap.

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

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



A Water Vapor Fireplace by Nero Fire Design
















A Big Chill Retro Induction Range

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](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 HAVE ZERO CHILL about HEAT PUMPS.

I DIG YOUR ENERGY!



INTRODUCING
ELECTRIC
ENTHUSIASTS!

I ♥ YOUR ELECTRIC ENTHUSIASM.



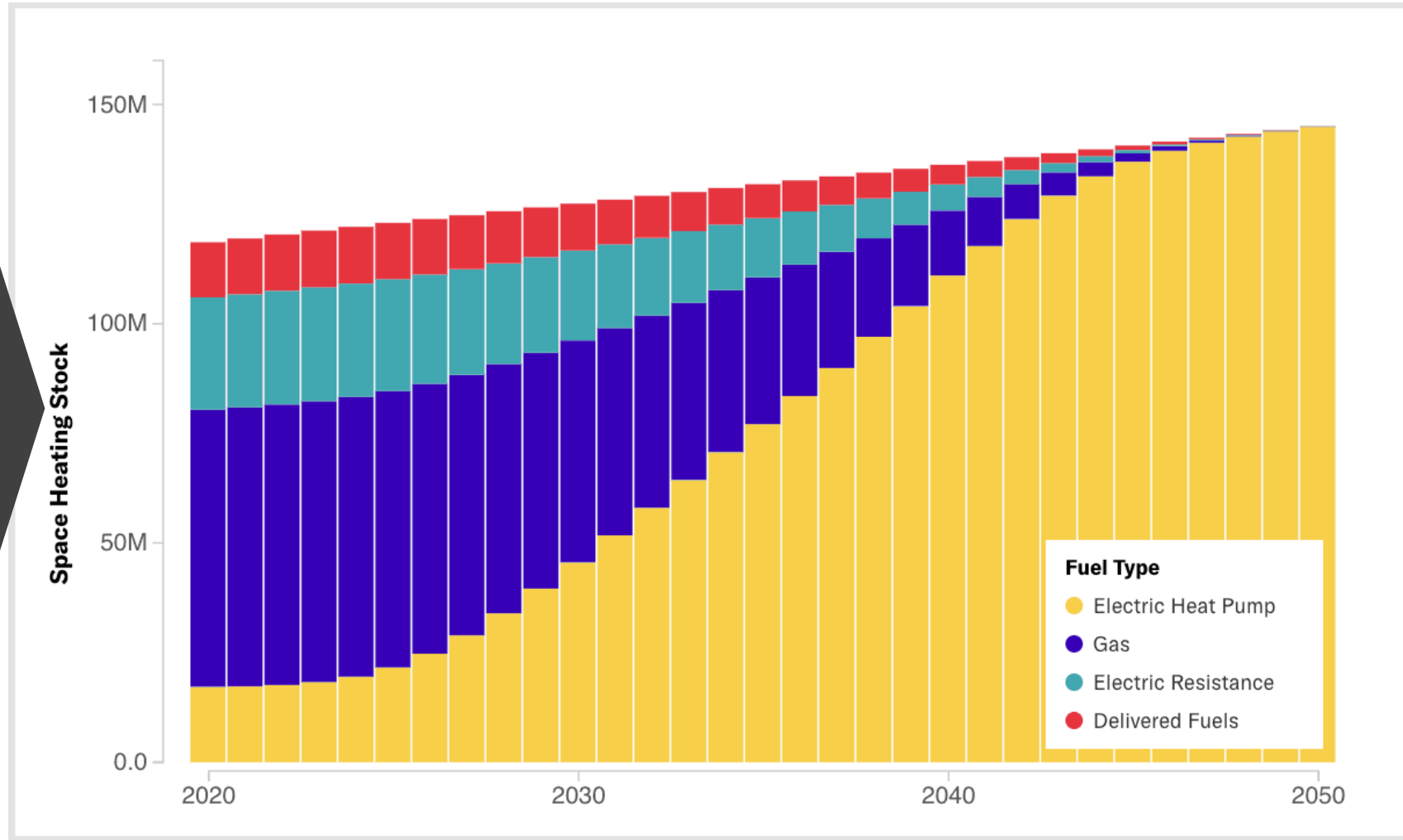
ELECTRIC IS BETTER

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
 - Pat Miller at patmiller@comcast.net
 - Steve Miller at stevemiller@comcast.net
 - Chris Proulx at chrisproulx98@yahoo.com