

**Pat and Steve
Miller
Nov 6, 2022**



TOGETHER WE CAN SAVE OUR WORLD

WHY WE WANT TO SAVE THE WORLD

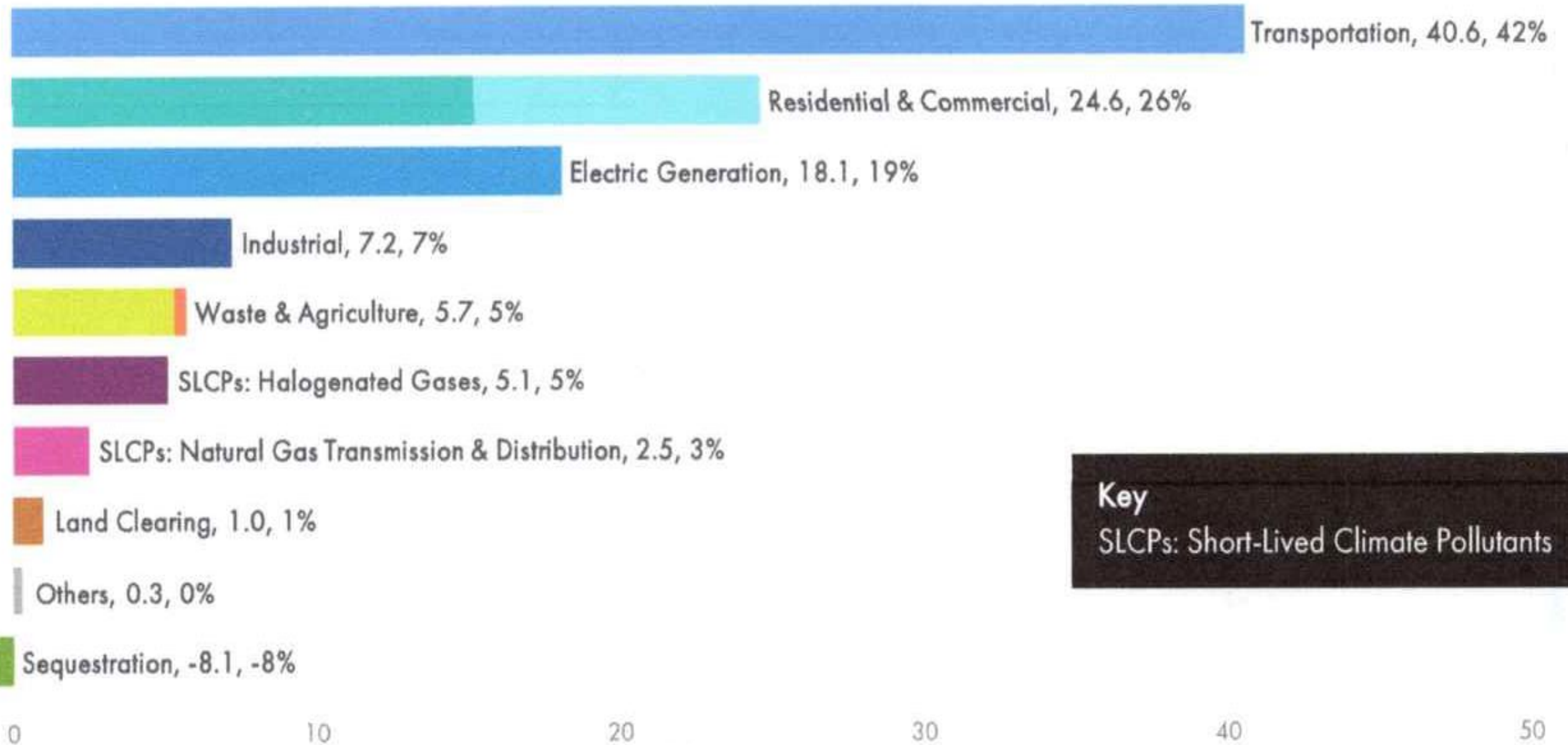


TO LEAVE A
LIVABLE WORLD
FOR OUR
GRANDCHILDREN



New Jersey GHG Emissions Inventory for 2018 (MMT CO₂e and Percentage).

Emissions reductions are present in each of the categories.



**We have
the solutions
at hand...**

Global Wind Energy Capacity

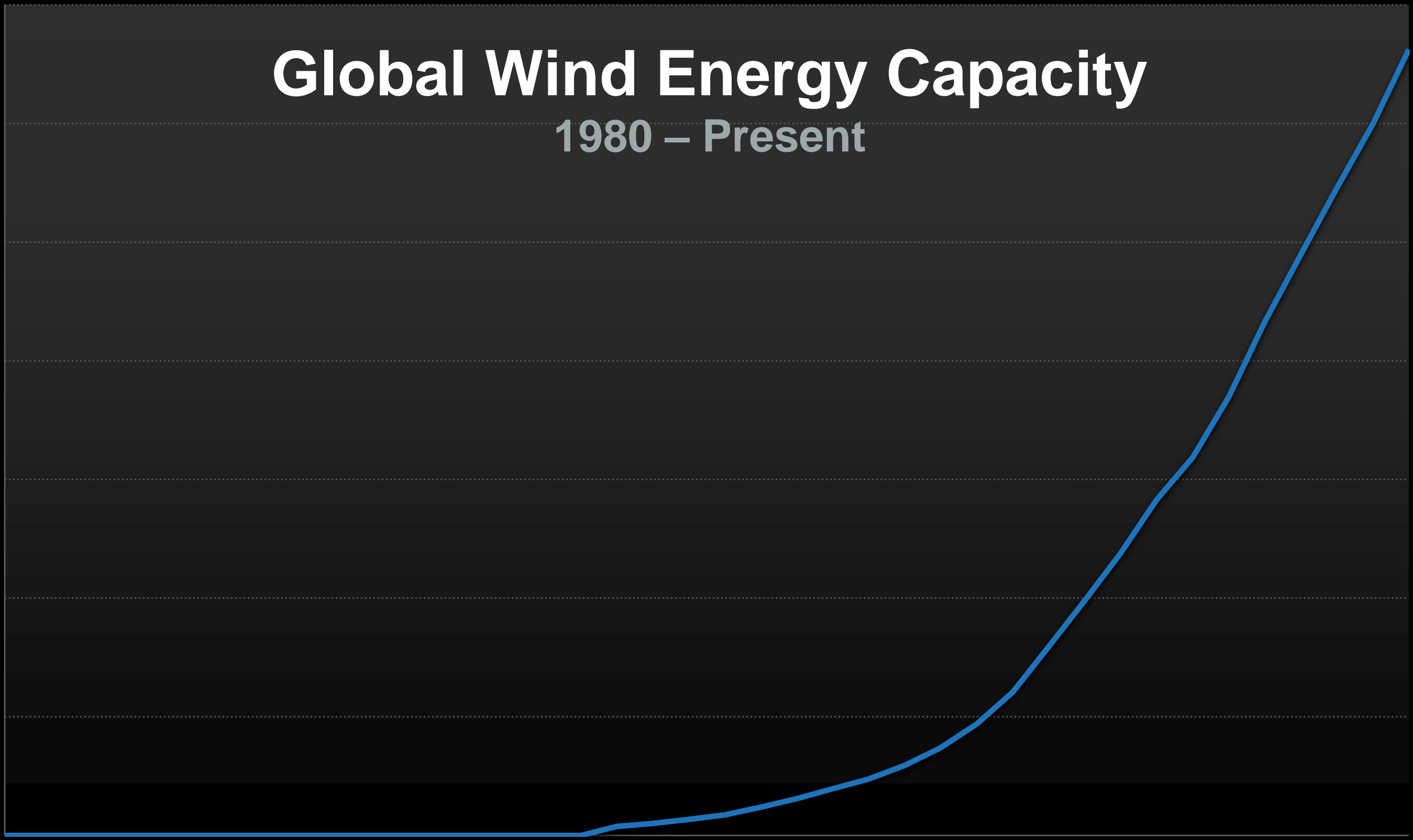
1980 – Present

Wind Capacity (Megawatts)

700,000
600,000
500,000
400,000
300,000
200,000
100,000

1980 1985 1990 1995 2000 2005 2010 2015 2019

Data: Earth Policy Institute/Bloomberg New Energy Finance



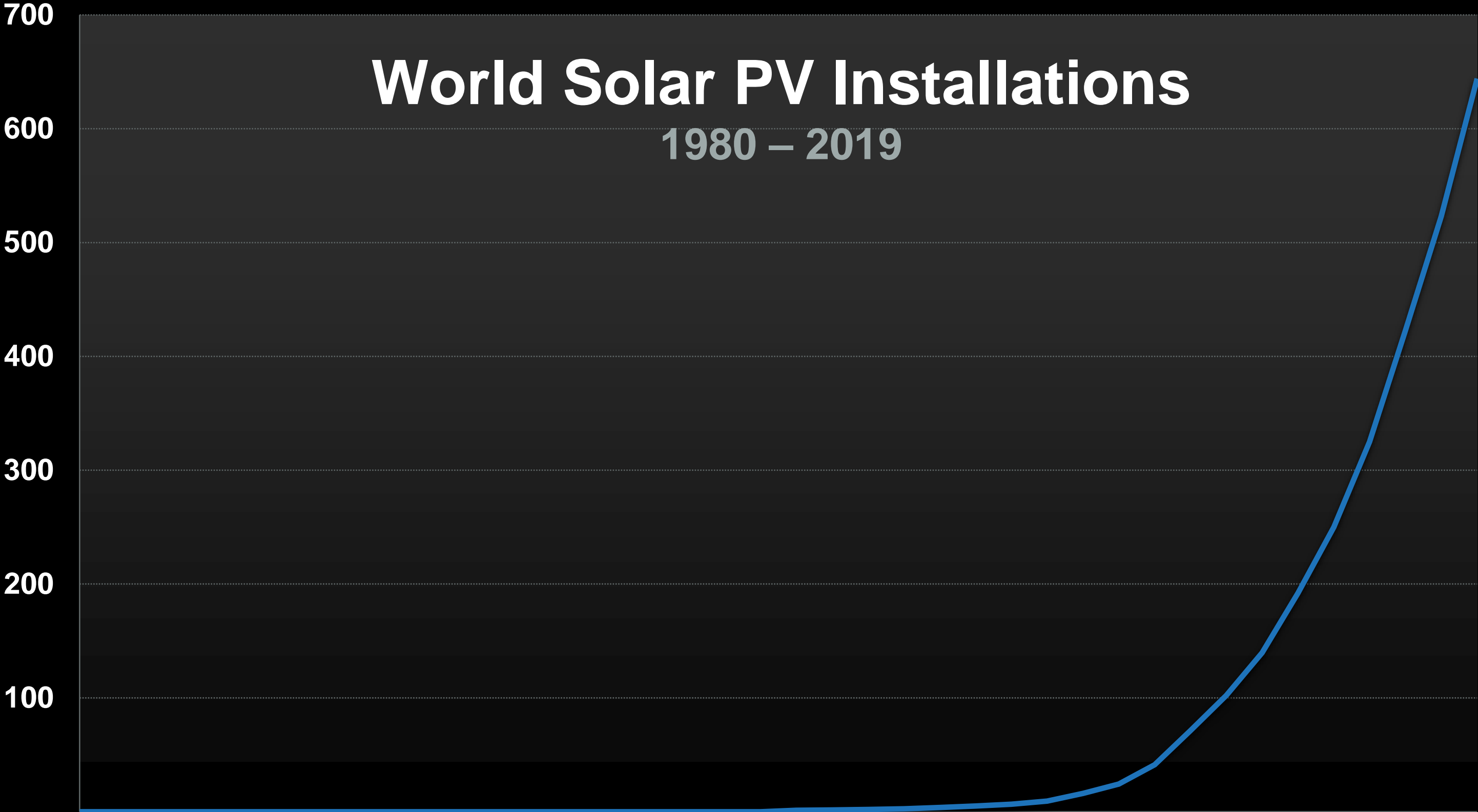
NJ has goal of 11,000 MW from offshore wind by 2040



World Solar PV Installations

1980 – 2019

Gigawatts (Cumulative)



Data: Earth Policy Institute/BP, Statistical Review of World Energy June 2014 (London: 2014); Bloomberg New Energy Finance

Global Cumulative Storage Capacity

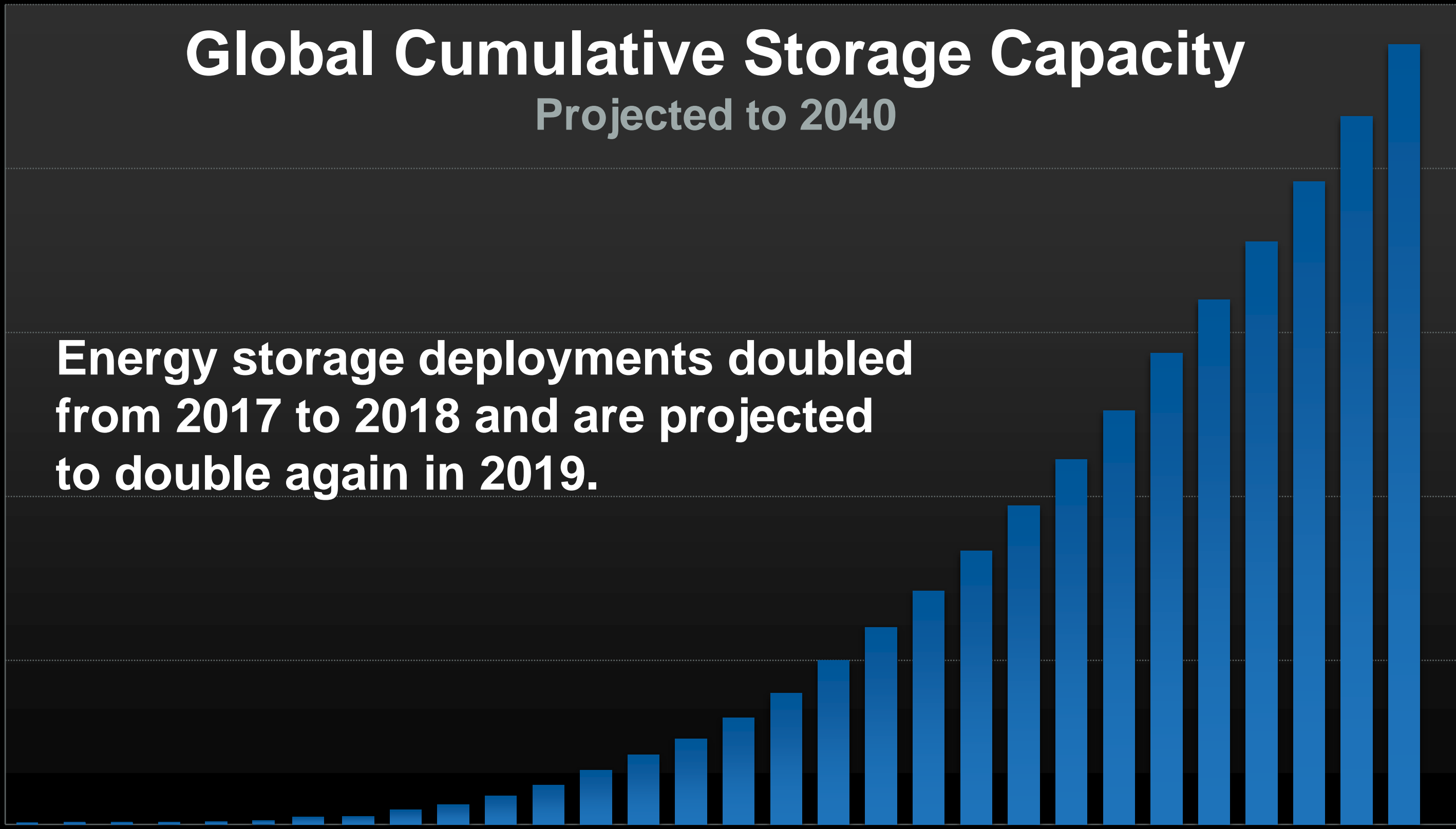
Projected to 2040

Gigawatts

Energy storage deployments doubled from 2017 to 2018 and are projected to double again in 2019.

Data:
Bloomberg
New Energy
Finance

2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040



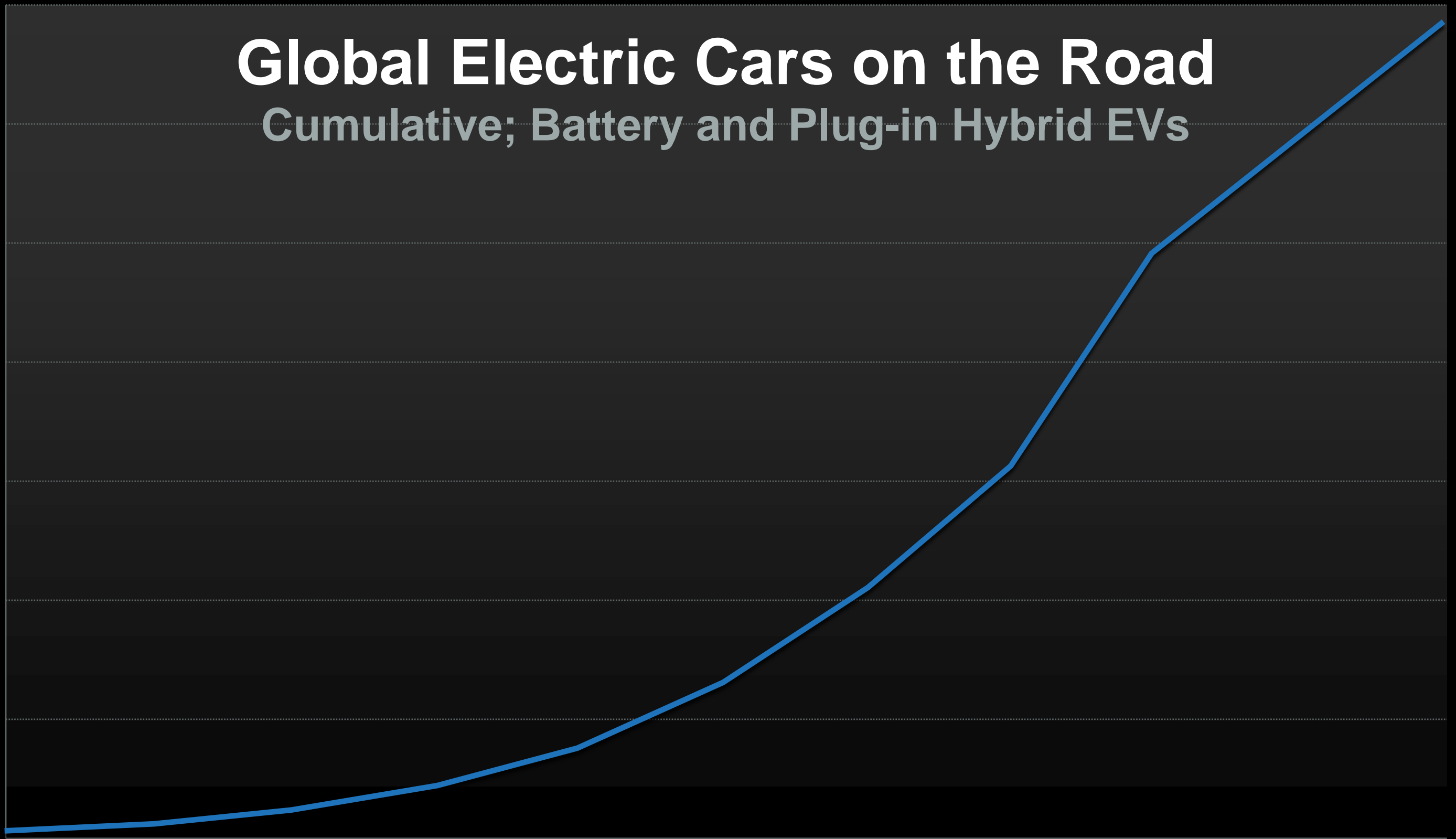
Global Electric Cars on the Road

Cumulative; Battery and Plug-in Hybrid EVs

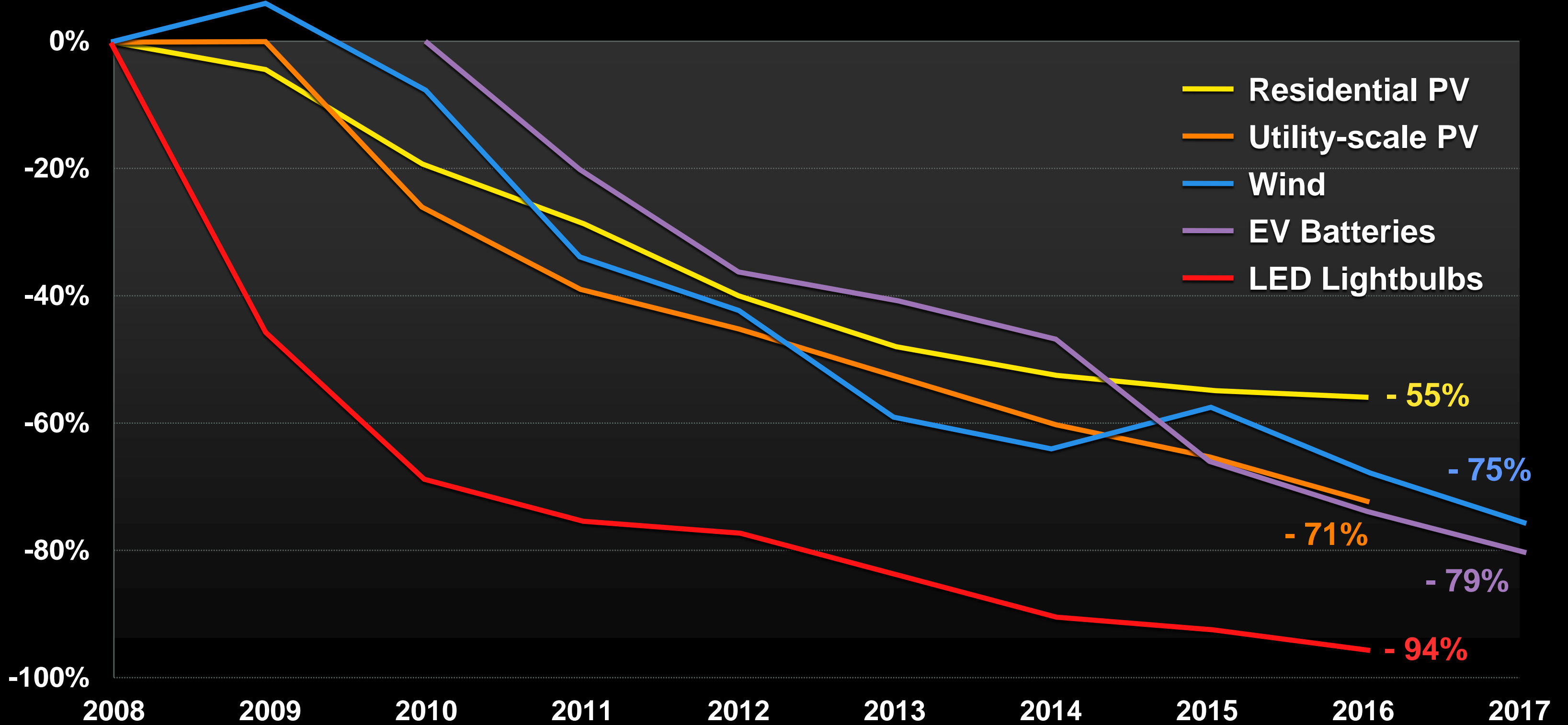
Electric Car Stock (Millions)

7.0 M
6.0 M
5.0 M
4.0 M
3.0 M
2.0 M
1.0 M

2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Cost of Clean Energy Technologies in the U.S.



What can I do?

**What can WE do
together?**

Maximum Benefits from IRA for Individuals*

Solar Systems	30% tax credit
Battery Storage Systems	30% tax credit
New/Used EVs	\$7500/\$4000 tax credit
EV Chargers	30% tax credit
Weatherization	\$1600 rebate/tax credit
Heat Pumps	\$8000 rebate
Electric Stoves, Heat Pump Dryer	\$840 rebate
Heat Pump Water Heaters	\$1750 rebate
Breaker Box Upgrades	\$4000 rebate
Electrical Wiring	\$2500 rebate
Tax Credits for New Home Builders	

* Plus applicable state incentives

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



Rewiring America Savings Calculator

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

Rebates available up to \$14,000 per household, plus tax credits

- 100% cost coverage for low-income households
 - Up to \$83,000 per year
- 50% cost coverage for mid-income households
 - \$83,000 to \$155,000



Zip Code ?

95652

Homeowner Status ?

Homeowner

Household Income ?

\$100,000

Tax Filing ?

Joint

Household Size ?

4 people

Calculate!

We do not store this data.

Your Personalized Incentives

Use these any time in the next 10 years.

UPFRONT DISCOUNTS AVAILABLE TAX CREDITS

\$14,000 \$7,536

ESTIMATED TOTAL INCENTIVES

\$21,536



Household Electrification Incentives

These are available to American homeowners and renters over the next 10 years.

ITEM	DISCOUNT TYPE	DISCOUNT	TIMELINE
Rooftop Solar Installation	Tax Credit	30%	Now!
Geothermal Heating Installation	Tax Credit	30%	Now!
Battery Storage Installation	Tax Credit	30%	Now!
Community Solar Subscription	Tax Credit	30%	Now!
New Electric Vehicle	Tax Credit	\$7,500	2023
Used Electric Vehicle	Tax Credit	\$4,000	2023
Heat Pump Air Conditioner/Heater	Tax Credit	\$2,000	2023
Electric Panel	Tax Credit	\$600	2023
Basic Weatherization	Tax Credit	\$1,200	2023
Heat Pump Water Heater	Upfront Discount	\$1,750	2023
Heat Pump Air Conditioner/Heater	Upfront Discount	\$8,000	2023

Top 3 Greenhouse Gas (GHG) Emissions Sources in NJ: 87% of All Emissions

- Electricity generation (19%)
- Transportation (42%)
- Residential and commercial buildings (26%)

REDUCE ALL 3



Switch To Clean Electricity

- **Install rooftop solar**
- **Switch to a 100% clean supplier**
<http://electric.smiller.org>
- **Invest in or subscribe to community solar**
- **Ask your town to supply renewable community choice electrical aggregation**



Carbon Sequestration but No Solar

Tree Cover At High Noon

50 Foot Trees



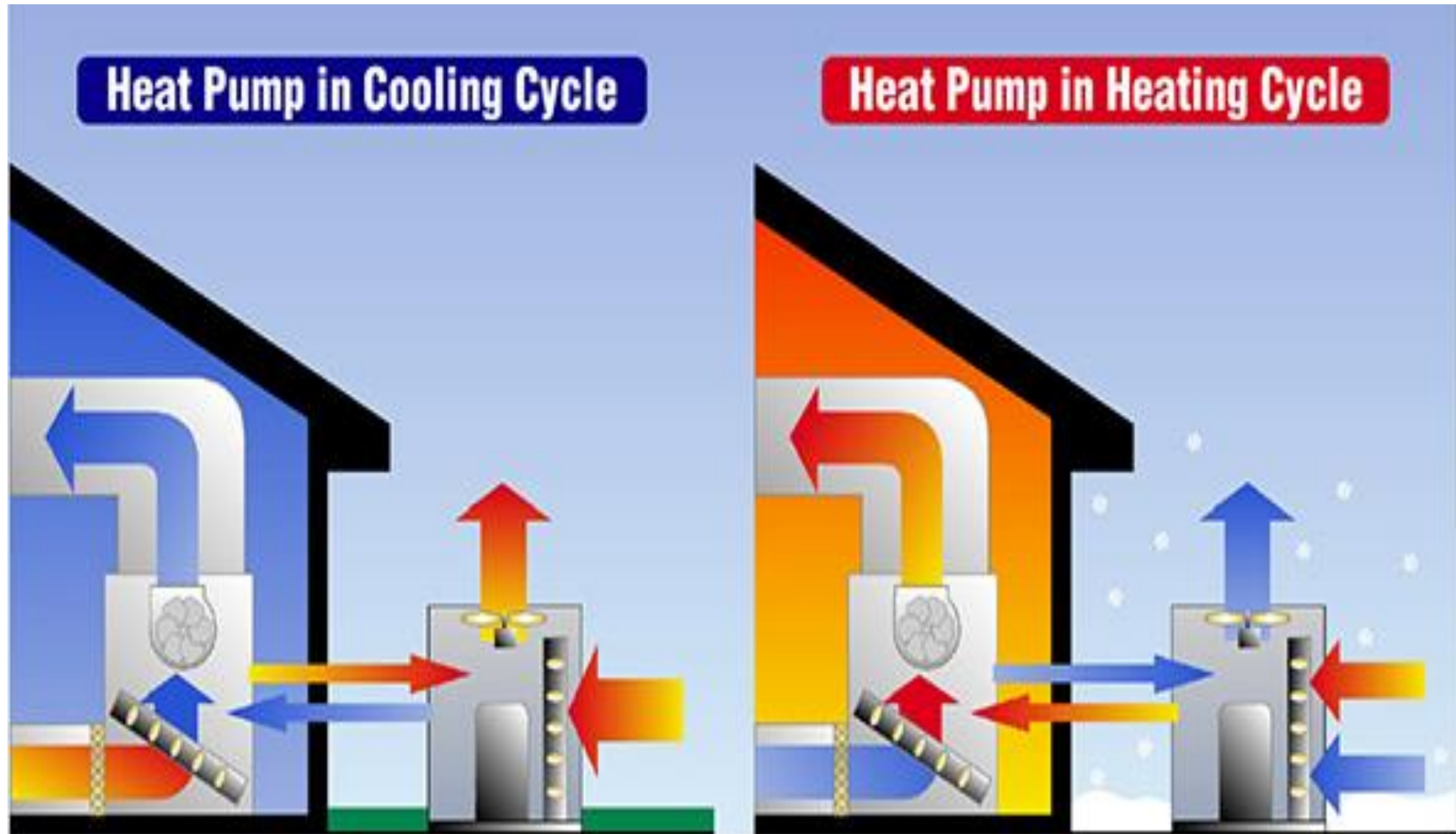
OUR EV – PRIUS PRIME PLUG-IN



Energy Efficiency – Use Less Energy



Space Heating & Cooling w. Electric Heat Pump



Which one is the heat pump? Gas furnace backup on right



ELECTRIC HEAT PUMP WATER HEATER



Spare Circuits for Future Electric Appliances



**New Box on Left
for New/Future**

- **2nd Heat
Pump Space
Heater/AC**
- **Heat Pump
Water Heater**
- **Stove**
- **Dryer**
- **2nd EV**



NJ 50 x 30 Building Electrification Team

- **Organization founded by Steve and Pat Miller in early 2022**
- **Advocate with NJ State officials to speed up transition to clean buildings**
- **Educate consumers (residents and businesses) and HVAC staff to embrace electric heat pumps to both heat and cool buildings**
- **Monthly webinar to highlight electrification steps homeowners and vendors have taken**



**What can WE as a
congregation do
together?**

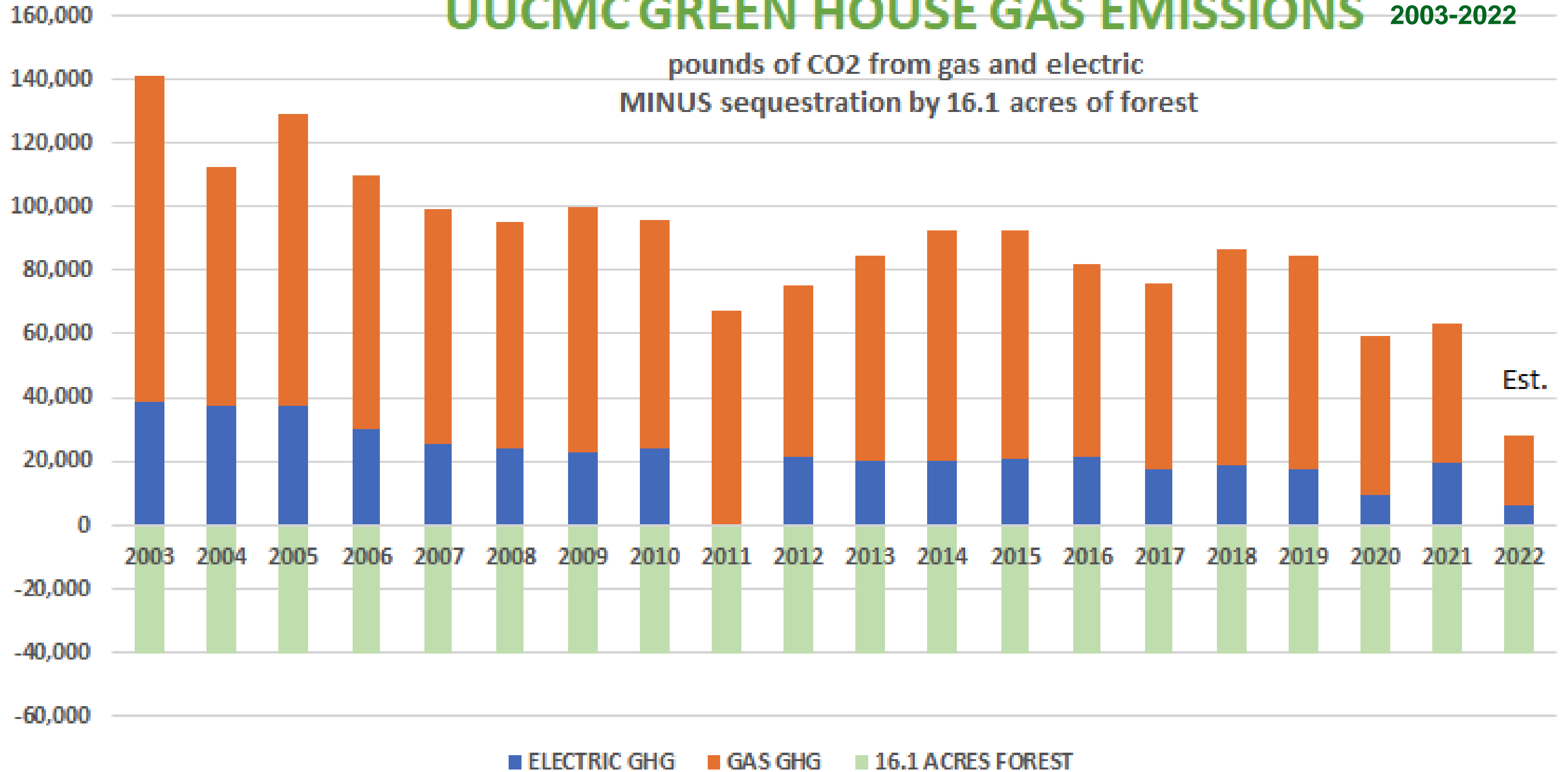
UUCMC JOURNEY
TO NET ZERO
CARBON EMISSIONS

Annual
Pounds
of CO2

(UUCMC MEETING HOUSE)

UUCMC GREEN HOUSE GAS EMISSIONS 2003-2022

pounds of CO2 from gas and electric
MINUS sequestration by 16.1 acres of forest



FOUNDATIONAL PROGRAMS FOR UUCMC 2003-2022

Congregation applied to be recognized as a “Green Sanctuary” through Unitarian Universalist Association (UUA) – 2003

Lives out its commitment to the Earth by creating sustainable lifestyles for its members as individuals and as a faith community.

Congregation awarded “Green Sanctuary” designation – 2006

Implemented 7th Generation Program – 2008-2012

The Seventh Generation Principle is based on an Indigenous Peoples philosophy that the decisions we make today should result in a sustainable world seven generations into the future.

Climate Change Action Statement approved by congregation vote – 2010, 2019

Earth Day Service organized by Climate Action Team – 2005, 2009, 2014, 2018, 2019 and 2022

Working on “Cool Congregation” through Interfaith Power & Light – 2022-2023

Slow global warming by changes in church and home



UUCMC Property Upgrades to Lower GHG Emissions 2003-2022

2003 Earth Day tree planting (church + homes)

2004 Energy audit

2005 Programmable thermostats; start replacing bulbs with compact fluorescent

2006 Installed rooftop solar

2008 Community room insulation; installed Energy Star windows; more efficient lighting

2008-2012 Tracked reduction in carbon footprint

2010 Community room A/C

2011 Energy Star refrig + freezer; updated classroom lighting; new insulated classroom roof

2011-2012 Subscribed to 100% wind renewable electricity

2014 Heat pump water heater

2016 Switched to LED in main building

2017 Converted Earth Room flood lights to LED

2021 HVAC heat pumps (6); tankless water heater, classroom lights to LED; reshingled roof

2022 New solar system



UUCMC 2021 Heat Pumps



UUCMC 2022 Rooftop Solar

4 X Capacity of Old System



Together We Can Save Our World from Climate Catastrophe Through Greenhouse Gas Emissions Drawdown Actions

Clean Electricity	Transportation	Buildings	Food & Land Use	Health, Education, & Gender	Environmental Activism across Sectors
Install rooftop solar or subscribe to community solar	Make new car an EV or hybrid	Replace gas/oil furnace or electric resistance heat OR AC with heat pump	Cut down on meat or adopt vegan or plant-rich diet	Donate to school or fund girls' education in a place where girls' educ is repressed	Volunteer for environmental org; focus on climate
Switch to 100% clean electricity service provider	Use public transit	Choose LED bulbs to replace incandescent	Grow a vegetable garden or buy from a local farm market	Give a microloan for a women-owned business	Direct career path toward clean energy or sustainability
Consider geothermal as heat source for heat pump	Cut air travel or buy carbon offset	Get home energy assessment, take efficiency measures – insulate, seal air leaks	Compost food waste, leaves and grass clippings	Support women-owned businesses	Donate \$s to environmental orgs focused on climate
Invest in clean energy: community solar, wind, etc.	Conduct virtual meetings	Replace fossil fuel appliances with electric – water or pool heater, dryer, stove	Replace grass in lawn with native species; reduce mowing; plant trees	Donate to support family planning	Run for office as environmental candidate
Switch to solar heat for hot water or pool	Walk, bike or join a carpool when possible	Install smart thermostat; more moderate temps	Replace fossil fuel lawn equipment with electric or battery	Help elect women, BIPOC & climate friendly candidates	Consume less; waste less, esp. plastics
Advocate gov't FOR clean energy projects, against new fossil fuel projects	Advocate for greener vehicles, high speed rail, network of charging stations	Advocate for building codes – zero carbon buildings, rooftop solar, EV chargers, no gas hookups	Advocate for Indigenous land rights, regenerative farming, against factory farms	Advocate for equity in healthcare, education, & jobs for women or BIPOC	Advocate for climate friendly actions in your town – municipal operations, services
Custom action: electricity	Custom action: transportation	Custom action: buildings	Custom action: food & land use	Custom action: health, educ, gender	Custom action

OTHER ACTIONS WE CAN TAKE NOW

- **Eat less (or no) meat.**
- **Buy local produce. Look for regenerative (soil) farming and no pesticides.**
- **Cut food waste. Compost.**
- **Replace lawn with native plants. Stop mowing. Compost leaves. Plant trees.**
- **Use less energy. Turn back thermostat. Hang clothes to dry; use cold water wash. Cook on electric cooktop, microwave, toaster oven.**
- **Use less plastic. Buy less stuff.**
- **Use public transportation. Travel less.**
- **Conserve water, both indoors and on property – avoid runoff.**



CLIMATE ACTION TEAM “SAVE OUR WORLD” CAMPAIGN (11/3/2022 eBlast)

1. **YOUR ACTION MAKES A DIFFERENCE!** Reach out to 3 of your family and friends about the upcoming November 8th election.

2. **SWITCH TO CLEAN ELECTRICITY** This week’s GHG “Drawdown”

- **EASIEST:** Subscribe NOW to the nearest Community Solar project
- **MONEY-MAKER:** Install rooftop (or backyard) solar
- **SWITCH FROM GAS FURNACE/BOILER** to electric heat pump
- **SWITCH YOUR WATER HEATING** to highly efficient electric heat pump water heater



TOGETHER WE CAN SAVE OUR WORLD

Source: NASA



THIS 4 MINUTE VIDEO IS FOUND AT [HTTPS://WWW.EPISCOPALCHURCH.ORG/MINISTRIES/CREATION-CARE/](https://www.episcopalchurch.org/ministries/creation-care/)

The Episcopal Call to Climate Action

Featuring voices from The Episcopal Church
Presiding Bishop's Delegation to the
UN Climate Conference COP26

November 2021

