

Electrification

Path to Carbon Neutrality



Steve Cea, Co-chair, Nyack Climate Smart Committee

Nyack2030.com

Personal choices to reduce your contribution to climate change

* Cumulative emissions from descendants; decreases substantially if national emissions decrease.

Average values for developed countries, based on current emissions.



Low Impact

< 0.2 tCO₂e

Moderate Impact

0.8-0.2 tCO₂e

High Impact

> 0.8 tCO₂e

42% of our energy-related emissions decisions are made around the kitchen table.



Where we get our electricity.



The cars we drive.



How we heat our buildings and water.



How we cook our food.



How we dry our clothes.

Overview

1

Secure
Renewable
Electricity

2

Ensure
Capacity

3

Inventory
Fossil Fuel
Appliances

4

Plan
Ahead

5

Replace Now or
End of the
Useful Life

6

Explore
Incentives



1

Secure Renewal Electricity

- Community Choice Aggregation
- Orange & Rockland
- Energy Service Co.
- Rooftop Solar

Your electricity breakdown Rate: ELECTRIC RESIDENTIAL - DELIVERY



Electric Meter Detail - billing period from April 1, 2024 to May 1, 2024 (30 days)

Meter #	New Read	Read Type	Date	Prior Read	Read Type	Date	Read Diff	Total Usage kWh
701012326	59659.06	Actual	May 01	59683.01	Actual	Apr 01	-24	-24

Your Supply Charges

Supply 0 kWh @0.13068¢ per kWh	\$0.00
Sales Tax	\$0.00
Total electricity supply charges	\$0.00

Your electricity supplier: CONSTELLATION NEW ENERGY CCA
Supplier account number: 14145408
Address: 1221 LAMAR ST STE 750
HOUSTON TX 77010
Phone: (855) 465-1244
Messages from your electricity supplier:
NEW! Login to My Account at oru.com for a new ESCO bill comparison tool!
Constellation NewEnergy CCA for Rockland Community Power

Your Delivery Charges

Basic Service Charge	\$22.00
First 0 kWh @0.10363¢ each	\$0.00
EVMR Surcharge 0 kWh @0.00073 ¢	\$0.00
Energy Cst Adj 0 kWh @0.000 ¢	\$0.00
Transition Adj Chg 0 kWh @-0.00013000¢	\$0.00
RDM Adjustment 0 kWh @0.000 ¢	\$0.00
SBC Chg 0 kWh @0.000 ¢	\$0.00
Billing Charge	\$0.00
Government Surcharge - Delivery	\$0.72
Total electricity delivery charges	\$22.72

Your electricity total **\$22.72**

Secure Renewal Electricity

- Community Choice Aggregation – Rockland Community Power
- O&R
- Energy Service Co.
- Community Solar Campaign
- Rooftop Solar

Your electricity supplier: CONSTELLATION NEW ENERGY CCA

Supplier account number: 14145408

Address: 1221 LAMAR ST STE 750
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Phone: (855) 465-1244

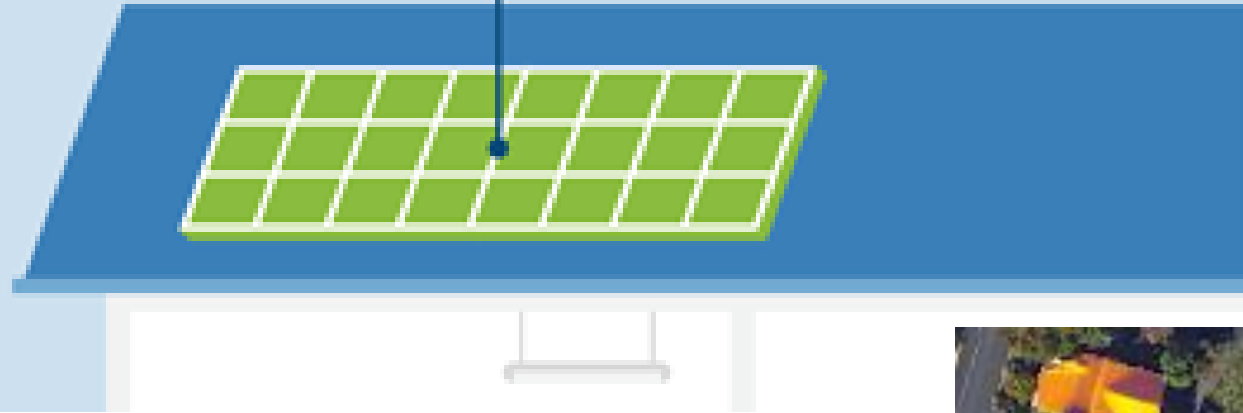
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Constellation NewEnergy CCA for Rockland Community Power



Solar



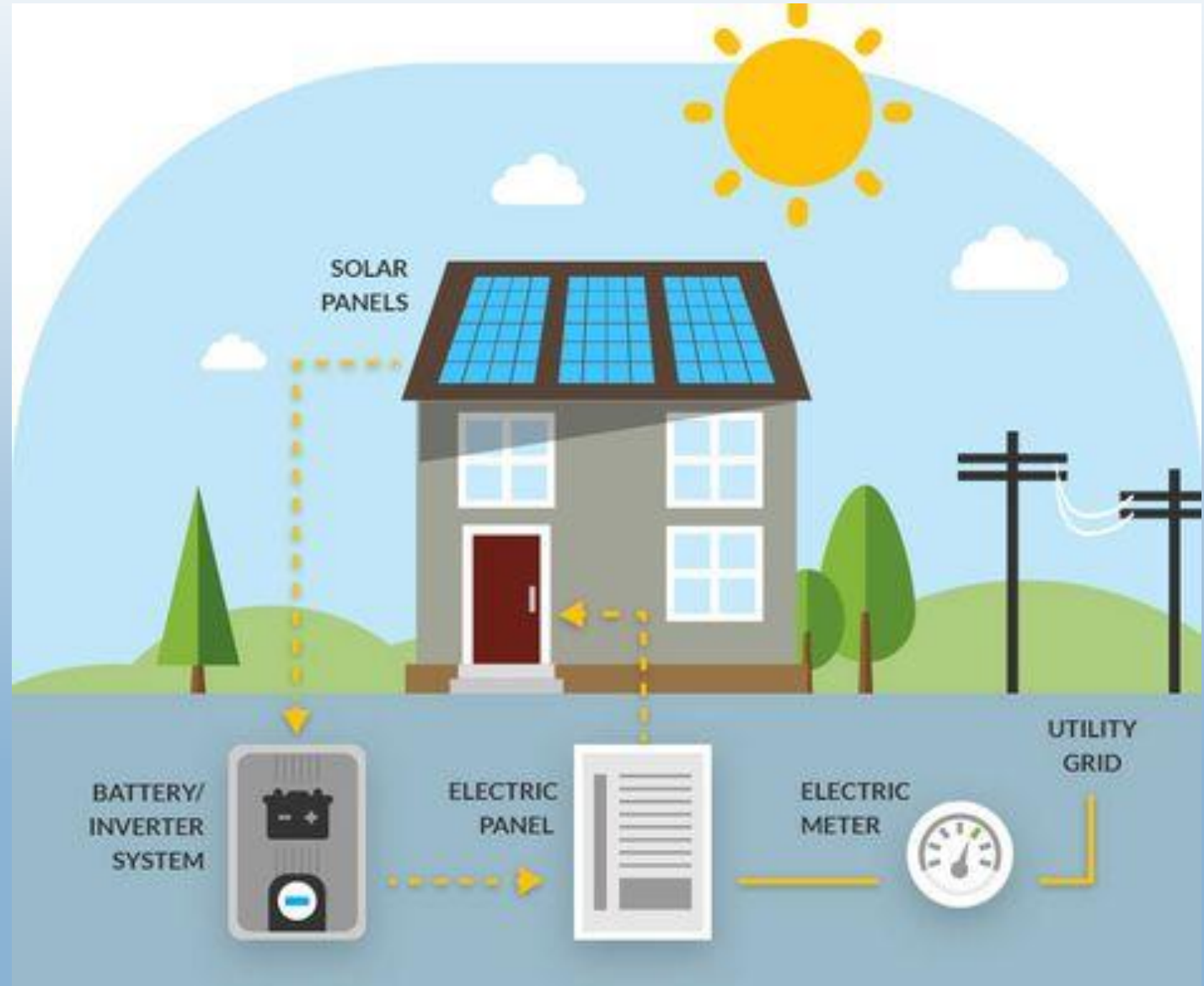
Generate Your Own Electricity

- [Google Project Sunroof](#)
- [Energy Sage](#)
- Call a local installer
- Incentives:
 - NYSERDA – 25% tax credit capped at \$5,000
 - IRA – 30% tax credit – No Cap



Battery Storage

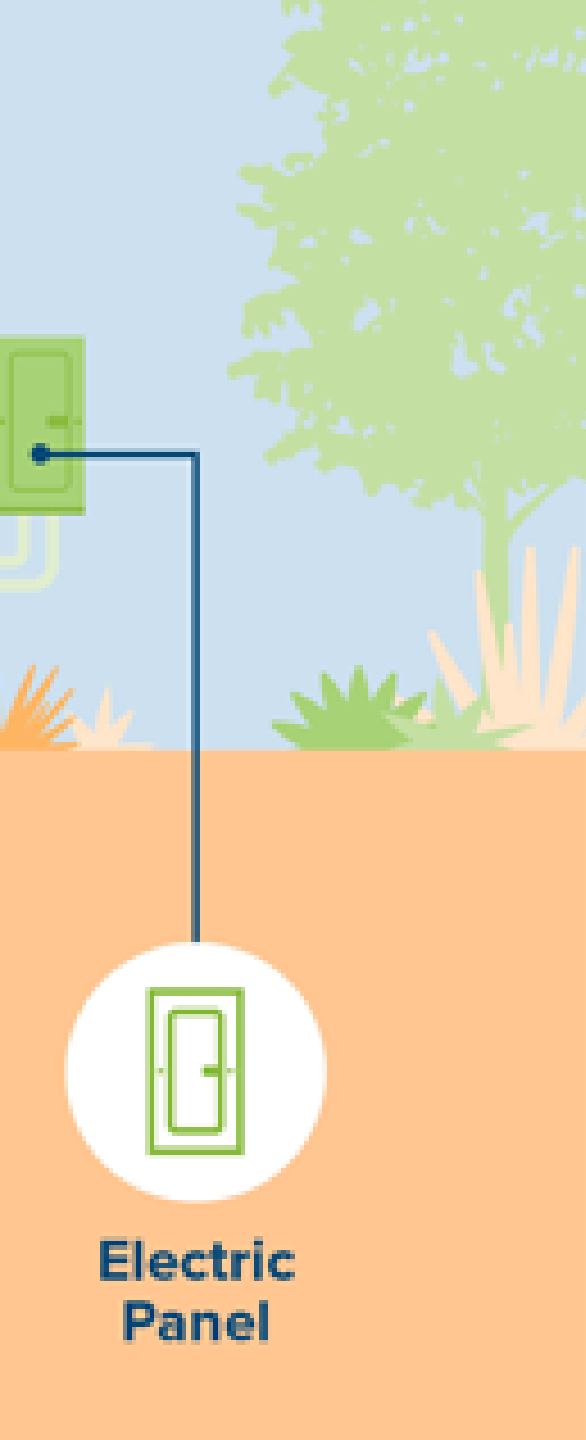
- Complements Rooftop Solar
- Functions as a Generator
- Potential Demand Response Benefits
- Incentives:
 - IRA – 30% Tax Credit with capped at \$4,800



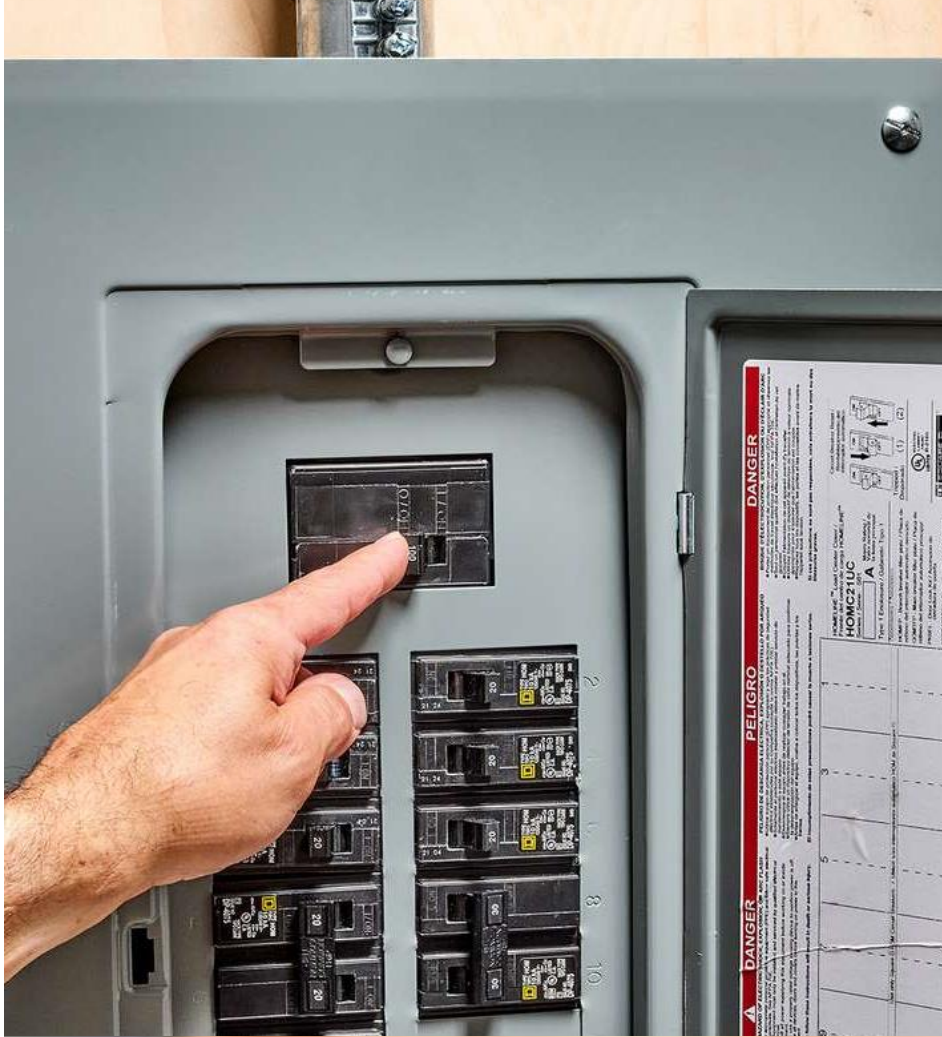
2 Ensure Electrical Capacity

Do you have sufficient capacity to add additional electrical appliances?

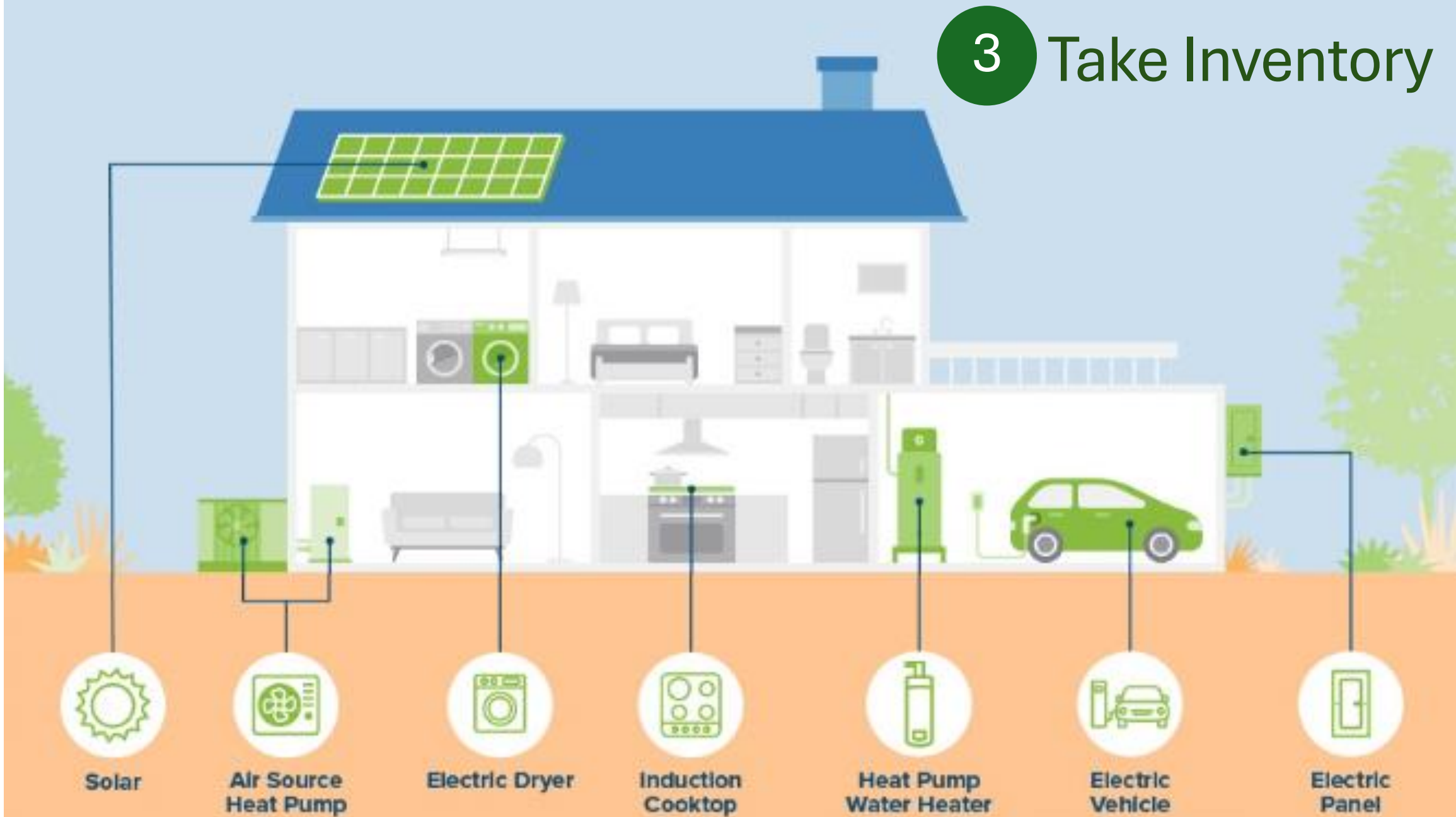
- Required Service: 150 – 200 amps
- Upgrade Incentives:
 - Federal Home Electrification and Appliance Rebates (HEAR) Rebate: Panel=\$4,000, Wiring=\$2,500
 - IRA – 30% Tax Credit up to \$600
 - Also allowed if solar or battery installation requires panel upgrade.



Electric
Panel



3 Take Inventory



Electric Vehicles (EV) & Charging

- Personal vehicles represent 20% of overall emissions.
- Hybrid vs. Plug-In Hybrid vs. All Electric
- Range Anxiety – State of Mind
- Drive Electric Nyack Campaign
- Incentives:
 - [NYSERDA](#) – Up to \$2,000 rebate
 - [IRA](#) – Tax credit up to \$7,500 for new vehicles & \$4,000 for used vehicles with income and component limits.



**Electric
Vehicle**

EV Charging Levels



Electric Vehicle

Level 1
120V

Standard 120V outlet

Adds 5 miles per hour of charge*

Residential use

Level 2
240V

240V outlet, can also be hardwired

Adds 20-60 miles per hour of charge*

Residential & commercial use

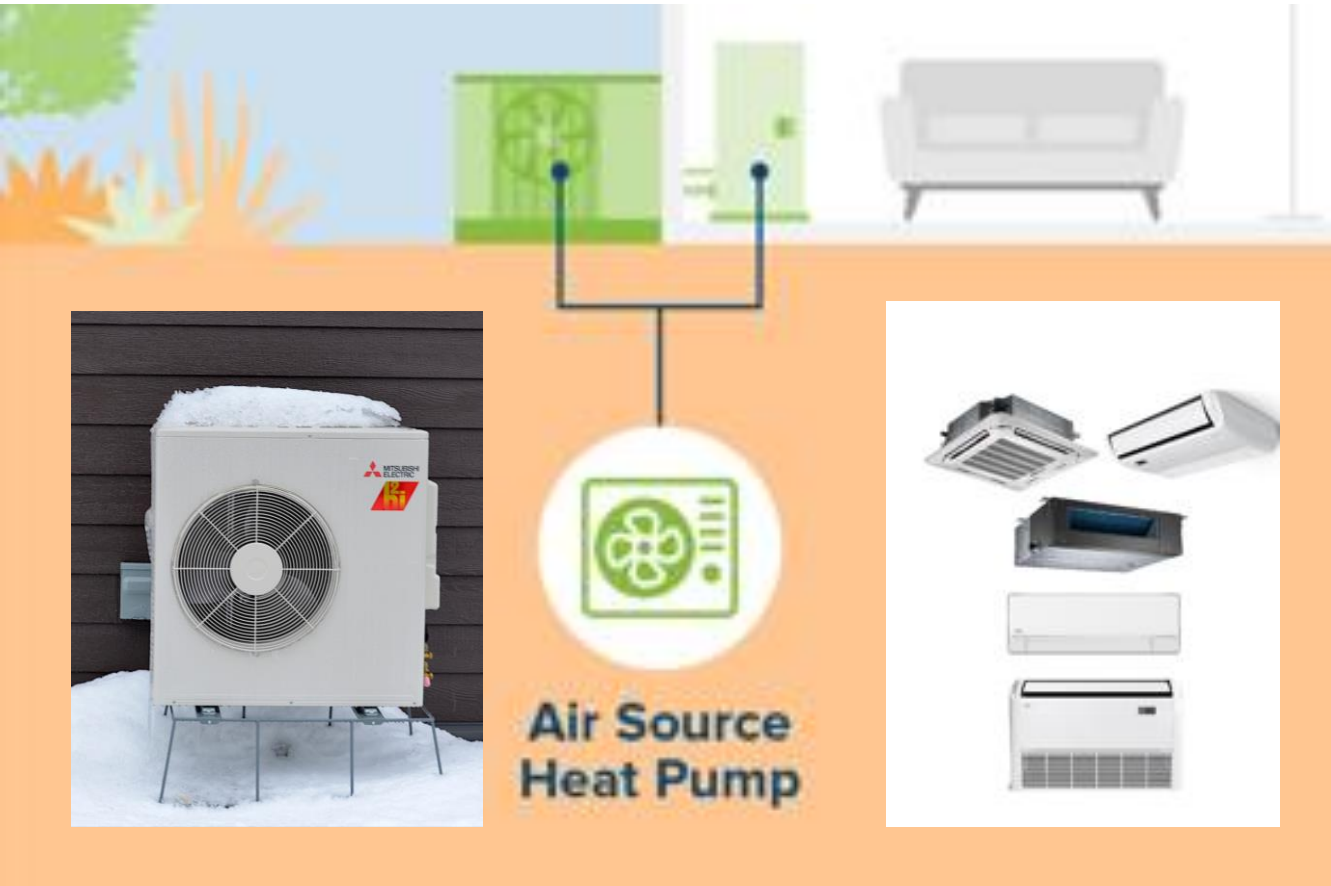
Level 3
480V
DC Fast Charger

Adds 60-100 miles per 20 minutes of charge*

Commercial use

* Estimated. Actual charge times may vary.

Heating & Cooling – 17% of Residential Emissions



- Heat Pumps
 - Air Source
 - Ground Source
 - Cold Climate Heat Pumps
- Incentives:
 - IRA – 30% tax credit \$7,200 avg. for ground source install.
 - IRA - \$8,000 rebate, pending federal approval.
 - O&R – \$1,000 for heating/cooling or hot water heaters.
- Nyack Clean Heat Challenge



How Do Heat Pumps Work?
This Old House Explains.

Heat Pump Hot Water

- Qualifies for Nyack Clean Heat Challenge
- May Require New Electric
- Incentives:
 - IRA – 30% Tax Credit Up To \$2,000
 - Federal Home Electrification and Appliance Rebates (HEAR) Discount of \$1,750.
 - O&R – \$1,000 for heating/cooling or hot water heaters.

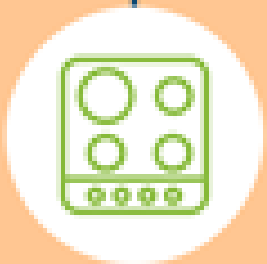


**Heat Pump
Water Heater**

Induction Cooking

Benefits

- Faster
 - Safer – Heat & Air Quality
 - Easy to Clean
 - May Require New Electric & New Cookware
- Incentives:
 - IRA – Discount of Up to \$840
 - Electric Service Wiring Rebate, \$2,500



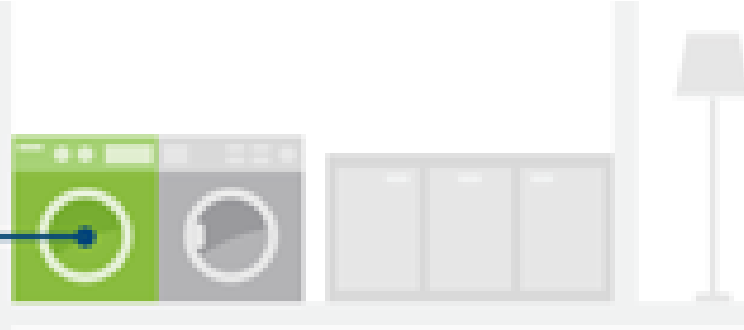
Induction
Cooktop



A CLEANER, ELECTRIC FUTURE



Electric Dryer



Heat Pump Electric Dryer

- Pros

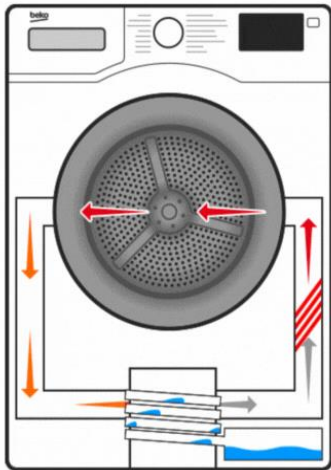
- 50% More efficient than traditional electric dryer
- Last longer than conventional dryers
- No outside venting – put it anywhere

- Cons

- Smaller than conventional dryers
- Longer drying time
- May require new electric depending on model

- Incentives:

- IRA – Discount of up to \$840



My electrification plan

I'm electrifying to:

LOWER MY ENERGY BILLS

LOWER MY CLIMATE IMPACT

EDIT



Plan Ahead

Prework

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



Get a home energy audit

INCENTIVES	\$150
BILL IMPACT	None
UPFRONT COST	\$0 - \$900

[View project](#)



Pre-wire your home to get it ready

INCENTIVES	\$6,500
BILL IMPACT	None
UPFRONT COST	\$6,700 - \$16,300

[View project](#)

Project list



Install solar panels

INCENTIVES

\$9,600

BILL IMPACT

▼ ~\$1,800/yr

UPFRONT COST

\$28,700 - \$47,300

[View project](#)



Add an electric vehicle

INCENTIVES

\$7,500

BILL IMPACT

▼ ~\$1,000/yr

UPFRONT COST

At least \$27,500

[View project](#)



Install a heat pump water heater

INCENTIVES

\$3,800

BILL IMPACT

▼ ~\$85/yr

UPFRONT COST

\$3,200 - \$6,300

[View project](#)



Upgrade to a heat pump and weatherize

INCENTIVES	\$12,800
BILL IMPACT	▼ ~\$40/yr
HEAT PUMP COST	\$15,700 - \$26,000
WEATHERIZATION COST	About \$12,100

[View project](#)



Install a heat pump clothes dryer

INCENTIVES	\$840
BILL IMPACT	▲ ~\$15/yr
UPFRONT COST	At least \$1,000

[View project](#)



Install an electric/induction stove

INCENTIVES	\$840
BILL IMPACT	▲ ~\$30/yr
UPFRONT COST	At least \$1,300

[View project](#)

Cook faster, better, and safer without gas

[INTRODUCTION](#)

[COSTS & BENEFITS](#)

[REBATES & CREDITS](#)

[PROJECT GUIDE](#)

[LEARN MORE](#)



Induction and conventional electric stoves are the best way to cook. They don't burn fossil fuels or release toxic pollutants into your home and the environment.

⚡ WHY DO IT?

Induction cooktops are faster, use less energy, and do not emit harmful pollution.

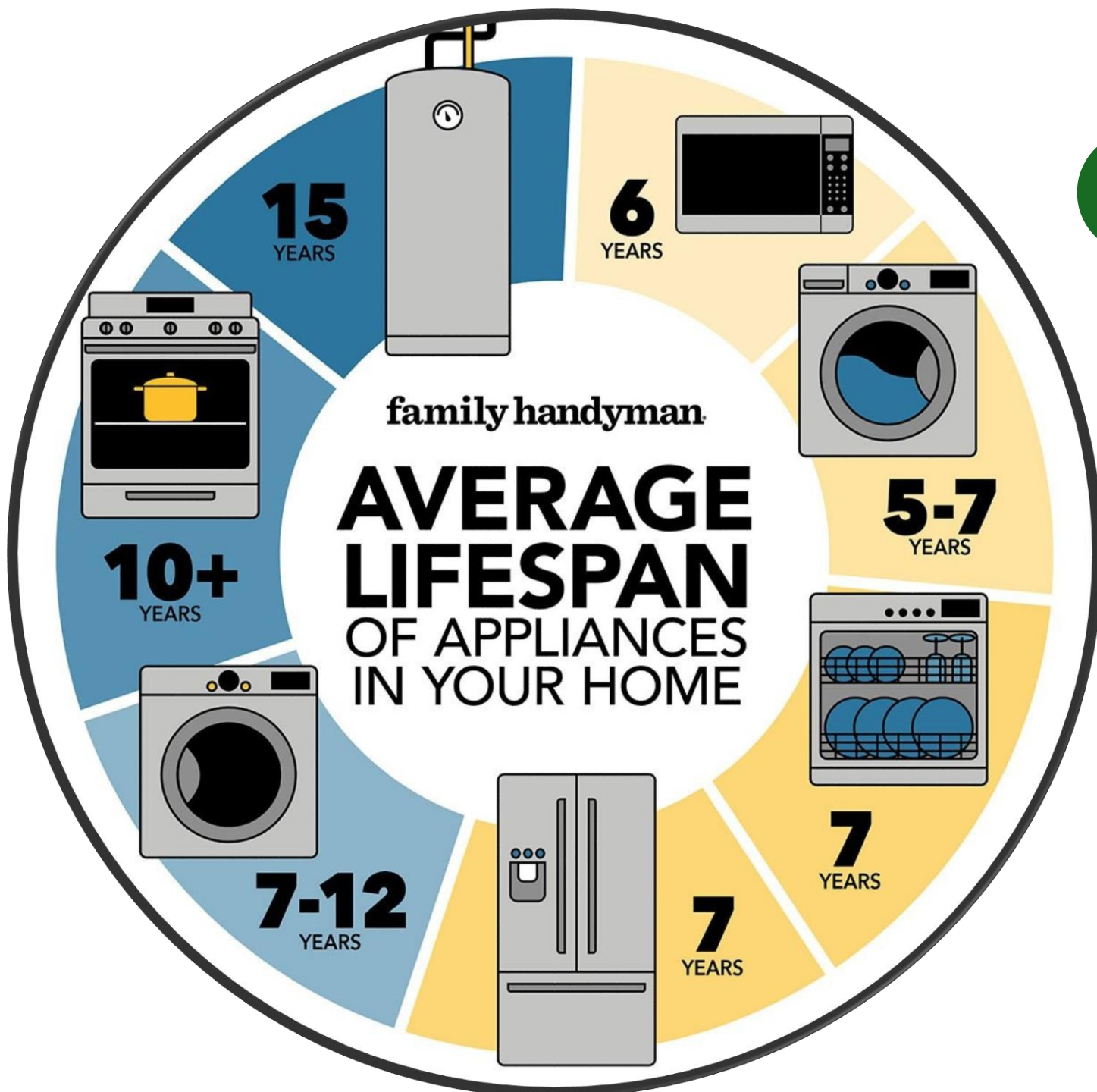
⚡ WHEN?

When your current stove is nearing end of life (usually about 13 years).

⚡ WHO IS THIS FOR?

Ranges for homeowners, portable ranges for renters.

[Read more about electric cooking](#) ↓



5

When to Replace

Furnace: 15-20 years

Boiler: 25-30 years

Other NYSERDA Programs

6 Incentives

Income Eligible Programs Provide \$5-10,000 for Energy Improvement Projects

Household Size	EmPower LI	EmPower MI
1	At/below \$36,420	\$36,420 - \$79,200
2	At/below \$47,640	\$47,640 - \$90,500
3	At/below \$58,848	\$58,848 - \$101,800
4	At/below \$70,056	\$70,056 - \$113,100

Home Comfort: \$1-\$4,000 for Insulation and Air Sealing

Household Size	Comfort Home/REA	Household Size	Comfort Home /REA
1	Above \$79.2K	3	Above \$101.8K
2	Above \$90.5K	4	Above \$113,100

If you qualify for these programs, contact

Frankie Lede

Community Energy Advisor

Cornell Cooperative Extension

845-605-0580

fl447@cornell.edu

Electrification

Questions

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Nyack2030.com