

WORLD POWER SYSTEMS REVIEW

1 February 2025

15 January 2025

EIA publishes its first energy-sector forecasts through 2026

The U.S. Energy Information Administration (EIA) published its first forecasts for energy production, consumption, and prices through 2026 in its January Short-Term Energy Outlook (STEO).

Some key highlights from the January STEO include:

- **Crude oil production:** EIA expects crude oil production to increase in 2025 and 2026, both globally and in the United States. EIA estimates U.S. crude oil production averaged a record 13.2 million barrels per day in 2024 and expects it to grow to an average of 13.5 million barrels per day in 2025. U.S. production growth slows in 2026 in EIA's forecast, averaging 13.6 million barrels per day for the year.
- **Global oil prices:** EIA expects growth in global oil production to outpace global demand for petroleum products, which would push oil prices downward through 2026. In EIA's forecast, the Brent crude oil price will average \$74 per barrel in 2025, 8% lower than in 2024, and then continues its decline to average \$66 per barrel in 2026.
- **Electricity demand:** U.S. electricity consumption grew by 2% in 2024 after nearly two decades of relatively steady demand. EIA forecasts electricity demand to continue growing at that rate in 2025 and 2026, which would be the first three years of consecutive growth in electricity demand since 2005–07. EIA expects electricity demand to grow fastest in the industrial sector—by 2% in 2025 and 3% in 2026—as new semiconductor and battery manufacturing operations come online. In the commercial sector, demand increases by 2% in both 2025 and 2026 as data-center power consumption increases.
- **Renewable energy:** EIA expects that for the first time, renewable energy sources will contribute one-quarter of electricity generation in the United States in 2025. Renewables contribute 27% of electricity generation in 2026 in EIA's forecasts.
- **Natural gas prices:** EIA expects the Henry Hub spot price to average \$3.10 million British thermal units (MMBtu) in 2025 and \$4.00/MMBtu in 2026, up from an all-time low average of \$2.19/MMBtu in 2024. Prices increase because demand growth—led by LNG exports—outpaces production growth and keeps inventories at or below the 2020–2024 average for most of the next two years.
- **Emissions:** EIA forecasts that U.S. energy-related carbon dioxide emissions will increase slightly in 2025 and decrease slightly in 2026. EIA expects increased emissions from coal and petroleum-product consumption to drive the increases in 2025. In 2026, EIA expects that less electricity generation from natural gas and more improvements in vehicle fuel economy will be among the main contributors to a slight decrease in emissions.

EIA

<http://www.eia.gov/>

16 January 2025

SPP Markets+ Tariff Wins FERC Approval

SPP's proposed Markets+ service reached a significant milestone Jan. 16 when it received approval of its tariff by the Federal Energy Regulatory Commission (FERC). Markets+ is the regional, day-ahead energy market developed in collaboration between SPP and more than 30 western entities, anticipated to launch in 2027. This milestone achievement allows participants to begin phase two of Markets+ development following the execution of phase-two funding commitments.

"FERC's approval of the Markets+ tariff is an important achievement for SPP," said SPP President and CEO Barbara Sugg. "It reiterates what we know to be true about Markets+ — it's a superior market design that recognizes and values the needs of all

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participants.” SPP completed and filed the Markets+ tariff with FERC March 29, 2024. FERC sent a letter July 31 requesting more information on specific tariff elements, to which SPP responded in September. While awaiting the Commission’s approval of the market’s terms and conditions, SPP has continued to facilitate work among prospective market participants to craft detailed protocols that will define the service’s administration and operation.

The Markets+ tariff filing was a result of hundreds of hours of collaboration between SPP staff and the 38 western entities who signed phase one agreements and includes terms and conditions representative of the diverse perspectives of all stakeholders. Since the tariff filing in March, Markets+ participants have been defining detailed protocols for the market’s administration, which is currently underway.

“We’re thrilled to see the Markets+ tariff approved,” said Antoine Lucas, SPP’s vice president of markets and incoming executive vice president and chief operating officer. “Markets+ is a collaborative, stakeholder-driven market, which will enhance reliability and provide significant economic benefits to participants across the Western Interconnection, and we look forward to the next phase of market development.”

The Bonneville Power Administration (BPA), a Northwest-based federal power marketing administration that delivers wholesale electricity to more than 140 customer utilities and provides transmission service to more than 300 transmission customers, announced they would fund their share of phase-two development while they continue to collaborate with customers to develop a policy direction toward a day-ahead market option in May 2025.

“BPA is pleased that the Federal Energy Regulatory Commission has approved SPP’s Markets+ tariff, which was crafted through a robust stakeholder process,” said Rachel Dibble, BPA Power Services Vice President of Bulk Marketing. “This guarantees BPA has two viable day-ahead markets to consider as we make our way toward a day-ahead market decision later this year.”

Four Arizona entities in the Desert Southwest announced their plans to join Markets+ in November 2024. Arizona Public Service (APS), Salt River Project (SRP), Tucson Electric Power (TEP) and UniSource Energy Services will join phase two development in 2025 and be part of the market’s launch in 2027.

“Salt River Project is pleased Markets+ has received FERC approval,” said Josh Robertson, SRP Director of Energy Market Strategy. “Looking forward, our participation in SPP Markets+ is a vital element of our plan to address the increasing energy demands of our customers in a reliable and affordable manner, while also supporting our ambitious 2035 Sustainability Goals.”

Mountain West entities are planning to participate in Markets+ phase two as well.

“Xcel Energy-Colorado is pleased that FERC has recognized the value of market expansion in the West,” said Xcel Energy-Colorado President Robert Kenney. “We have been engaged in building Markets+ since the start, and plan to make a filing in the near future with our state regulators for approval to enter into Markets+. Upon a favorable ruling in that proceeding, Xcel Energy-Colorado will execute the Phase 2 funding agreement and proceed to join Markets+.”

SPP

<http://spp.org/>

16 January 2025

China is ramping up grid spending after green power supply boom

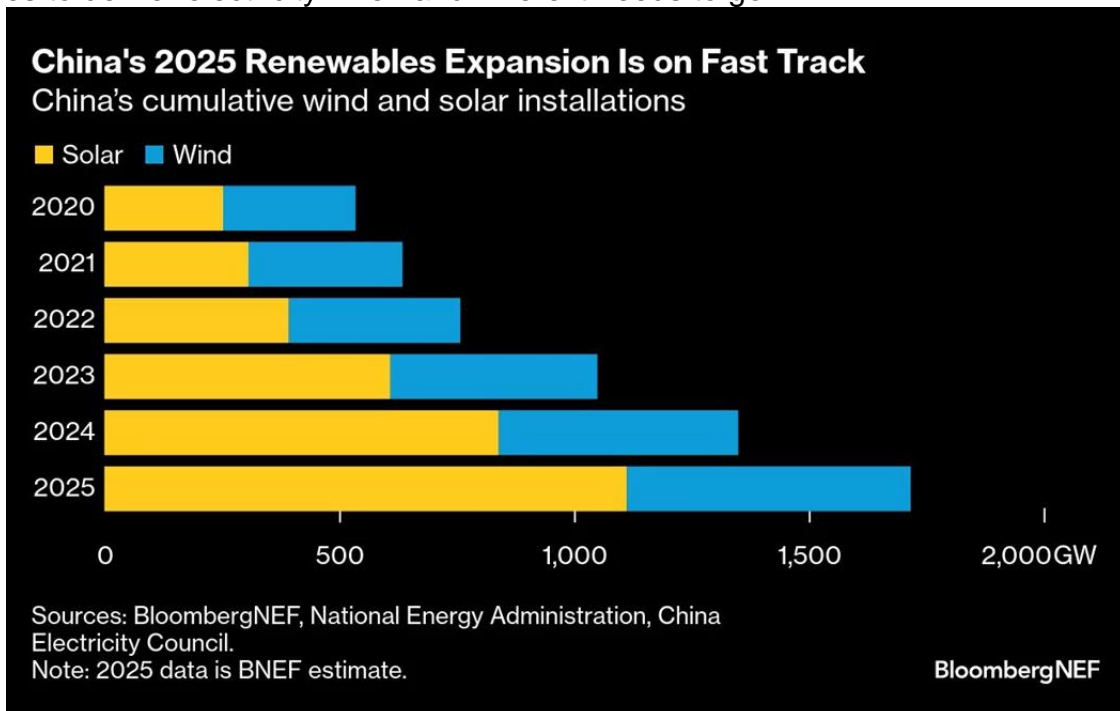
After launching the biggest boom in renewable power in history, China is now paying-up to make sure all that clean energy can get to homes and businesses. Spending on power

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transmission surged 19% to 529 billion yuan (\$72 billion) in the first 11 months of last year, according to the National Energy Administration. Funding for new power capacity was larger at 866.5 billion yuan, but at just 12% growth it's looking likely that annual grid investments expanded faster than generation projects for the first time since 2018. And infrastructure investment will keep rising this year. State Grid Corp. of China, the nation's largest operator, promised to boost spending to more than 650 billion yuan in 2025 after setting its budget at 600 billion yuan last year. China Southern Power Grid Co., the other major operator, has said it plans to lift capital spending for network upgrades by more than half by 2027.

Chinese power markets and companies aren't the only ones with a lot riding on the buildup. Faster grid expansion is going to accelerate demand for copper, said Wei Lai, deputy trading head at Zijin Mining Investment Shanghai Co. Other metals suppliers, from steel to aluminum and zinc, are relying on the energy transition to replace demand lost to the collapse of the property sector. Local governments and industries feeling the strain of China's slowing economy will require the full spectrum of power sources to be available if they're going to successfully lower electricity prices for their factories. China's wind and solar capacity more than doubled from 2020 to 2024 to 1,350 gigawatts, a level that exceeds all of the power plants in the US. Although that power is cheap and clean, it has two major problems: it's reliant on the weather, and its scale means it's often located in wide, open spaces far from population centers. That requires a lot more power lines and energy storage facilities to deliver electricity when and where it needs to go.



Already, some Chinese regions have so much wind and solar they have to shut down generation for parts of the day because local grids can't handle all the power. Utilization rates for both technologies have been slowly dropping this year, although conditions are still much better than they were. In the first six months of 2016, for example, nearly half of all wind power in Gansu had to be curtailed. So the clock is ticking on grid operators. For all of the investment in wind and solar, fossil fuels and coal in particular continue to stubbornly hold their share of power generation. Failure to adapt in good time could slow the pace of the renewables build out and create yet another hurdle for China's energy transition.

NS Energy
<http://www.nsenerybusiness.com/>

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AEP, DTE and 6 other utilities win \$22.9B in conditional loan guarantees from DOE

The U.S. Department of Energy on Thursday announced conditional loan commitments for eight utilities totaling almost \$23 billion. If finalized, the loans would support investments in transmission, energy storage, grid modernization, gas pipelines and more.

“Projects planned by the utilities announced today will add much-needed transmission capacity by building new transmission lines, reconductoring existing lines, and implementing grid-enhancing technologies that will get more out of existing grid,” DOE said.

Additional investments include substation upgrades, virtual power plants and “strategically placed energy storage ... New generation from wind, solar, and hydropower are planned at gigawatt scale,” DOE said. And along with investments in the power grid, the conditional loans would support replacing over 3,000 miles of “leaky natural gas distribution and main lines.” The loan guarantees would be provided through the Energy Infrastructure Reinvestment program, funded by the Inflation Reduction Act, and go to utilities serving almost 15 million customers across 12 states.

The largest award would go to DTE Electric, which could receive up to \$7.17 billion in loan guarantees to help finance generation and battery storage in Michigan. Sister utility DTE Gas could receive up to \$1.64 billion in loan guarantees to update large natural gas pipes and service distribution lines and to move metering infrastructure outdoors.

LPO's January 16, 2025 Announcement: Conditional Commitments for Loan Guarantees to Utility Borrowers

PROJECT	DOLLARS	STATES	# OF CUSTOMERS BENEFITTING
PacifiCorp Western Interconnected Renewable Energy	\$3.52B	California, Idaho, Oregon, and Utah	2.1 million
DTE Gas Clean Energy	\$1.64B	Michigan	1.3 million
DTE Electric Clean Energy	\$7.17B	Michigan	2.3 million
Interstate Power and Light Clean Energy Blueprint Projects	\$1.43B	Iowa	500,000
Wisconsin Power and Light Clean Energy Blueprint Projects	\$1.62B	Wisconsin	500,000
Consumers Energy Clean Energy	\$5.23B	Michigan	3.1 million
Jersey Central Power & Light Transmission Projects	\$0.71B	New Jersey	1.2 million
AEP Transmission Projects	\$1.60B	Indiana, Michigan, Ohio, Oklahoma, and West Virginia	3.78 million
TOTAL:	\$ 22.92 B	12 states	14.78 million

Consumers Energy, a subsidiary of CMS Energy, could receive a \$5.23 billion loan guarantee for investments through 2031 in solar generation, wind generation, battery storage, virtual power plant projects and the replacement of legacy natural gas pipelines.

“If finalized, the loan guarantee will enable Consumers Energy to invest in reliability and energy security while significantly lowering costs for its customers,” DOE said.

PacifiCorp could receive a \$3.5 billion loan guarantee for Project WIRE, which includes about 700 miles of new high-voltage transmission lines to bolster overall system capacity and reduce the curtailment of existing wind energy facilities, DOE said.

The proposed loan “is expected to reduce upward pressure on electricity rates for PacifiCorp ratepayers due to the reduced cost of debt associated with LPO financing, and PacifiCorp customers could benefit from approximately \$1 billion in total savings over the life of the loan based on current credit spreads and credit ratings,” the agency said.

The Loan Programs Office announcement comes on the eve of President-elect Donald Trump taking office on Monday. There is some uncertainty across the utility industry how conditional loan commitments — which still require finalizing — will be handled by the new administration.

“As a binding agreement, funds are obligated at the time of conditional commitment,” a DOE official told reporters on Wednesday, according to Canary Media.

Utility Dive
<http://www.utilitydive.com/>

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16 January 2024

Tender launched for procuring a Battery Energy Storage System

The Republic of Moldova will acquire a state-of-the-art Battery Energy Storage System (BESS) with a capacity of 75 MW, along with Internal Combustion Engines (ICE) with a capacity of 22 MW. The tender process has been launched by USAID through the Moldova Energy Security Activity (MESA) Project, announced the Ministry of Energy, IPN reports.

The first phase of the tender involves the procurement and installation of a 30 MW battery storage component. The Ministry of Energy noted that potential bidders were informed during a dedicated conference. The contract signing is expected to take place in the coming weeks, with the project scheduled for completion by the end of September 2026. The storage systems will be installed at CET Nord.

The project is being implemented with financial support from the United States Government, through an \$85 million grant provided by USAID. The announcement was made during U.S. Secretary of State Antony Blinken's visit to Chisinau in May 2024. This initiative is part of the broader \$300 million U.S. aid package aimed at strengthening Moldova's energy security under the Moldova Connected initiative.

IPN

<http://www.ipn.md/>

17 January 2025

Sonnen, SOLRITE Energy launch grid-optimizing virtual power plant in Texas

A new Texas virtual power plant will use residential solar and battery installations to shape load and provide other grid services while reducing participants' retail electricity prices by up to 40%, sonnen USA and SOLRITE Energy said Thursday.

The companies' "virtual power plant power purchase agreement," or VPA, provides homeowners with solar panels and two 20-kWh sonnen batteries at no upfront cost. It enrolled over 40 MW of capacity between September and early January, the companies said. The intent is for the program's solar arrays to support participants' own loads while the batteries enable price arbitrage and provide grid support during periods of high demand, sonnen USA CEO Blake Richetta told Utility Dive.

The VPA is "the industry's first financial offering that leverages innovative battery grid services, in order to provide a superior and affordable solar-plus-storage solution for end customers and solar contractors," SOLRITE says.

Program participants pay \$0.12/kWh for "for up to 80% of all the power used in the home," according to SOLRITE's website. That represents a discount of up to 40% on the \$0.19/kWh to \$0.20/kWh "rate commonly seen in the state," sonnen and SOLRITE said. Unlike "solar buyback" VPPs that inject solar energy into the grid on sunny days, the sonnen-SOLRITE VPA "strategically controls when and how energy is shared with the grid," generating substantial revenue to pass on to participants, the companies said.

That means the batteries charge when wholesale power prices fall on the Electric Reliability Council of Texas grid, typically in the overnight hours or during periods of excess wind production, and discharge at daily peaks and during periods of weather-related grid stress, Richetta said. At scale, the model can improve the economics of wind and solar power generation and support higher renewable penetration on regional grids, Richetta said. In the northern tier of sonnen's home country of Germany, the company has "a big cluster of batteries with no solar that do nothing but [time-shift] wind produced offshore in the North Sea," he said. "This is essential to allow us to achieve a full energy transition."

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The use cases for utility-scale battery installations are distinct from — and complement — those for distribution-connected “battery swarms,” Richetta said. By reducing nodal congestion on the distribution grid and responding to price signals, behind-the-meter battery aggregations act as non-wires alternatives that enable more utility-scale generation upstream, he said. The goal is to “anchor renewable energy by way of a genuine VPP that performs genuine grid services, not a marketing ploy,” Richetta said.

The approach could alleviate historic tension between utilities and the solar energy industry by establishing “a collaborative partnership between renewable energy and retail electric providers,” SOLRITE Energy CEO Regan George said in a statement. But it’s more effective in liberalized power markets, like Germany, Belgium, Italy and Texas – “the closest thing we have to Europe in North America,” Richetta said.

It also works in vertically integrated utility territories where utilities have the will to make it happen, he added. Sonnen batteries and energy management software support Rocky Mountain Power’s Wattsmart VPP in Utah, which the U.S. Department of Energy earlier this month characterized as “among the most advanced VPP[s] in the U.S. due to its degree of integration into the utility’s overall system operations and the wide array of use cases (grid services) of the battery aggregation.”

Sonnen batteries also supported Arizona Public Service’s “super soak” program, an early effort to flatten the midday “duck curve” caused by excess solar generation. Among independent system operators, the California ISO and ISO-New England are “the next ones to watch” for policy changes to enable programs like the sonnen-SOLRITE VPA, Richetta said. In other ISOs, the near-term outlook is cloudier “until they recognize that [FERC Order 2222] has some level of authority and you have to let behind-the-meter assets do something,” he said.

Utility Dive

<http://www.utilitydive.com/>

20 January 2025

CRRC Installs ‘World’s Largest’ Floating Offshore Wind Turbine in China

Chinese state-owned CRRC has installed what the company claims to be the world’s largest floating offshore wind turbine in the Shandong Province. On 11 January, the company installed the 20 MW Qihang floating offshore wind turbine prototype at the Dongying wind power testing and certification innovation base in Shandong. CRRC said this marks an important step for the state-owned firm in its exploration of ultra-large offshore wind turbines.

The Qihang floating wind turbine prototype has a diameter of 260 metres, equivalent to seven standard football fields, and a hub height of 151 metres. Each rotation of the unit can meet the electricity demand of a household for two to four days, saving about 25,000 tonnes of coal consumption and reducing carbon dioxide emissions by about 62,000 tonnes per year, according to CRRC. The Qihang rolled off the production line in Sheyang, Jiangsu Province, in October 2024, and arrived at Dongying Guangli Port in mid-December. After that, the prototype was transferred to the Dongying site using a self-propelled modular transport unit. After completing the relevant tests and certifications, the company said the floating wind turbine prototype will be installed offshore for grid-connected power generation. Last year, China’s Mingyang Smart Energy installed the world’s first 16 MW floating wind platform. The company’s OceanX floater, which features two MySE8.3-180 hybrid drive wind turbines and has a total capacity of 16.6 MW, was installed at the Qingzhou IV offshore wind farm in Yangjiang in August 2024 and entered operation in December 2024.

Offshorebiz

<http://www.offshorewind.biz/>

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20 January 2025

Rome Fiumicino opens solar farm to curb airport emissions

The operator of Rome's Fiumicino airport on Monday opened a solar farm built by energy group Enel (ENEI.MI), opens new tab and network service provider Circet which is designed to cut its carbon dioxide (CO₂) emissions by more than 11,000 tons per year.

The new infrastructure, which the airport presented as the first step of a broader drive to boost renewable energy, extends for almost 2.5 kilometres (1.55 miles) along the eastern side of Fiumicino. Aeroporti di Roma (ADR), which manages Fiumicino, said in a statement the solar farm was the largest self-consumption photovoltaic system in a European airport, and one of the largest systems in the world within an airport perimeter.

The farm has a peak capacity of 22 megawatts, ADR said, and aims to reach 60 megawatts in the next five years by adding solar panels. ADR, which is owned by infrastructure group Mundys, said the project was worth around 50 million euros, part of its broader 200-million-euro plan of investments on renewables and sustainable mobility.

"The solar farm is a perfect example of how airport grounds can be optimised... to enable the airport's sustainable growth," said Mundys chairman Giampiero Massolo. The Italian government of Giorgia Meloni has a goal to add more than 35 gigawatts of green energy capacity by 2030 through photovoltaic plants.

Last year however it passed rules curbing the installation of solar panels on agricultural land after sector lobbies complained that they were incompatible with cultivation. "This is a demonstration of how we can use many areas that do not have monumental value or high agricultural intensity to achieve the goal of decarbonisation," Energy Minister Gilberto Pichetto Fratin said at the project's presentation.

Reuters

<http://www.reuters.com/>

20 January 2025

Saudi Arabia commissions its largest battery energy storage system

Saudi Arabia has officially connected its largest battery energy storage system (BESS) to the grid, marking a significant milestone in the country's renewable energy expansion. The project proponents describe the 500 MW/2000 MWh BESS development in Bisha, in the southwestern Saudi Arabian province of 'Asir, as the world's largest operational single-phase energy storage project.

The Bisha battery storage facility features 122 prefabricated storage units, designed and supplied by China's BYD. Each unit integrates a 6 MW power conversion system (PCS) alongside four lithium iron phosphate (LFP) battery modules, each with a capacity of 5.365 MWh. This modular approach is described as a way to optimize space utilization, enhance system integration, and minimize potential failure points.

The project was designed by Power China Hubei Engineering Co., a subsidiary of Power China, which played a significant role in its construction. The facility's deployment in the harsh desert environment posed substantial challenges, including extreme temperatures and frequent sandstorms. Engineers overcame these conditions by refining installation methods and optimizing commissioning processes to ensure long-term reliability.

The Bisha BESS is part of Saudi Arabia's broader initiative to strengthen its renewable energy infrastructure. This development aligns with Vision 2030, the kingdom's long-term economic strategy, which aims to derive 50% of its energy from renewable sources. Energy storage is a vital component of this transition, providing grid flexibility and enabling the integration of intermittent power sources such as solar and wind. The project is among several large-scale battery storage initiatives being developed in Saudi Arabia. In

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an ongoing procurement, the Saudi Power Procurement Company (SPPC) is tendering four 500 MW / 2,000 MWh BESS projects. The list of prequalified 33 bidders was released earlier in January, revealing Masdar, ACWA Power, EDF, and TotalEnergies as competitors for 15-year storage services agreements.

Pv-magazine
<http://www.pv-magazine.com/>

21 January 2025

Trump executive orders halt wind development, declare energy emergency

President Donald Trump began his second term Monday with a bevy of executive orders, including one that temporarily withdraws all federal waters from consideration for offshore wind leasing, and pauses permitting, approvals and loans for all onshore and offshore wind projects. The administration's pick for Secretary of the Interior, former North Dakota governor Doug Burgum, will lead a comprehensive assessment of federal wind leasing and permitting practices, the order said. Trump's order cites "various alleged legal deficiencies underlying" the federal government's leasing and permitting of wind projects, and concerns that the projects could lead to "negative impacts on navigational safety interests, transportation interests, national security interests, commercial interests, and marine mammals." Trump also issued Monday executive orders that declared an energy emergency and a regulatory freeze.

Utility Dive
<http://www.utilitydive.com/>

22 January 2024

Envision Energy set to power Egypt's gigawatt-scale wind project

Envision Energy, a global leader in green technology, has secured a landmark contract for Saudi developer and world largest private company in water desalination, leader in energy transition and first mover into green hydrogen, ACWA Power's 1.1GW onshore wind farm in Egypt's Gulf of Suez region, set to become one of the largest in the Middle East and North Africa (MENA) region. This groundbreaking collaboration will significantly enhance Egypt's renewable energy capacity, supporting the country and MENA's energy transition and sustainable development goals.

The project is managed by Suez Wind Energy, a joint venture by Saudi Arabia's ACWA Power and HAU Energy, with financing provided by the European Bank for Reconstruction and Development (EBRD). It will feature 138 of Envision Energy's state-of-the-art 8 MW wind turbines, designed for high wind speeds and sandy environments and include 25 years of long-term maintenance services, ensuring optimal performance and reliability throughout its lifespan.

"We are thrilled to be part of this transformative project in Egypt. By leveraging our cutting-edge turbine technology and industry-leading supply chain integration, this project will set a new standard for large-scale wind energy in the MENA region." said Kane Xu, Senior Vice President and President of International Product Lines at Envision Energy, "As the world accelerates its transition to cleaner energy, this project highlights the power of innovation and collaboration to scale sustainability. It underscores our commitment to delivering tailored solutions that meet the unique challenges of renewable energy deployment in diverse environments."

Envision Energy's 8 MW platform turbines are customizable with different blade configurations and hub heights to optimize energy capture in diverse conditions. Backed by Envision's industry-leading vertical supply chain integration and in-house development and manufacturing of critical components, these turbines offer superior quality and reliability.

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Additionally, the use of Envision's Galileo system, which analyzes real-time wind data to define precise load conditions for component- and system-level testing, ensures unmatched performance.

This project marks a significant milestone in the MENA region's clean energy journey, offering broad economic and environmental benefits. It will enhance Egypt's renewable energy infrastructure, attract further investment, drive innovation, and create job opportunities. By setting a new benchmark for large-scale renewable energy projects, the wind farm underscores Envision Energy's commitment to advancing the global energy transition and lays the foundation for future collaborations worldwide.

NS Energy

<http://www.nsenergybusiness.com/>

23 January 2024

Solar power overtook coal in EU's electricity mix in 2024, Ember says

Solar power overtook coal in the European Union's electricity mix for the first time last year, while wind power's share plateaued, data from energy think tank Ember showed on Thursday. The EU is seeking to increase its renewable power generation as part of efforts to cut emissions and reach its climate targets as well as cutting its reliance on fossil fuel imports to help boost energy security. Solar generation provided 11% of the EU's electricity mix in 2024, up from 9.3% in 2023 and overtaking coal which fell to less than 10% for the first time since Ember began collating the figures in 2011, the data showed. "For the past two years we have seen sharp declines in both coal and gas in the EU power system and fossil fuels are now at an historic low," Chris Rosslowe, senior analyst and lead author of the report said in an interview.

Gas-fired power production fell to a 15.7% share from 16.9% in 2023 while wind power was almost flat at 17.4%. Although some 13 gigawatts (GW) of new wind capacity was added in 2024, wind conditions were less favourable than in 2023, leading to lower than expected generation. "The new capacity added this year was slightly offset by the worse wind conditions," Rosslowe said. The EU wants wind power to make up around 34% of its electricity mix by 2030 and more action is needed, particularly around making permitting for new projects easier, to meet the goal, Rosslowe said. Nuclear remained the dominant electricity provider in the EU, rising to 23.7% from 23% in 2023.

Reuters

<http://www.reuters.com/>

27 January 2024

Iraq's Gulf Power Grid Project: Over 75% Complete

The Iraqi Ministry of Electricity has announced that over 75% of the Gulf power grid connection project, aimed at bolstering the country's energy supply, is now complete. A delegation led by the Ministry's advisor, Abdul Hamza Aboud, recently met in Basra with Mohamed Shaikh, Deputy CEO of the Gulf Cooperation Council (GCC) Interconnection Authority, alongside representatives from Gulf countries' electricity and energy ministries.

"The draft energy exchange agreement with GCC countries has reached an advanced stage, with more than 75% of the project completed," the ministry confirmed. This meeting built on discussions from a previous session in Dammam, Saudi Arabia, where the draft agreement was reviewed. The agreement includes constructing two 400 kV high-voltage lines connecting Kuwait's Al-Wafra station to Iraq's Al-Faw secondary station, along with installing two transformers at Al-Faw, according to the ministry.

Iraq has long faced severe power shortages, particularly during summer months when temperatures can exceed 50°C. Years of war and sanctions have left the country's

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power infrastructure in disrepair, resulting in frequent blackouts. To address this, Baghdad is prioritizing regional electricity interconnection projects to stabilize its grid. The Gulf interconnection is expected to contribute 500 megawatts to Basra's power supply, while a separate link with Saudi Arabia will initially provide 1,000 megawatts. However, despite these efforts, Iraq continues to rely heavily on Iranian gas, which has proven to be an unstable source.

Ifp Info

<http://www.ifpinfo.com/>

27 January 2024

UK Stay Safe Stay Clear and report damage to electricity infrastructure

- Storm Éowyn brought unprecedented, widespread and extensive damage to electricity infrastructure resulting in 768,000 customers losing supply on 24 January. As of 5.25pm (Monday), ESB Networks has restored supply to 564,000 homes, farms and businesses – 204,000 customers remain without supply
- Support from Great Britain deployed to worst impacted areas, and further support is set to arrive from electricity network operators in Austria, Finland, Netherlands and France
- Expected Restoration Times: this shows that by Friday 31 January, the vast majority of those impacted by Storm Éowyn will have had supply restored. After this we expect that the remaining, approximately 100,000 customers, will progressively have their supply restored over the course of next week

ESB Networks would like to reinforce this Important Public Safety Message: 'We have been made aware of several instances of potentially very dangerous incidents where members of the public have unknowingly approached fallen electricity infrastructure. Fallen debris after a storm can prevent people from seeing hidden risks such as wires entangled into trees and branches. If you come across fallen wires or damaged electricity network, never, ever touch or approach these as they are LIVE and extremely dangerous'.

As of 5.25pm (Monday), ESB Networks has restored supply to 564,000 homes, farms and businesses – 204,000 customers remain without supply, down from a peak of 768,000 on early Friday morning following the unprecedented impact of Storm Éowyn. To support ESB Networks and partner contactors in their restoration effort post-Storm Éowyn, skilled technicians from counterparts in Great Britain have been deployed to the worst impacted areas, and further support is set to arrive from electricity network operators in Austria, Finland, Netherlands and France over the coming days. Following Storm Darragh in December and other significant weather events like Storm Ophelia in 2017, ESB Networks received support from electricity network operators in Great Britain and Europe.

In addition, ESB Networks crews from the south and east of the country are also being redeployed to the worst impacted areas once restoration in their areas has been completed, while skilled retirees from ESB Networks are also being redrafted to assist.

ESB Networks has published estimated restore times for most of its faults on www.PowerCheck.ie, which are now most accurate indications based on fault site assessments of when customers can expect to have their power restored. Estimated Restoration Times will continue to be updated as the restoration continues to progress and weather conditions may impact on the restoration work. All crews are continuing to work late into the evening in difficult conditions following Storm Herminia which didn't cause significant damage to the network but did make power restoration more challenging in places.

ESB

<http://esb.ie>

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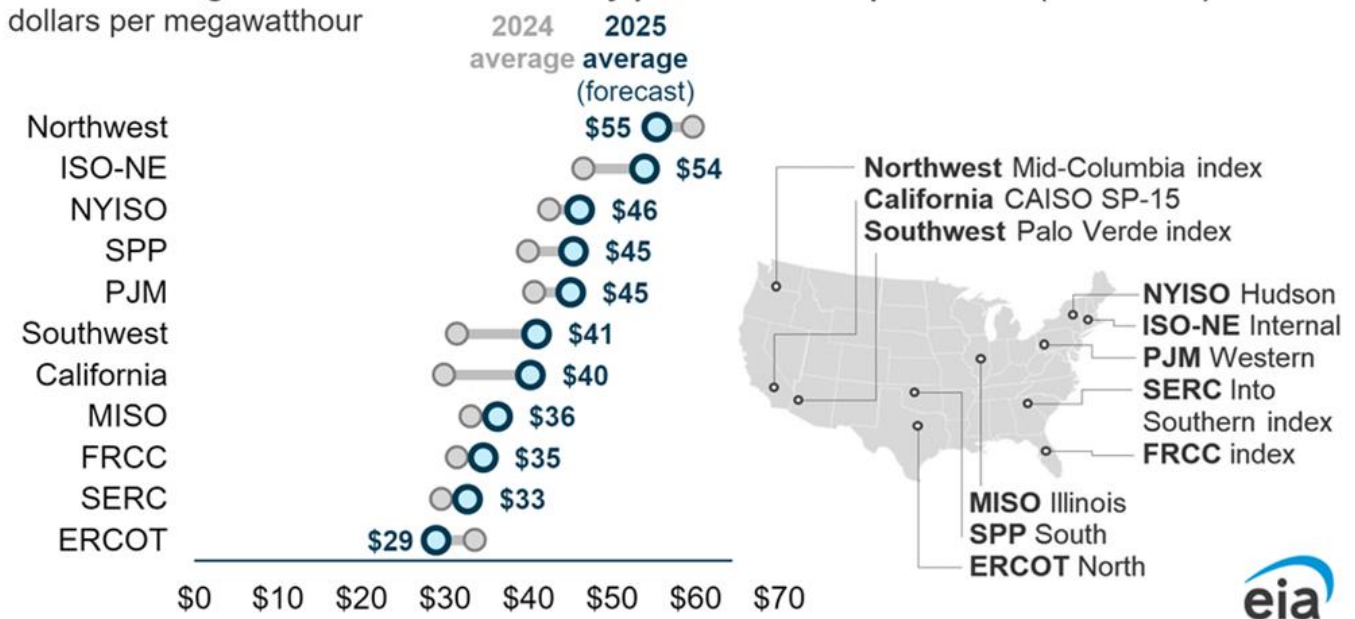
27 January 2024

Forecast wholesale power prices and retail electricity prices rise modestly in 2025

In January Short-Term Energy Outlook (STEO), we expect that U.S. wholesale power prices will average slightly higher in 2025 in most U.S. regions than last year, except in Texas and in the Northwest. We forecast that the 11 wholesale prices we track in STEO will average \$40 per megawatthour (MWh) in 2025 (weighted by demand), up 7% from 2024. We expect the 2025 average U.S. residential electricity price will be 2% higher than the 2024 average, though after accounting for inflation, our forecast for U.S. residential prices remains relatively unchanged from 2024.

Wholesale power prices are an indicator of the cost of generating power and are generally created on an hourly or daily basis in the United States. These prices reflect the operating and fuel costs of the most expensive unit that is needed for fulfilling electricity demand at a given point in time at a defined pricing point location within the power grid, along with any costs associated with transmission congestion into that area. The cost of natural gas is a primary driver of wholesale prices in many regions because the marginal generator is often one fueled by natural gas. We expect that the cost of natural gas delivered to U.S. power generators will average \$3.37 per million British thermal units in 2025, which is up 24% from last year’s average but is about the same price as in 2023.

Annual average U.S. wholesale electricity prices at select price hubs (2024–2025)



We expect that average wholesale power prices will range from about \$30/MWh in the part of Texas where the grid is managed by the Electric Reliability Council of Texas (ERCOT) to \$55/MWh in the Northwest region. These two regions are the only ones in which we expect lower wholesale prices this year.

The Northwest region is still experiencing drought conditions, but we expect conditions to improve slightly this year with 20% more hydropower generation. Increasing generation from solar power projects is contributing to lower wholesale prices in ERCOT.

Other regions of the country are likely to see higher wholesale prices over the next year as a result of higher costs for natural gas. We expect the largest increases (about 30%–35%) will occur in the Southwest and California regions. Forecast wholesale prices in the ISO New England region average \$55/MWh in 2025, up 16% from 2024. Although we expect higher wholesale prices in 2025, they would still be lower than in 2022, when the composite average wholesale price reached \$80/MWh.

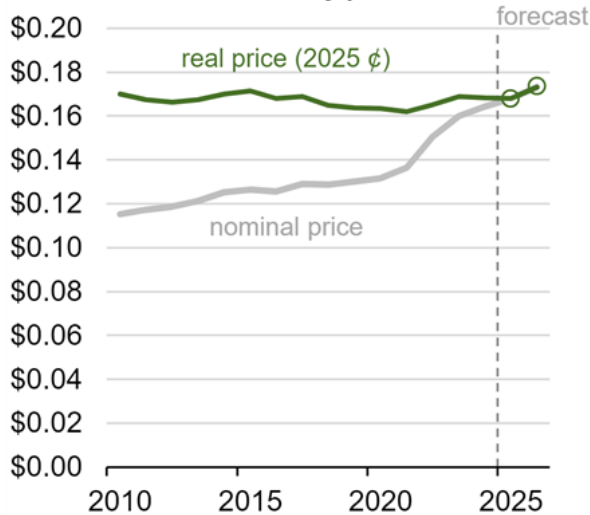
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Annual U.S. electricity price by select sectors (2010–2026)

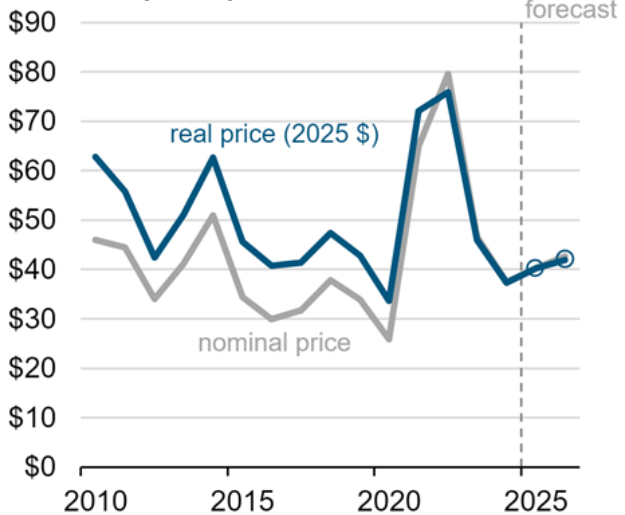
cents per kilowatthour

retail residential electricity price



dollars per megawatthour

wholesale power price



Changes in the costs of supplying electricity can take time to affect retail electricity prices because retail rates are reviewed and approved by utility regulators in many areas of the country. We expect U.S. retail electricity prices for residential customers will average 16.8 cents per kilowatthour, which would be 2% more than in 2024. After accounting for inflation, forecast U.S. residential prices in 2025 are relatively unchanged from 2024.

EIA

<http://www.eia.gov/>

29 January 2024

PLA extends power supply to border outposts near disputed China-India frontier

The People's Liberation Army has extended the power supply to border outposts in remote areas with harsh conditions, including those at high elevations, according to an official Chinese military newspaper.

PLA Daily reported earlier this month that border outposts in Xaidulla in Xinjiang Uygur autonomous region and Ngari prefecture in Tibet autonomous region – strategic areas along the contested China-India border – were completely covered by the national power grid. “The electricity and renewable energy used by the vast majority of border posts provide strong support for troops to stay warm and safe through the winter. This marks a structural change in the energy security of all high-elevation border defence outposts in the military,” it said.

“This initiative has alleviated long-standing problems for high-elevation border troops, including access to drinking water, heating, bathing and oxygen.” Improving the power supply to border troops has been a key part of China's military-civilian fusion strategy. As part of that push, the military and the National Energy Administration launched a project in late 2016 to build power grids for the military and connect them to the national energy service network. As of January of last year, more than 700 border posts had been covered by the national grid, PLA Daily said at the time.

The newspaper said last year that connecting an efficient and stable power supply to battle equipment, command and control systems and energy-hungry information devices had significantly improved the troops' emergency response. Xaidulla, at an elevation of about 3,700 metres (12,139 feet), is located near Aksai Chin, the site of a long-running

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border dispute between China and India. The deadliest China-India border clash happened in 2020 in the Galwan Valley near Aksai Chin, leaving dozens of Indian troops and at least four Chinese soldiers dead. The skirmish plunged bilateral ties to their lowest point in decades.

The two nations have de-escalated tensions along the border since October, when they reached an agreement on military patrols along the frontier. Ngari prefecture, an area in western Tibet bordering India, is rich in mineral resources. It is also a strategically important transport and logistics hub, serving as a bridgehead to South Asia. The upgrade to the power supply is also part of Beijing's efforts to modernise the PLA's logistics and battle readiness. Earlier this month, PLA Daily said the military had significantly improved oxygen supply for soldiers at high-elevation outposts.

South China Morning Post
<http://www.scmp.com/>

29 January 2024

PJM agrees to lower price cap for upcoming capacity auctions

The PJM Interconnection will move to set a price cap and price floor for its next two capacity auctions under an agreement reached Tuesday with Pennsylvania Gov. Josh Shapiro, D. PJM plans to set a \$325/MW-day price cap and a \$175/MW-day floor for its 2026/27 and 2027/28 delivery year capacity auctions, according to a notice PJM sent to its members. The next base capacity auction is set to be held in July.

“The governor worked with PJM to significantly lower the capacity auction price cap — from over \$500/Megawatt-day to \$325/MW-day — averting a runaway auction price that would have unnecessarily increased energy bills,” Shapiro said in a press release. The price cap could save PJM consumers \$21 billion over two years, according to Shapiro. If approved, the planned price cap/floor would settle a complaint Shapiro filed in December at the Federal Energy Regulatory Commission on behalf of Pennsylvania. In part, Shapiro argued there isn't enough time for generators to respond to high capacity prices, so consumers wouldn't benefit from the high prices.

The complaint was supported by governors from Delaware, Illinois, Maryland and New Jersey, nine state utility commissions, ratepayer advocates and others, according to filings at FERC. Constellation Energy Generation, the Electric Power Supply Association and the PJM Power Providers Group opposed it. PJM's last capacity auction, held in July, produced record high capacity prices that will cost ratepayers across the grid operator's footprint \$14.7 billion for the delivery year that begins in June, up from \$2.2 billion in the previous auction. Capacity prices for most of PJM soared to \$269.92/MW-day, up from \$28.92/MW-day in the previous auction. Prices hit zonal caps of \$466.35/MW-day for the Baltimore Gas and Electric zone in Maryland, and \$444.26/MW-day for the Dominion zone in Virginia and North Carolina. Those results triggered a series of actions, including a complaint by ratepayer advocates and proposals from PJM to change elements of its capacity auction and measures to help bring power supplies online.

The price cap/floor agreement is subject to review by PJM stakeholders and its board. PJM plans to hold a Special Members Committee meeting on Feb. 7, where the grid operator's staff can give guidance on how the proposed cap/floor mechanism could be implemented, according to the notice. PJM said that in order to keep its “approximate” capacity auction schedule, the grid operator would propose the cap and floor mechanism through a Federal Power Act section 205 filing at FERC. Evergreen Action, an advocacy group focused on climate policy, said the price cap/floor agreement was a boon for consumers, but PJM needs to do more.

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“PJM needs to undertake major reforms to address its current interconnection crisis and get on with the important business of rapidly connecting cheaper, affordable clean energy to the grid so we actively address the energy cost and demand crisis,” Evergreen Action Deputy State Policy Director Julia Kortrey said in a press release. PJM runs the grid and wholesale power markets in 13 Mid-Atlantic and Midwest states and the District of Columbia.

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