



Save these Dates!



PMEA Spring Superintendents/ Foremen Meeting – *Registration Closed*
April 11 & 12, 2024 @ The Graduate, State College

PMEA Reception – June 2, 2024
@ PSAB Conference, Hershey Lodge
Details coming soon – Reception begins @ 3:00 pm

**** Registration Opens Soon ****
PMEA 2023 Annual Conference – September 4 – 6, 2024
@ Omni Bedford Springs, Bedford

PMEA Business & Governance Workshop (formerly Finance Workshop*)**
– September 4, 2024 @ Omni Bedford Springs, Bedford

2024 Training for Line Crews – **Watch your email for registration details**

HotStick

May 2 & 3 - Lansdale
May 6 & 7 - Chambersburg
May 9 & 10 - Grove City

Crew Leadership

July 15 & 16 - Lansdale
July 18 & 19 - Chambersburg
July 22 & 23 - Grove City

Digger

September 23 & 24 - Lansdale
September 26 & 27 - Chambersburg
September 30 & October 1 - Grove City



Substation 101

October 28 & 29 - Lansdale
October 30 & 31 - Chambersburg
November 4 & 5 – Grove City

A Look at EVs and Charging Infrastructure Issues in PA

Live Wire asked the PA Department of Transportation to share insights on the current and future efforts around electric vehicles and charging infrastructure.

Colton Brown is the Alternative Fuels Infrastructure Coordinator for PennDOT, where he supports the implementation of the National Electric Vehicle Infrastructure (NEVI) Formula program and leads electric vehicle education initiatives. Colton's previous Commonwealth experience includes managing level 2 and DC fast charging funding programs. Colton obtained a Master's of Science in Environmental Planning and Management from Johns Hopkins School of Engineering for Professionals.



Live Wire: What are the Commonwealth's goals for electric vehicles and the EV infrastructure?

Brown: The Commonwealth has two central EV goals: to electrify 25% of the state-owned passenger fleet vehicles by 2025, and to complete a "build-out" of high-power charging stations along our major roadways in the next couple years.

Live Wire: What are the Commonwealth's plans for the use of the federal IIJA dollars as these relate to the EV infrastructure?

Brown: The Bipartisan Infrastructure Law (i.e. IIJA) included the National Electric Vehicle Infrastructure (NEVI) program, which allocates a total of \$5 billion to US states and territories for the

EVs and Infrastructure (continued)

build-out of EV charging infrastructure. PennDOT is receiving \$171.5 million through the NEVI program. We are first required to use these funds for high-power DC fast charging stations along “Alternative Fuel Corridors,” which are largely along interstate highways. Funds remaining after this charging network is completed may be used for other publicly available EV charging infrastructure.

There are additional discretionary programs created by the Bipartisan Infrastructure Law that can support EV infrastructure. PennDOT continues to aggressively pursue discretionary funding for EV infrastructure and many other project types.

Live Wire: How many EV charging stations are needed for a well built out infrastructure system across the state? What is the total estimated cost for a fully built out infrastructure?

Brown: PennDOT estimates that we will need to fund about 90 DC fast charging stations throughout the state to meet the NEVI program requirements for “build-out” certification, when including the approximately dozen existing stations that already meet the NEVI criteria. We estimate that about \$100 million of NEVI funds will remain available for additional EV infrastructure project after completing the “build-out” phase. In addition to NEVI funds, private investment will continue to deploy additional charging options.

Live Wire: Can the current power grid handle the increased demand for electric vehicles?

Brown: There was a recent study commissioned by the Pennsylvania Department of Environmental Protection that forecasts that if all vehicles (including medium and heavy-duty vehicles) in Pennsylvania were electric, they would increase total electricity demand by about 30%. Given that the average vehicle has a lifespan of 10-15 years, it will be at least 2050 until EV’s represent most vehicles on the road, even in the most extreme adoption scenarios. Therefore, we can estimate that EV’s could potentially cause electricity demand to increase by about 1-2% percent per year for the next 20-30 years.

With careful generation and distribution system planning, regulators and utilities can accommodate this load growth. It is likely that regional and local distribution system upgrades will be needed throughout this time. Load management strategies can also help ensure that most charging occurs during off-peak times to reduce impacts on generation and distribution systems.

Thus far, electric vehicles in Pennsylvania have increased electricity demand by less than .5%.

Live Wire: What should we expect over the next 3 – 5 years for the EV charging infrastructure?

Brown: The approximately 90 charging stations that PennDOT will be funding the next 1-3 years will have a combined utility connection request of approximately 67,500 kW. But this will likely represent a fraction of the total EV infrastructure installed during this time period as most charging will continue to be at speeds between 1.5 kW and 10 kW at home, at work, and at destinations.

EV charging infrastructure deployment rates will likely track closely with EV adoption, suggesting that the most rapid rate of installations may occur in the late 2020’s through late 2030’s.

Live Wire: Will the Commonwealth be collecting data on the use of EV charging stations from providers to better determine adjustments in the deployment of the infrastructure?

Brown: Charging stations funded through the NEVI program will be required to report detailed station usage information on a quarterly basis.

PennDOT and other government entities are likely to focus their EV infrastructure deployment efforts on locations where the private market is not yet willing to install infrastructure on their own, due to lower expected charging demand in the short to medium-term future. As EV adoption increases and government funding is no longer needed, privately funded projects will represent a greater share of total deployments.

Live Wire: Are there other critical infrastructure issues that you foresee in the near future relating to electric vehicles?

Brown: Charging stations for medium and heavy-duty vehicles (vehicles over 8,500 lbs) often have much larger power needs, and therefore have much longer project timelines to become operational. Planning and preparations for the increasing adoption of medium and heavy-duty vehicles is needed now.

Berlin Featured in City & State PA – Microgrids

As part of a special report on energy, City & State Pennsylvania recently featured a story on microgrids. The article cited a few larger projects but also included a look at Berlin’s microgrid project.



City & State highlighted Berlin Borough’s \$2.55 million diesel generator project and their \$2.2 million contract with PowerSecure to monitor the microgrid. Berlin’s annual savings amounts to about \$300,000 though running the generators during peak energy usage.

See the full story here:

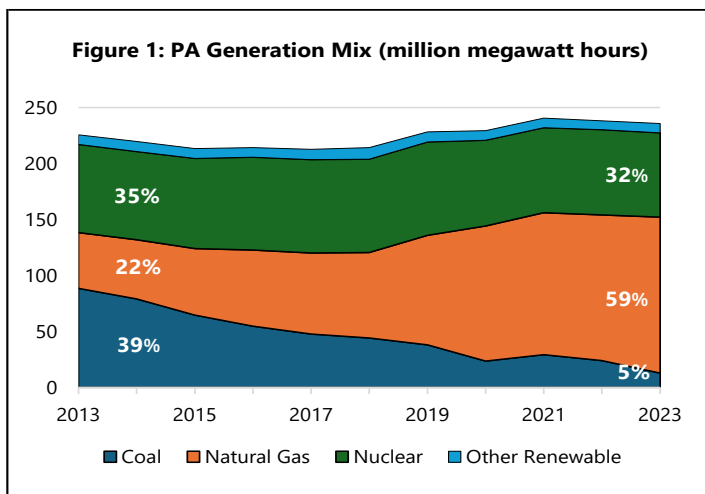
<https://www.cityandstatepa.com/policy/2024/02/microgrids-bringing-maximum-impact-pas-energy-landscape/394401/>. Thank you to PowerSecure for the photos of the Berlin Project.

State IFO Releases Energy Analysis

The Commonwealth’s Independent Fiscal Office (IFO) recently released its Electricity Update. “This report utilizes data from the U.S. Energy Information Administration to display recent trends for the Pennsylvania and regional electricity markets. The report examines recent trends in net generation, net exports, CO2 emissions and prices.”

Excerpts from the report are provided below. Full report can be found here: <http://www.ifo.state.pa.us/releases.cfm?type=2>

The reduction in CO₂ emissions is largely due to the long-term trend decline in coal generation. **Figure 1** displays the generation mix for Pennsylvania from 2013 to 2023 and shows the precipitous decline in coal generation over the last ten years. For 2023, coal was used for just 5.4% of total generation and contracted by 46.5% from 2022, the largest year-over-year drop on record. According to EIA emissions data for 2022, Pennsylvania coal generation emits approximately 2.5 times the amount of CO₂ per unit (1.1 metric tons per megawatt hour) than natural gas generation (0.4 metric tons). During the time period shown, generation from nuclear decreased modestly while generation from other renewables (wind, solar, hydroelectric, biomass) was flat. The figure shows that coal generation was wholly replaced by natural gas over the last decade. For 2023, waste or refuse coal accounted for 24.9% of total coal generation in Pennsylvania, up from 9.7% in 2013. Non-waste coal generation has declined at a much faster rate than waste coal generation. From 2018 to 2023, non-waste coal generation declined by 73.7%, while waste coal generation declined by 57.6%.



A factor that likely impacts that outcome is the Commonwealth provides tax credits to eligible facilities that generate electricity with coal refuse. The annual cap for the Coal Refuse Energy and Reclamation tax credit is \$20 million, and the entire amount was awarded in FY 2022-23. For 2021, an IFO report found that the state tax credit subsidized waste coal generation by \$2.09 per MWh.¹

Electricity Prices

Figure 2 shows average national and Pennsylvania electricity prices for residential customers since 2018 Q2. The data show three general phases: (1) 2018 and 2019 when the Pennsylvania price was generally one cent per kilowatt hour (8%) higher than the U.S. average, (2) the period most impacted by COVID-19 (2020-2021) when prices converged, and (3) a third phase when both prices surged in response to high natural gas prices before diverging. From 2021 Q1 to 2022 Q4, the Pennsylvania price increased by 33.8% and the U.S. price increased by 19.6%. The weaker national increase was likely due to a more diverse generation mix: Pennsylvania uses more natural gas (59.0% of 2023 generation) compared to the U.S. average (43.1%). For 2023 Q4, the average Pennsylvania price was two cents (12%) higher. It is likely that prices will converge during 2024 if natural gas prices remain low.

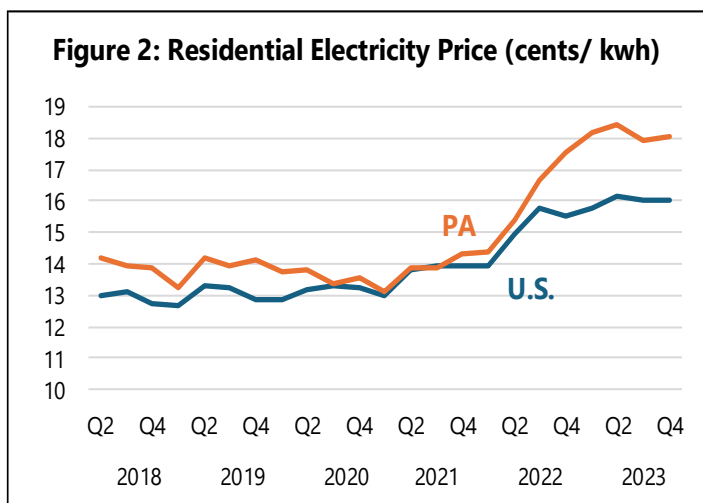


Table 4 shows trends in the average residential price for electricity for Pennsylvania, regional states, and the U.S. The states are listed in descending order based on the percent change in average price from 2018 to 2023. The Pennsylvania residential price increased by 30.3% during the five-year period, the most among regional states. The entire Pennsylvania price increase occurred in 2022 and 2023, as the average residential price in 2021 was 13.8 cents, 0.7% lower than 2018.

State	Avg. Residential Price		% Change
	2018	2023	
Pennsylvania	13.9	18.1	30.3%
West Virginia	11.2	14.1	25.8
Maryland	13.3	16.6	24.7
Ohio	12.6	15.5	23.1
New York	18.5	22.3	20.1
New Jersey	15.4	17.7	15.1
U.S. Average	12.9	16.0	24.2

Note: Amounts in cents per kilowatthour.
Source: U.S. Energy Information Administration.

Source: Reprint courtesy of the Independent Fiscal Office. This report was produced by Jesse Bushman. Questions regarding this report can be directed to jbushman@ifo.state.pa.us.

PA Energy Summit to be Held in April

City & State PA is hosting an Energy Summit on **April 16, 8:30 am – 12:00 N at the Hilton Harrisburg**. Pennsylvania, with its abundant fossil energy resources, is a leading supplier of natural gas, coal, refined petroleum products, and electricity to the nation. The Inflation Reduction Act is expanding these resources, bringing an estimated \$270 million investment in large-scale clean power generation and storage to Pennsylvania between now and 2030. Thanks to funding from the Investing in America Agenda, the U.S. Department of Energy has made more than \$491 million in the past year available to state and local governments to invest in energy efficiency and grid resilience.

The PA Energy Summit will provide multiple opportunities to listen to and interact with influential politicians, producers, and pundits about the key issues affecting how we produce, distribute, and use energy to provide jobs and stimulate the economy.

Additional details and registration can be found here: <https://www.cityandstatepa.com/feature/2024-pa-energy-summit/?oref=cspa-events-upcoming#details>.

Fallen Lineman Golf Tournament

The Third PA/NJ Fallen Linemen Golf Tournament is scheduled for Thursday, May 16. The shotgun start is set for 10:00 am at the Golden Oaks Golf Course, 10 Stonehedge Drive, Fleetwood, PA.

Only 34 teams will be accepted with a registration fee of \$150 per person or \$600 per team – which includes green fee, cart, prizes, special competitions, beverages, and a meal.



FALLEN LINEMEN
FOUNDATION

Net proceeds from the tournament will be used to support linemen and their families in the event of injury while working on the job. For more information and to register, go to the registration site at <https://fallenlinemenfoundation.com/pa-nj-fallen-linemen-foundation-golf-tournament/>

Associate Member Spotlight

LEKSON Associates

Lekson Associates has served the electric utility industry for 50 years and continues to strive to support their customers with reliable, high-quality manufactures that are able to meet the customers' needs as well as changing technologies. Lekson represents manufacturers for distribution,

transmission, and substation. Lekson staff have many years of experience, and they understand the changing needs of the electric utility industry as they use their experience and technical backgrounds which allow them to service their customers as best as possible. Please visit their website at www.lekson.com or contact Bobby Keating at Bobby.Keating@lekson.com.

2024 Will Be Better If You Share Your News....

Please share with us your exciting new projects, photos, personnel updates, and any other news you want to spread the word about. We know there is much happening in our member communities! Your submissions should be sent to bosak@papublicpower.org at any time and we will use them in upcoming editions. We also welcome your suggestions for topics of interest for our newsletters.

Pennsylvania Municipal Electric Association

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