

WHY ARE OUR ELECTRIC RATES SO HIGH? AND WHAT CAN WE DO ABOUT IT?

**Pat and Steve Miller
Earth Day
May 21, 2026**

- 1. The Basics of Electricity Pricing**
- 2. Data Center Impacts and Recommendations**
- 3. Energy Efficiency and Conservation in Our Own Lives**
- 4. Advocating for Changes in Laws and Regulations**
- 5. New Technology CAN Save Us**

In NJ a 20% Increase in Electricity Prices (So Far)

**The Miller household is
almost all-electric.**

- **Our electricity bill for December was \$450.**
- **Our highest bill a year ago: \$350.**
- **This jibes with a 20% increase (plus monthly \$10 deferred summer payment).**
- **There will almost certainly be future increases, unless we act.**

Cost of Energy by Source

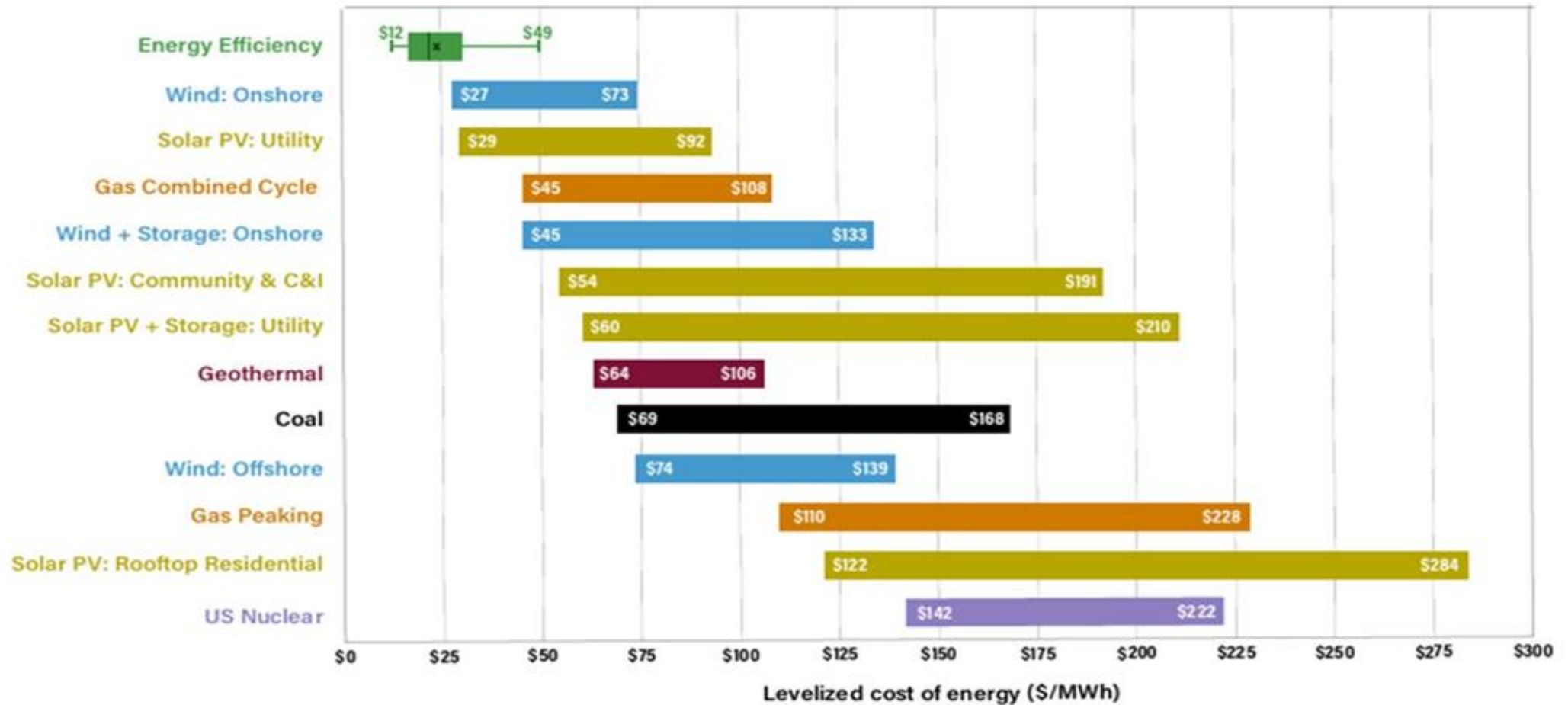
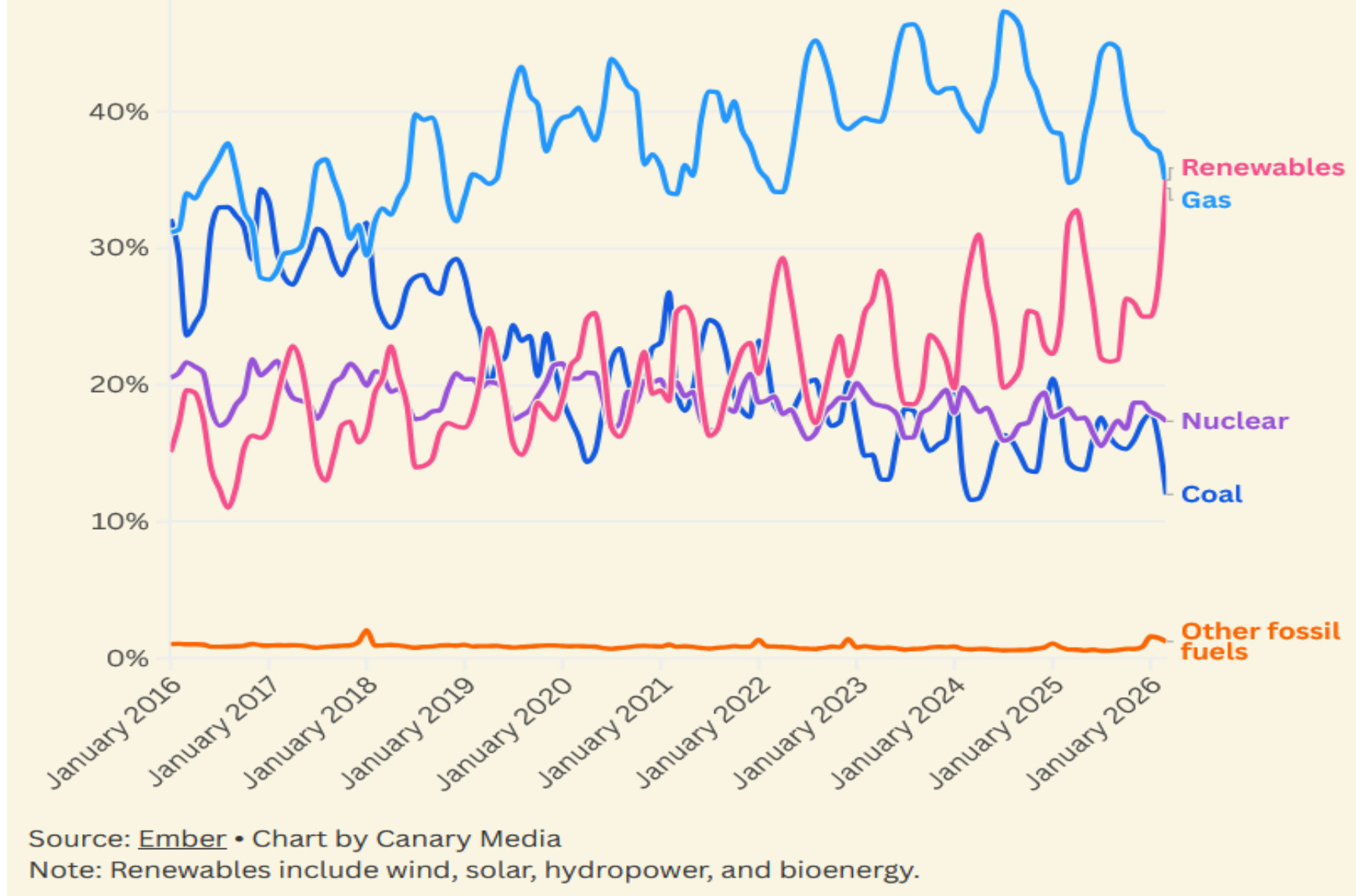


Figure ES-1. A comparison of the levelized cost of energy efficiency and supply-side resources. Vertical line and "X" represent the median and mean costs of energy efficiency, respectively. Cost data for supply-side resources calculated by Lazard (2024).

Cost data from ACEEE's 2026 Research Report "Faster and Cheaper." <https://www.aceee.org/research-report/u2601>

In March, renewables outdo gas on the U.S. grid

Share of electricity generation, by month



Part 1

The Basics of Electricity Pricing



PJM is the Regional Transmission Organization That Manages Our Power Who are they?



Your Bill

(40%)
Delivery cost

- Distribution lines, meters, etc managed by local utility
- Regulated by NJ BPU. It is increasing but is not the cause of the major jump in rates.

(60%)
Supply cost

- Energy cost, managed by PJM, NOT the State of NJ
- Price is determined by auctions

SUPPLY COST:

Long Term & Short Term Planning

Yearly Auctions/Fixed Costs

Buying
Capacity

~15%

Paid to Standby

Daily Auctions/Operating costs

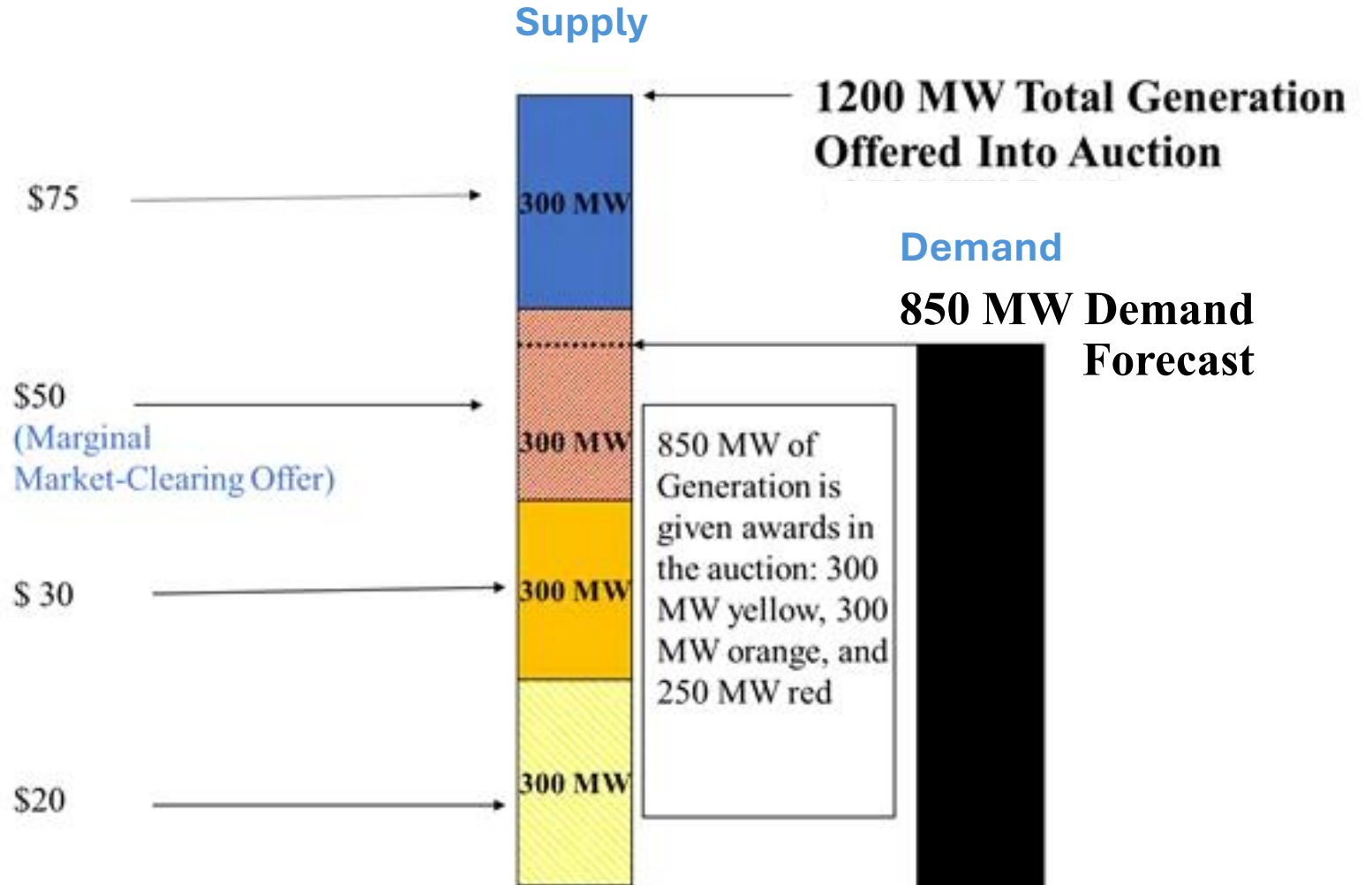
Buying
Energy

~75%

Energy you actually use

HOW THE AUCTION WORKS

- PJM forecasts the demand
- Power generators bid a price and amount
- At end of auction, keep choosing least price supplies until all demand is covered
- All suppliers are paid the same maximum price accepted



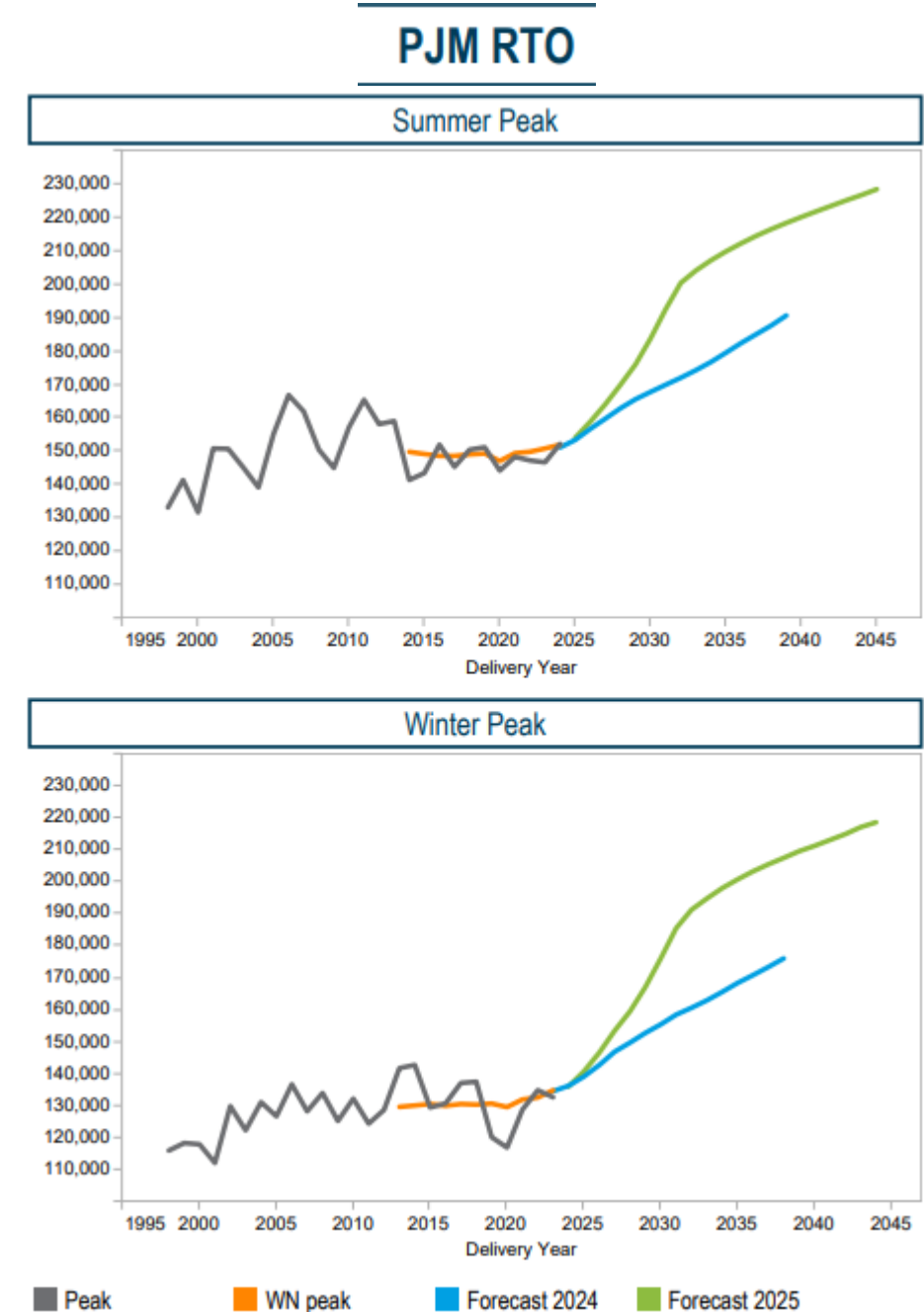
ACTUAL DEMAND FORECAST:

- PJM is forecasting **large increases in demand**, after years of steady demand. **But is it real?**
- Forecast is still increasing from 2024 to 2025
- Mostly due to data centers - ~40% of capacity auction cost was data center loads, most of which haven't been built yet.

<https://www.utilitydive.com/news/data-centers-pjm-capacity-auction/808951/>

Bad news!
Demand is
skyrocketing!

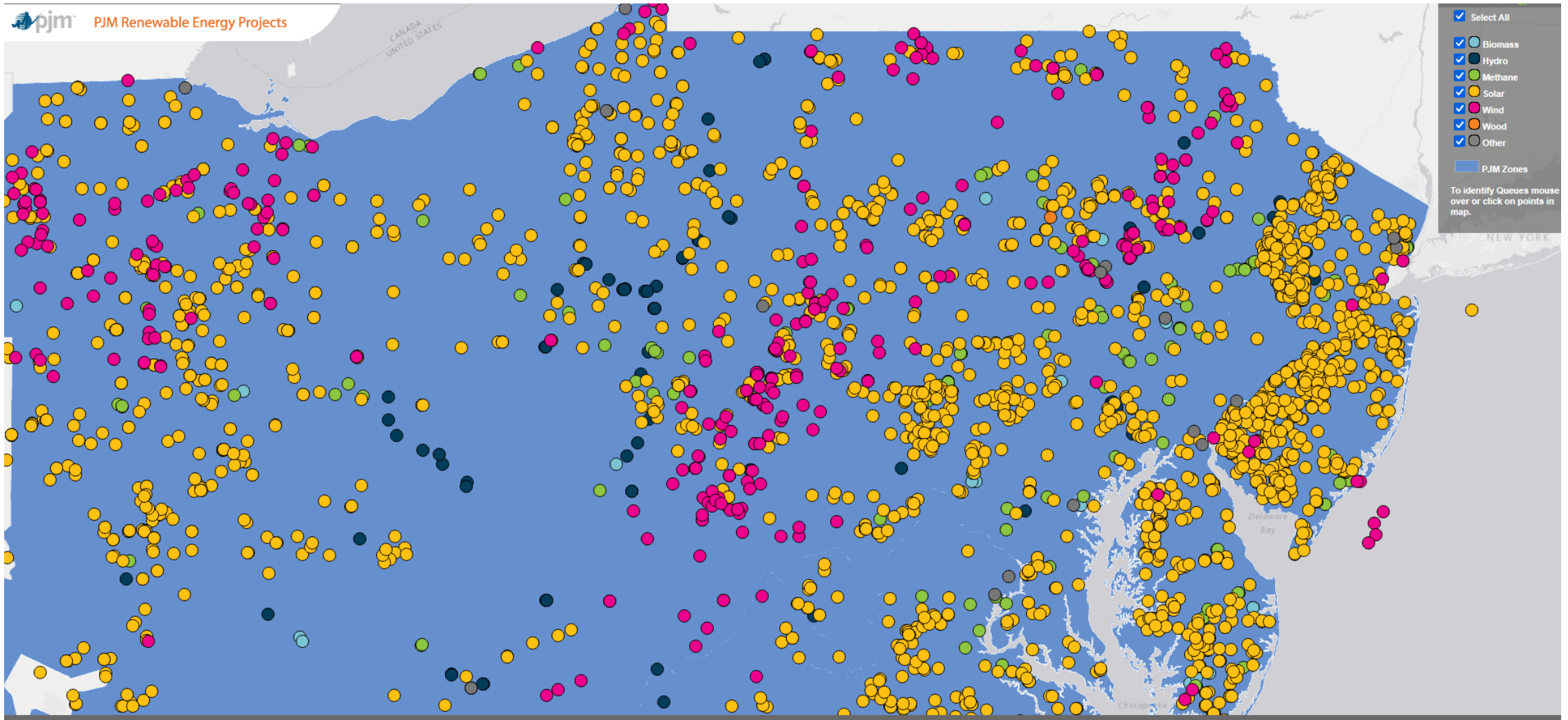
News flash!
Latest
projection is
down slightly



<https://www.pjm.com/-/media/DotCom/library/reports-notice/load-forecast/2025-load-report.pdf>

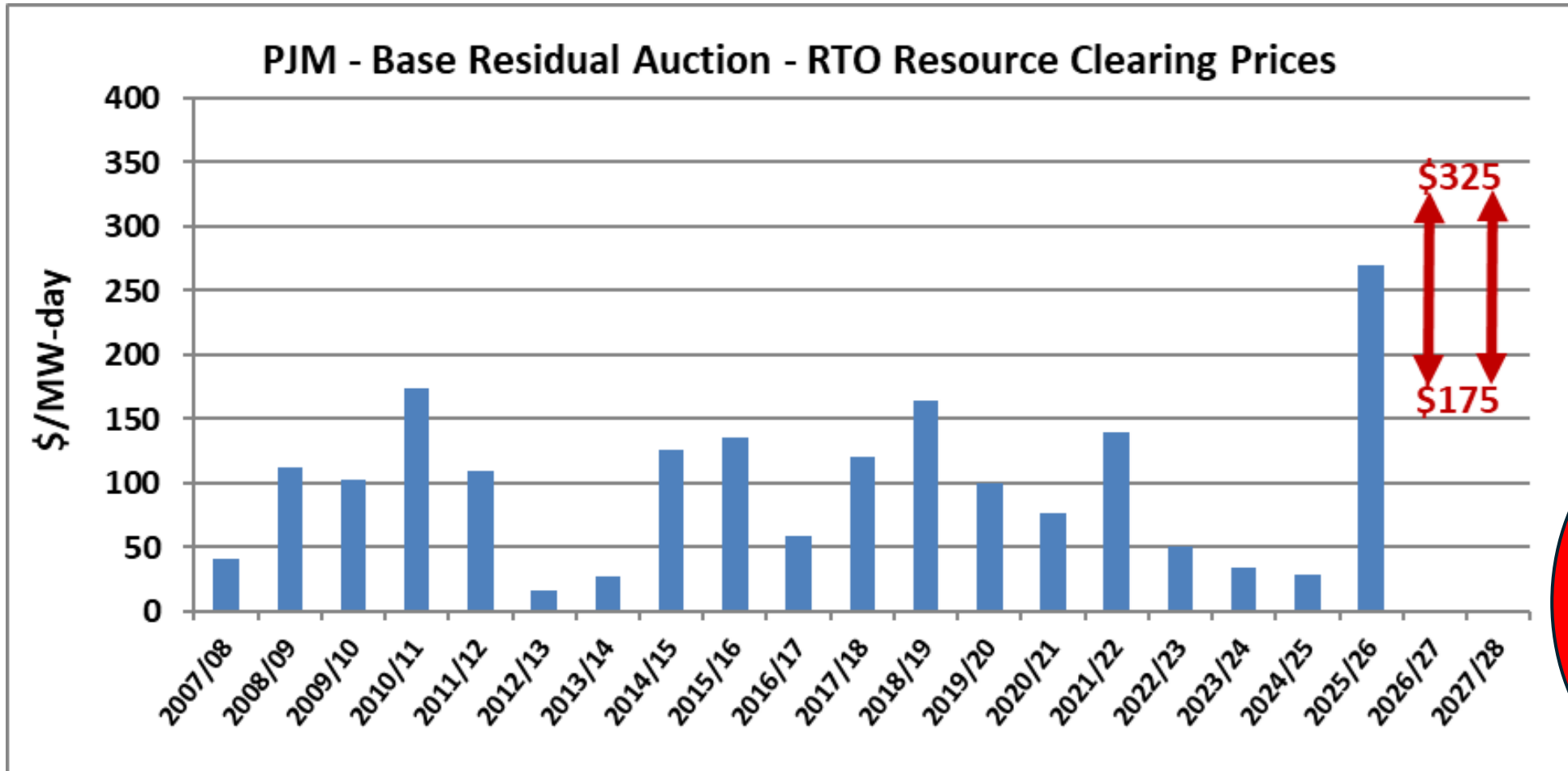
Proposed PJM Renewable Energy Projects

Queue is large but has been worked on in 2025; Building solar is a lot faster and cheaper than building a gas plant; Accepting a project often requires transmission line upgrades



So, What Happened in the Last Capacity Auction?

Prices $\Leftrightarrow$ Supply & Demand

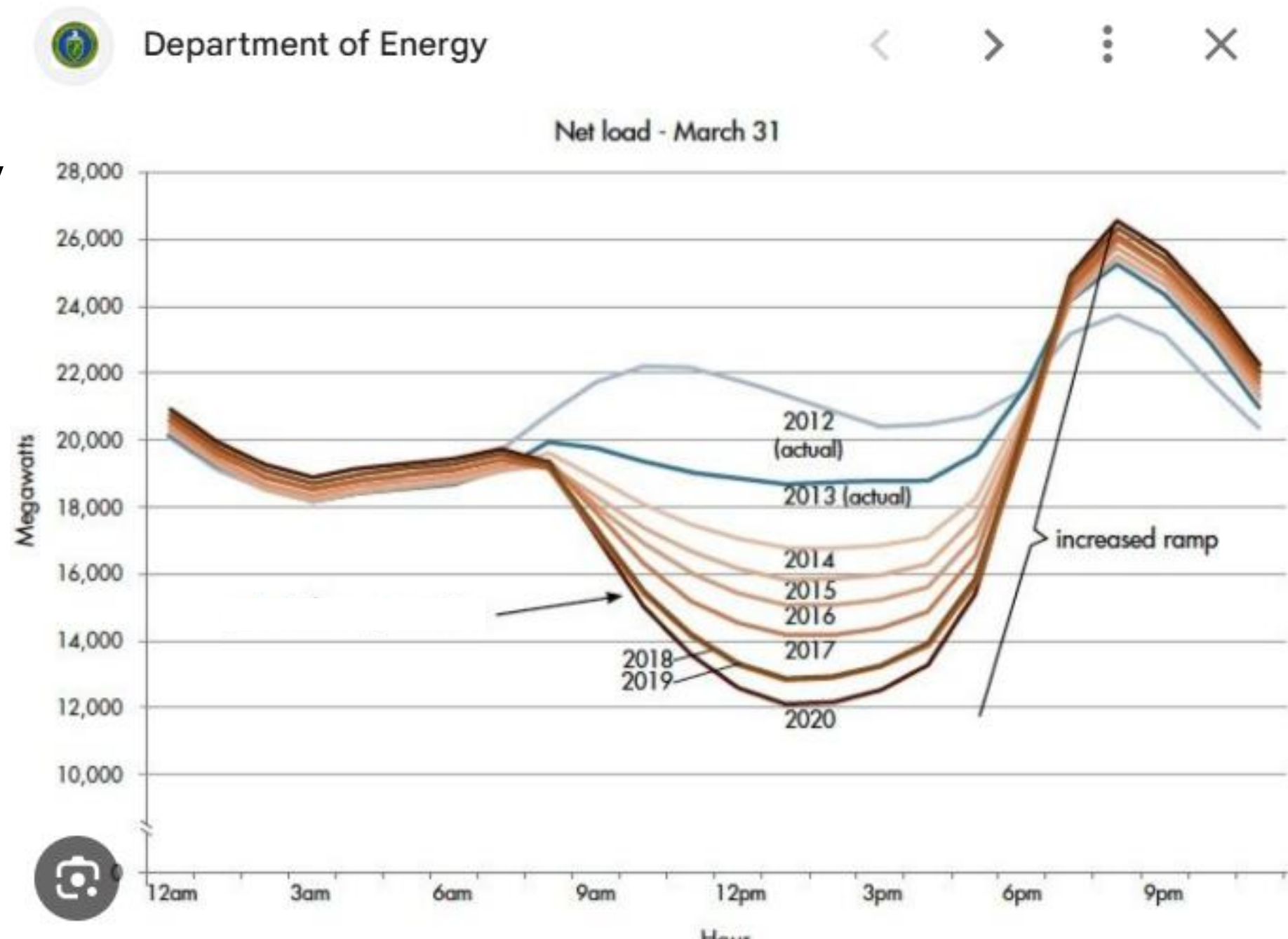


Law of
supply vs
demand!

PEAK ENERGY

Can we smooth out daily energy demand?

- Duck curve shows energy usage during the day
- The grid has to handle the peak. **The peak determines the price since all chosen suppliers are paid the maximum accepted price.**
- If we can cut off the spike 6pm-10pm, much less peak energy is needed.
 - Batteries
 - Demand response
 - Virtual power plants

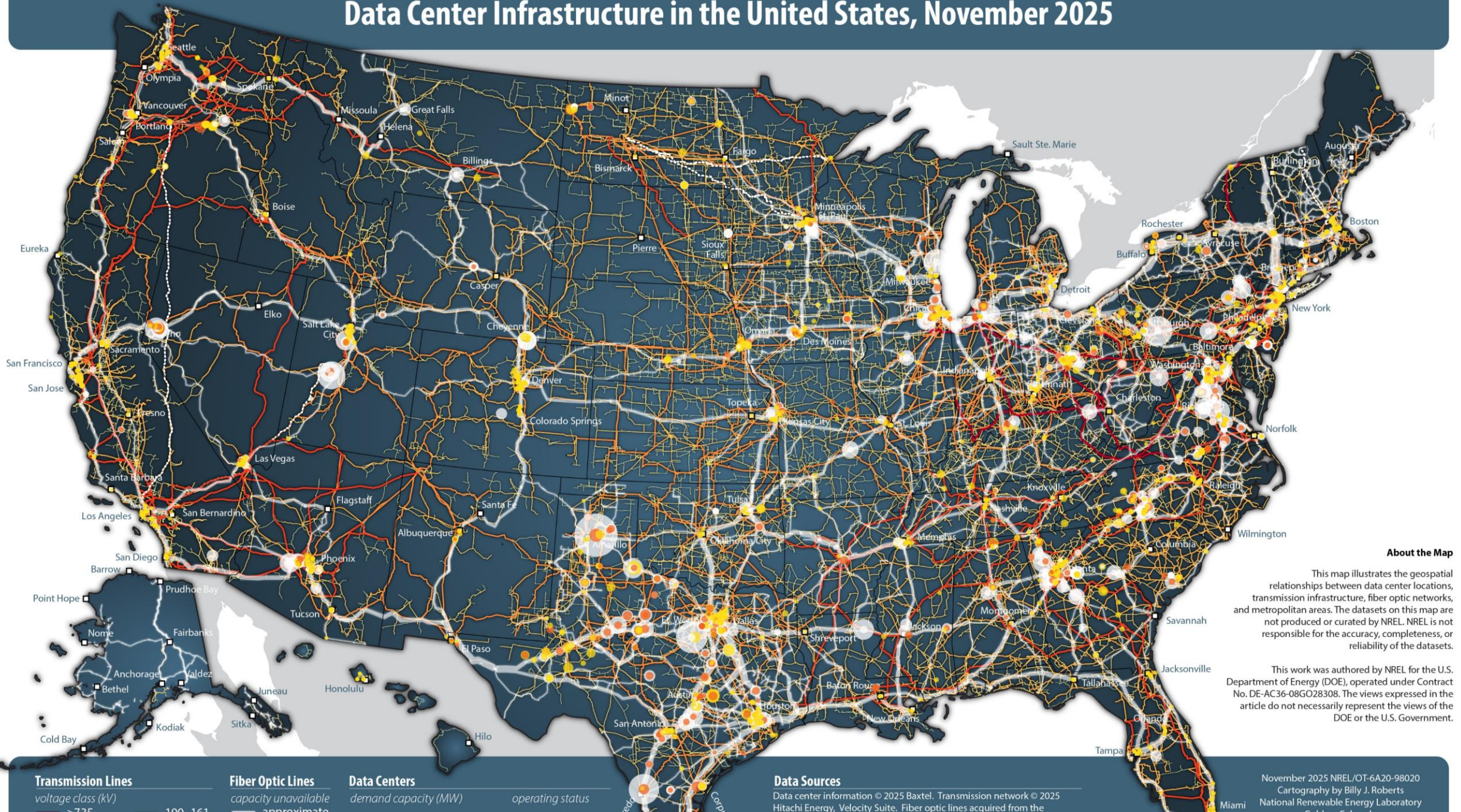


Part 2

Data Center Impacts and Recommendations



Data Center Infrastructure in the United States, November 2025



WHAT IS A DATA CENTER?

- A data center is one or more buildings that house servers, hardware, networking equipment, etc. Growth is driven mostly by demand for AI.
- There are more than 80 data centers in NJ, with more proposed.
- Energy use can be from 20 MW (size of an industrial plant) to 100s of MW or more.
- Data centers were responsible for 63% of PJM price increase in 2024¹.

1. Pashman Stein et al, Data Centers and NJ's Energy Crisis ..., Jan 2026

Residents in Vineland, NJ, are fighting a 2.6 million square ft, 300 MW AI data center surrounded by farms. The plan for it was to supply electricity entirely by on-site gas-burning generation with diesel backup generators. Now they are suggesting gas fuel cells. Either way, 100% fossil fuel would threaten NJ's climate-related carbon emission reduction goals.



DATA CENTER IMPACTS TO ENERGY AND LAND

- **Energy usage** impact on the grid and **skyrocketing utility bills**
- **Air and noise pollution** from dirty gas generators with highly-polluting and noisy diesel backup
- **High water usage** straining water supplies, worsening drought. A 100 MW data center consumes enough water for **2600 households**.
- **Irresponsible siting:** farmland, wetlands, green space, near residents. In parts of VA, more than half are within 200 ft of homes.
- **Lack of transparency:** no regulation or reporting, back door financial and tax deals. Water use from local sources can go unreported.

PROTECTING RESIDENTS FROM LARGE ENERGY USERS

- 1. Energy & Infrastructure Planning:** Ensure data centers contribute to grid stability as well as fund necessary, clean, renewable energy infrastructure, rather than shifting costs to ratepayers.
- 2. Fair Taxation:** End the Data Center Tax Exemption, or place conditions, to ensure Big Tech builds efficient, renewable-powered facilities.
- 3. Water Use Regulations:** Impose limits on data center water consumption to protect local resources.

PROTECTING RESIDENTS FROM LARGE ENERGY USERS, Cont.

- 4. Stronger Environmental Protections:** Require sustainable energy such as on-site renewable generation requirements and stricter emissions controls on backup generators.
- 5. Land Use Oversight:** Establish state-level planning standards to prevent reckless expansion adjacent to residential areas and on agricultural land.
- 6. Transparency: Mandate full disclosure** of energy and water use, emissions data, and expansion plans to allow for informed public discourse and policy decisions.

Data Center State Policies, 2026

*Mitigating the Impacts of Data Centers on the Environment,
Communities, and Affordability*

Protect
Customers

Clean Energy
Comes First

Fair Rules
for Tech

Protect
Public Health

Protect Customers: Large Load Tariffs, Transparency

Rate Classes and Prevention of Cross Subsidies

Clean Energy Comes First:

Enforce RPS, BYO On-Site Clean Energy, Mandate Zero Fuel Cost Procurement

Fairness for All

Removing or Reducing Incentive Tax Rates and Incentive Utility Rates

Protect Public Health

Cumulative Impacts & Air Permits, On-site Battery Storage Requirements

<https://www.sierraclub.org/sites/default/files/2026-01/policies-for-data-centers-2026.pdf>

Sierra Club NJ Data Center Resources

- **Webinar – “Unpacking Data Centers 101: From Big Tech to Your Backyard”** [Unpacking Data Centers: From Big Tech to Your Backyard](#)
- **Webinar – “Unpacking Data Centers 102: Communities Standing Up to Big Tech in New Jersey”** [Unpacking Data Centers: Communities Standing Up to Big Tech in NJ - YouTube](#)
- [Community Organizing Against Data Centers toolkit](#)

ZEROING OUT HOME CARBON EMISSIONS

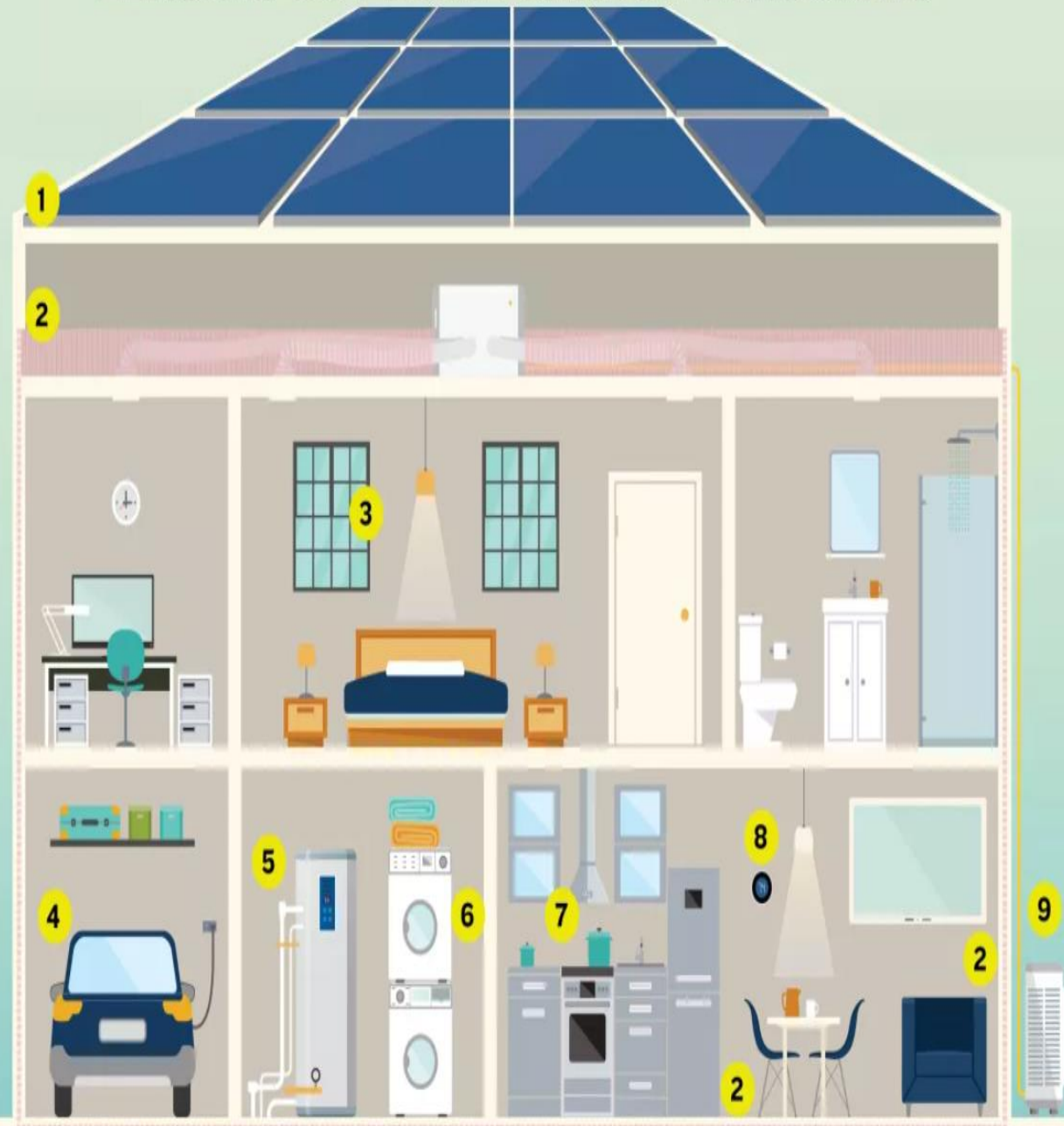
Zeroing Out Home Carbon Emissions

Part 3

Energy Efficiency and Conservation in Our Own Lives

1. Solar Panels
2. Insulated Walls, Floors and Attic
3. Energy Efficient Windows & Doors
4. Electric Car
5. Heat Pump Water Heater
6. Heat Pump Dryer
7. Induction Stove
8. Smart Thermostat
9. Heat Pump Heating and Cooling

CREDIT: NRDC



Fossil Fuels are the Problem

- Burning fossil fuels impacts our climate, air quality, and household energy costs
 - 3 sectors produce 77% of all Greenhouse Gas emissions in NJ
 - Electricity generation (18%)
 - Transportation (35%)
 - Residential/commercial buildings (24%)
 - Pollutants from burning fossil fuels contribute to smog and acid rain
 - Health risks associated with burning fossil fuels include asthma and cancer
 - Worldwide, air pollution from fossil fuels kills 8.7 million people every year [K Vohra, et al., *Environmental Research*, 2021]



Energy Efficiency – Use Less Energy



<https://residential.energysavenj.com/>

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**

HOME PERFORMANCE WITH ENERGY STAR**

NJ & Nation-wide Weatherization Program

South Brunswick, NJ	May 11, 2023
Install 50 Gallon Heat Pump Water Heater w. UEF of 3.88	\$5,460
Shell Test & Seal Incl. Applicable Air Seal Top-Plates & Penetrations	\$2,960
Attic Hatch Insulated to R-13	\$275
Attic Stair Cover Insulated to R-13	\$475
4" of Dense-Packed Cellulose in Exterior Walls R-13, 564 Sq Ft	\$3,412
4" of Dense-Packed Cellulose in Garage Buffered Walls R-13, 267 Sq Ft	\$1,775
Audit Refund (\$99)	(\$99)
 Total Project Cost	 \$14,258
Rebate to Ciel Power, LLC	\$5,000
Balance Due Upon Completion of Project	\$9,258*

* Can be paid with PSE&G 0% On-Bill Repayment

Project qualifies for a \$5,000 rebate to contractor through NJ HPwES Program

** HPwES is now replaced with Whole Home Energy Solutions Program

UUCMC 2022 Rooftop Solar

A photograph of a two-story building with a brown shingled roof. A large array of solar panels is installed on the roof, covering a significant portion of the upper section. The building's exterior is a mix of light-colored stucco and red brick. There are several large windows, some with dark frames. A yellow banner with the text 'Black Lives Matter' and 'uucmc.org' is hanging on the stucco wall. In the foreground, there are some bushes and a small tree. The sky is blue with some clouds.

4 X Capacity of Old System

COMMUNITY SOLAR



Clean Energy

Lower Energy
Costs

No Panels on
Your Property

BPU/Sustainable Jersey Community Solar

www.sustainablejersey.com/communitysolar

OUR EV – PRIUS PRIME PLUG-IN (PHEV)



We Are Now Full EV

As federal incentives were ending in 2025, we leased our new Tesla and drove it home 2 days later.



**OUR FIRST
ELECTRIFIED
APPLIANCE
REPLACEMENT –
CERAMIC STOVETOP**

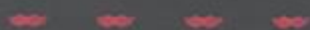


Induction cooktops heat using a magnetic current. The result is evenly heated pots and pans with much less energy lost during cooking.



Soup Water Fry Hot Pot Stir-Fry

Temp.



Power

Photo © Shutterstock



Timer/Pre.



Child Lock



Elec./Volt.



Function



ON/OFF



Experimental Induction Stovetop 1 Burner Portable Induction Hot Plate - \$109.



SPACE HEATING & COOLING WITH ELECTRIC HEAT PUMP

Gas Furnace Backup on Right



ELECTRIC HEAT PUMP WATER HEATER



HEAT PUMP COMBO WASHER/DRYER



How NJ Electrification Coaching Network Can Help

- We offer education, resources and electrification coaches
 - Provide free one-on-one advice when you sign up for an individual home electrification coach
 - Host a webinar or in-person talk on home electrification for community groups, Green Teams or local officials
 - Provide access to our incredible database of webinars, presentations, and home electrification case studies
 - Up-to-date articles on electrification on our NJ ECN Substack

*Remember: Electrified homes are healthier and more comfortable –
No gas leaks, no combustion byproducts, better indoor air quality,
stable temperature and humidity*



NJ Electrification Coaching Network's Resources

■ The goal is to reduce GHG in NJ. NJ ECN offers resources for building a clean energy economy.

- Coaching request Intake Form <https://tinyurl.com/yc2ew6rc>
- BE Webinar Database <https://climate.smiller.org/50x30/building-electrification/All-heat-pump-webinars.html>
- NJ ECN Substack <https://njecon.substack.com/>
- Rewiring America <https://www.rewiringamerica.org/> for Personal Electrification Planner, IRA Incentive Tracker or to sign up for EC training



Part 4

Advocating for Changes in Laws and Regulations



How can future PJM price increases be prevented?

(Fed DOE, NJ BPU):
Make Offshore Wind
(OSW) a reality

*11GB of power substantially
affects supply & reliability*

(PJM):
Speed up the energy
review process

*145 GW of supply in queue
Fast Track Shovel-ready Clean
Energy projects*

(Legislators):
Clear the pathway for
more clean energy and
new technology projects
in NJ

(NJ BPU & Utilities):
Encourage more use of
Demand Response
Programs that lower
peak demand

(Fed FERC, PJM):
Change auction rules
that allowed artificially
high prices

(Legislators): Pass bills to
rein in data centers
*Such as requiring large users of
power to bring their own new clean
energy*

13 PJM State Governors Collaboratively or Separately

- In Feb 2026 PA Gov Shapiro successfully sued and negotiated with PJM to enforce a temporary price cap on PJM Auction.
- In Jan 2026, all 13 regional Governors joined 2 Cabinet Secretaries, to sign a [Statement of Principles Regarding PJM](#) to address ongoing affordability and reliability concerns in PJM.
 - 1) Cut through the backlog of projects pending interconnection and accelerate the speed at which new power comes online,
 - 2) Data centers cover their share of the costs of any new resources,
 - 3) Stem the increase in auction prices to bring affordability back to the PJM region.

Legislation, Regulation Needed To Rein In Data Centers

- **Improving the Grid (and Families' Lives) with Clean Energy Supply**
 - **Data Centers BYO Clean Energy (S680/A1170)**; Prioritize On-Site
 - **Enabling and Requiring Large Load Tariffs (S731/A796)** and Front-Loaded Costs
 - **Transparency and Reporting (S3379/A4096)** for both electricity and water
- **Fair Rules for Big Tech – Remove or Review Tax Incentives** that are unbounded & lucrative (no bills yet in NJ, but they exist in MI, MN, IL)
- **Responsible Siting and Water Use**
 - **Smart Growth (S1857/A177)** Away from Homes, Water Efficiency, Not Wetlands, Forests, Farms, etc.
 - **Noise Mitigation**
- **Protect Air and Water Quality and Public Health – On-site Battery Backup**, Assess Cumulative Emission Impacts from Clusters of Many Data Centers

Part 5

New Technology CAN Save Us





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Photo © Shutterstock



Photo © 2023 Patrick Pleul/picture-alliance/dpa/AP Images



Caney Fork Farms/Skidmore College

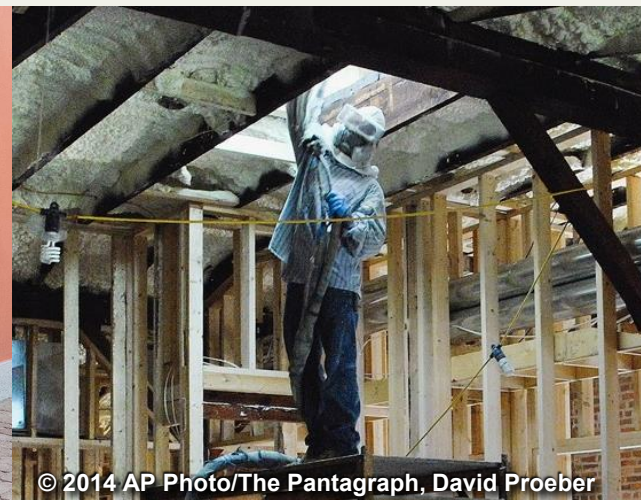
We have the technologies in hand today to reduce emissions 50% in this decade.



Photo © Shutterstock



Photo © Shutterstock



© 2014 AP Photo/The Pantagraph, David Proeber



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Legislation, Regulation To Speed Deployment of Emerging Technology

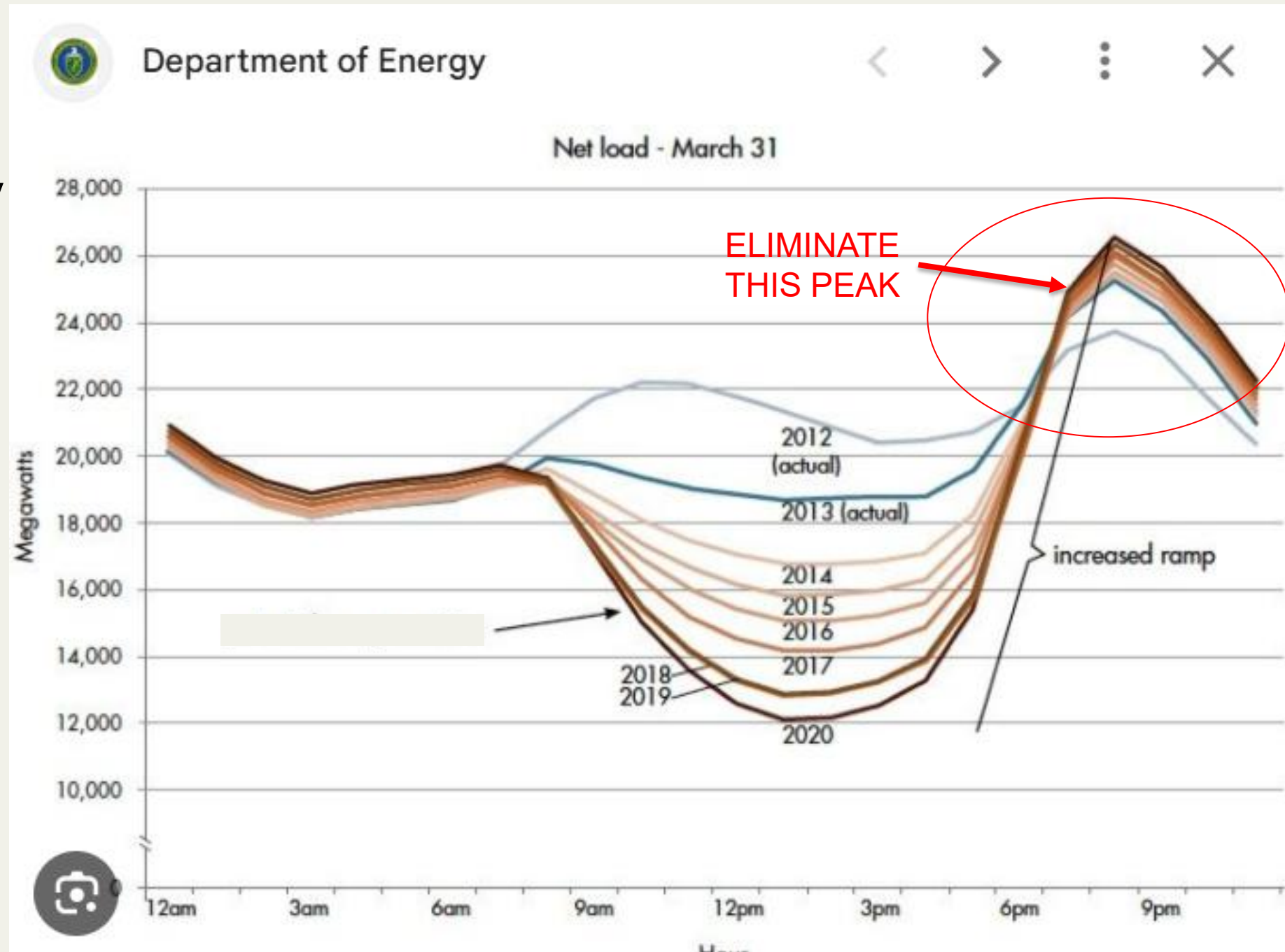
- **Permitting Reform to Speed Up Adoption of Rooftop or Community Solar, Agrivoltaics, Batteries**
- **Plug-In Balcony Solar**
- **Offshore Wind**



PEAK ENERGY

Can we smooth out daily energy demand?

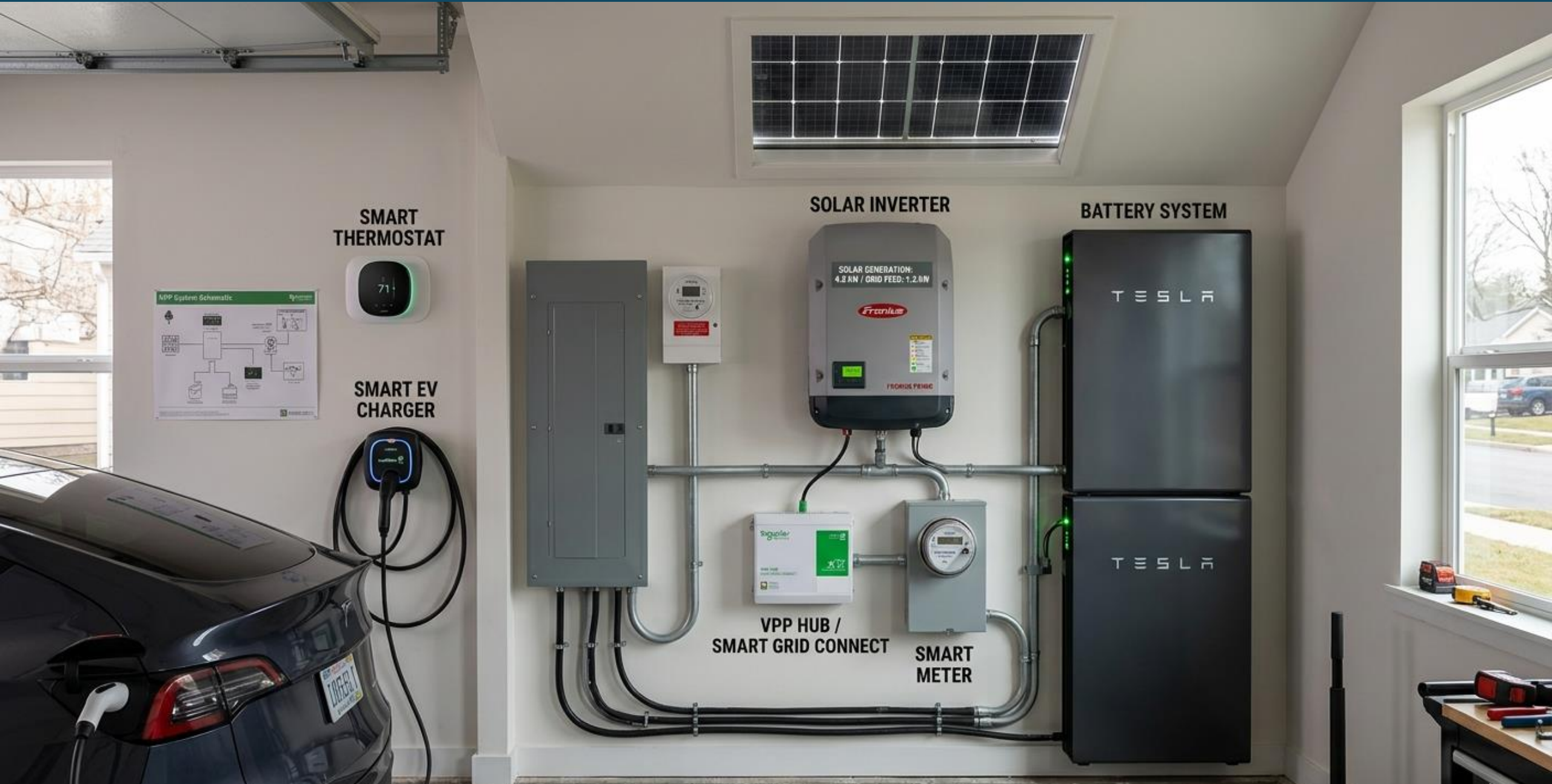
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- The grid has to handle the peak. **The peak determines the price since all chosen suppliers are paid the maximum accepted price.**
- If we can cut off the spike 6pm-10pm, much less peak energy is needed.
 - Batteries
 - Demand response
 - Virtual power plants



What Is a Virtual Power Plant (VPP)

- **A Virtual Power Plant (VPP) is a community of electric customers on the local power grid who agree to network their energy resources – such as home batteries, smart thermostats, EV chargers, and solar systems – via an “aggregator” – to support the grid in ways similar to a traditional power plant. Usually in return for compensation to the customers.**
- **Utilities have had Demand Response (DR) programs for a long time. They were limited to 1-way communication to a willing customer’s not-smart thermostat ordering it to curtail energy consumption during a peak-demand period.**

Typical VPP Customer Components



Benefits of VPP

- **Adding large amounts (GWs) of capacity quickly and nationwide (without big siting/permitting issues)**
- **Economic Efficiency – the market delivers the value (but with rules)**
- **Energy Efficiency – better use of all the components in the system**
- **Better understanding of the energy system – education**
- **Cleaner with the same or better reliability, resiliency and affordability**

There ARE costs for deploying VPP programs. The costs are MUCH less than building more transmission infrastructure.

What Has Changed To Allow VPPs

- **For a few decades electricity use (and peak demand) have been relatively flat. Now demand is up and so is the peak. And so is cost.**
- **We now have smart meters and a smart(er) grid.**
- **We have microgrids.** A microgrid is a number of interconnected loads powered by small-scale on-site Distributed Energy Resources (DER) connected to the distribution system at a point of common coupling that can operate **in parallel** with the grid or **isolated** (islanded) from the grid. An example might be a college campus.
- **We have interoperability standards (IEEE, UL) and smart inverters that can ride through and correct noisy electrical voltage.**
- **And we have lower-cost solar, batteries, and EVs plus charging.**

Where We Are Today and Where We Are Going

- **Today – Utility Programs/Pilots for Energy Efficiency and Peak Demand Response (PDR)**
- **Federal Energy Regulatory Commission (FERC) Order 2222 (Dec 2025)**
promotes competition in electric markets by removing barriers preventing Distributed Energy Resources (DERs) from competing on a level playing field in the organized capacity, energy and ancillary services markets run by **ALL** regional grid operators.
- **Gov Sherrill's Exec Order 2 (Jan 2026):**
 - Within 180 days develop a VPP program with the Utilities and Third-Party Aggregators
 - Build on existing programs with utilities and expand to TP and
 - Develop the rules need to implement FERC Order 2222
- **Senate Bill S3399 – VPP To Reduce Peak Load Act**
 - Establish a demand optimization program for public utilities to optimize demand and reduce the peak
 - Peak Demand reduction of 500 MW by 2030
 - No later than 12 months after the effective date

The Future for (Clean) Energy – Integrated and Holistic System



Now: You can

- Upgrade your home's building shell and weatherization
- Electrify your home with heat pumps, induction stoves and LED lights
- Upgrade your ride to an EV and EV charger
- Power your home and EV with solar and battery storage
- Manage your home with smart appliance and chargers

Coming soon: You can

- Send your stored energy to the grid as part of a virtual power plant