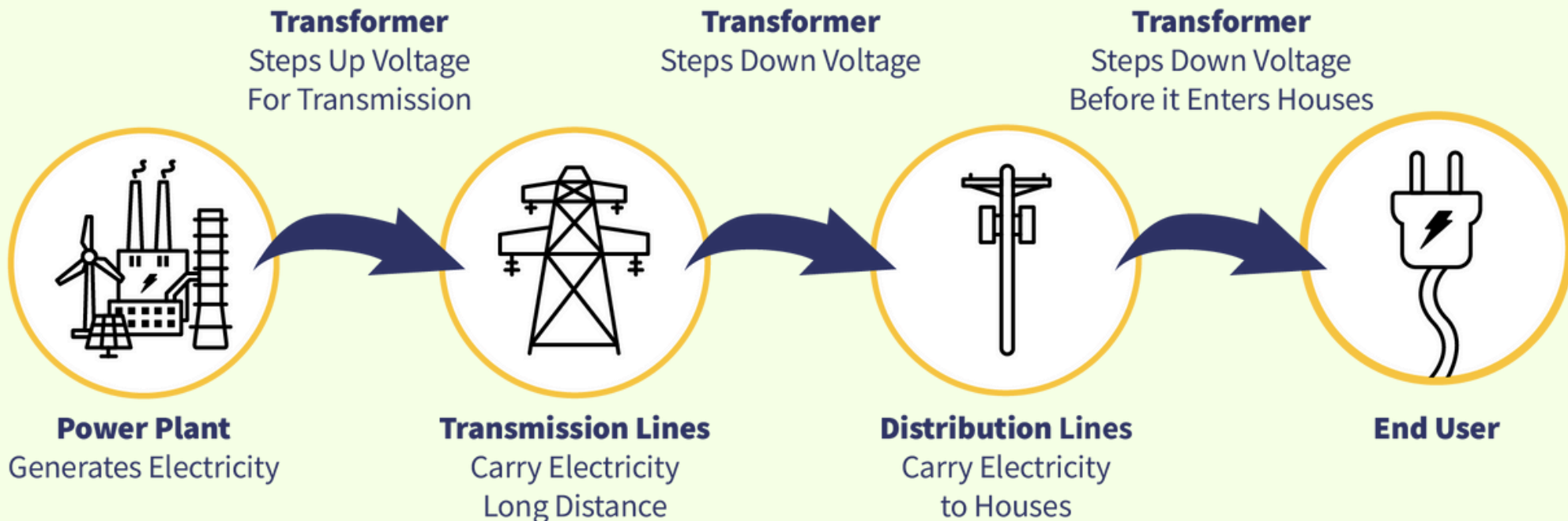


PENNSYLVANIA'S ENERGY: UNDERSTANDING OUR POWER GRID

POLICY BRIEF

What is a Power Grid?

- A power grid is a network of transmission lines that move electricity across the country from power plants to our homes and businesses.
- Our current power grid is overly dependent on natural gas, which has proven unreliable during critical times when electricity demand is highest.
- This vulnerability underscores the urgent need to integrate more clean renewable energy, energy efficiency, and storage resources into our grid.



WHAT IS PJM INTERCONNECTION?



Who is PJM ?

- PJM Interconnection, L.L.C. operates the electric transmission system or “power grid” across 13 states (including PA) and Washington, D.C.
- As the nation’s largest regional transmission organization, PJM's decisions on grid management, market rules, and energy resource allocation impact over 65 million people.
- PJM’s activities are subject to the regulatory oversight of the Federal Energy Regulatory Commission.
- PJM's decision-making process is influenced by input from various stakeholders. Many of PJM’s voting members are predominantly from the fossil fuel industry, potentially hindering the transition to clean energy.

Why should we care?

- As Pennsylvania's power grid operator, PJM's job is to ensure that electric capacity is available when we need it.
- To do this, PJM operates several interconnected markets and auctions to ensure reliable electricity supply and efficient pricing. These markets include day-ahead and real-time energy markets, capacity markets, and ancillary services markets, which use auction mechanisms to match supply and demand, set prices, and procure necessary resources for grid stability.
- PJM's market and auction processes, while designed for grid reliability and efficiency, often prioritize conventional energy sources over cleaner alternatives. ***PJM's failure to efficiently connect new energy sources to the grid and adequately plan for the ongoing energy transition is driving up electricity bills for consumers.***

HOW DO THESE AUCTIONS WORK?

- To keep the grid running over a longer term, PJM operates a capacity market called the Reliability Pricing Model (RPM). In the RPM, capacity auctions occur years in advance, where generators bid to promise future availability at set prices when needed.
- In return for the promise to produce power on-demand, these companies receive guaranteed “capacity payments” that are over and above what they may get for selling electricity.
- *The payout to power companies is there, but if new reliable generation isn't coming online, the payoff for consumers is not.*



PJM'S FLAWED MARKET: SCOPE OF THE PROBLEM

- *PJM's market is failing, and the rules urgently need revision.*
- Under PJM's current capacity market structure, these capacity payment prices are set to increase nearly *ten times* their current rate.
- This exponential rise means that across our entire grid, costs will soar into the billions, translating *directly* into higher electricity bills for consumers.



- Meanwhile, thousands of new energy projects languish in a backlog awaiting PJM approval to join our power grid.
- New generation is years behind schedule, so while we see power companies raking in these guaranteed payments, Pennsylvanians are left in the cold and dark, facing skyrocketing prices without getting improvements in reliability when we need it most.





IMMEDIATE ACTION TO LOWER ELECTRICITY COSTS:

1

Expand funding and coverage for programs like the Low-Income Home Energy Assistance Program (LiHEAP), especially during extreme heat events, to provide immediate relief to vulnerable consumers facing rising energy costs.

2

Enable Community Solar projects to empower more Pennsylvania households to control their own energy bills.

3

Invest in energy efficiency and smaller solar projects that do not need PJM approval, immediately impacting consumers by lowering their electricity bills.

BEWARE OF **FALSE** SOLUTIONS



- Fossil fuel interests are taking advantage of these prices and the backlog of new generation—especially clean and renewable energy sources—to reap windfall profits.
- They are attempting to distract our attention from the real, available-today solutions of clean energy, and instead make us believe that they would increase grid reliability by building even more gas-fired power plants.

FIXING THE FLAWS: FOSSIL FUELS ARE NOT THE ANSWER

- The answer to the problem is not simply “add more fossil fuel power plants.”
- ***Fully-built power plants don't spring up overnight.*** Electricity bills are going up *now*. New gas plants, even if all the interconnection queue problems were resolved today, would still not be operational for years.
- ***Gas plants disproportionately fail when we need them most.*** Recent events show that gas plants are the source of—not the solution to—unreliable power. During Winter Storm Elliott in 2022, gas-fired power plants accounted for less than half of the capacity on the grid during the storm, but more than 70% of the power failures.
- ***We need to fix existing plants, not build new gas plants.*** Increasing the reliability at the existing gas plants on our grid would have the same effect as adding over 12 GW of generation—enough to power 12 million homes—while saving money and avoiding delays. If grid reliability is truly what we're after, these gas power plants should focus on fixing their existing reliability problems through weatherization and other means, not building new plants with the same issues.



WHAT IS THE LONG-TERM FIX TO THIS PROBLEM?

Support Pennsylvania solar development

We should prioritize the rapid approval and integration of solar energy projects onto the grid, as they can be built much faster and cheaper than new gas plants and offer greater reliability during periods of high demand. Given the success of solar and wind energy in Texas, these greener options ensure grid resilience and save consumers money compared to gas-fired power plants.


PENNFUTURE'S LEGAL WORK RELEVANT TO OUR POWER GRID

PennFuture works to advance sustainable economic development policies, focusing on an equitable and just transition from fossil fuels to clean energy sources, which directly impacts Pennsylvania's power grid.



Examples of our work include:

- Filing or intervening in lawsuits in order to advance issues with PJM and federal and state agencies.
- Developing and promoting smart solar siting policies at the municipal and state levels.
- Opposing dirty fossil fuel power plants such as those in Renovo and Elizabeth Township.



LEARN MORE:
www.pennfuture.org



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