

WORLD POWER SYSTEMS REVIEW

15 March 2022

1 March 2022

During 2021, U.S. retail electricity prices rose at fastest rate since 2008

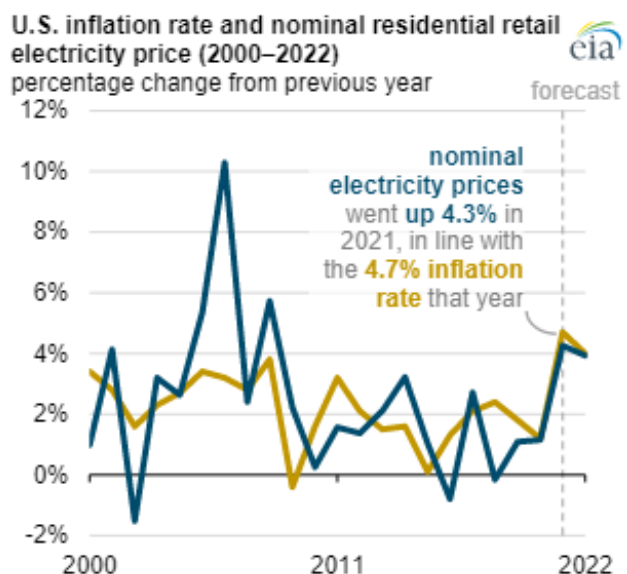
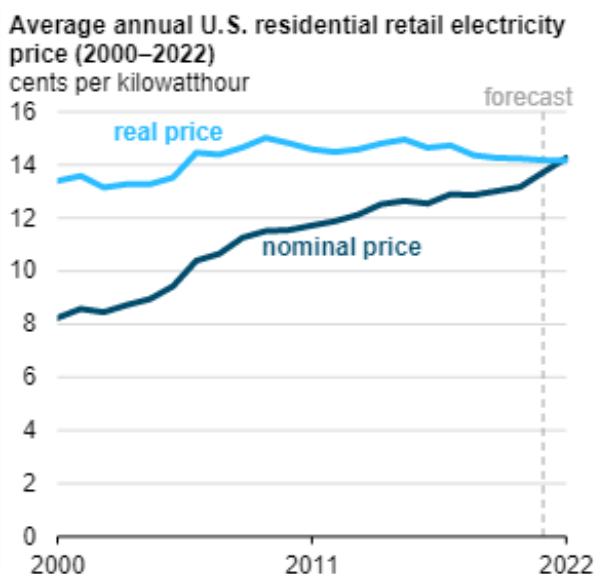
In 2021, the average nominal retail electricity price paid by U.S. residential electric customers rose at the fastest rate since 2008, increasing 4.3% from 2020 to 13.72 cents per kilowatt-hour (kWh), according to data from our latest Electric Power Monthly. This increase is similar to the change in the U.S. Consumer Price Index, which was 4.7% in 2021.

Prices for most types of energy commodities rose significantly in 2021, including the cost of power generation fuels, especially natural gas, which helped push electricity prices higher in 2021. The cost of natural gas delivered to U.S. power plants in 2021 averaged \$4.98 per million British thermal units (MMBtu), more than double the \$2.32/MMBtu average recorded in 2020.

Severe weather events in 2021, including a major winter storm in Texas that led to significant energy disruptions, also contributed to higher average electricity prices. The extreme cold weather in Texas and other parts of the Central United States restricted the flow of natural gas for power generation, and many wind turbines froze, constraining energy supply. The constraints on electricity supply created price spikes in the wholesale electricity market in Texas and throughout the United States, raising electricity retail prices for some customers.

Although the nominal average price of 13.72 cents/kWh that residential electric customers paid in 2021 was the highest on record, retail electricity prices adjusted for inflation have been slowly declining over the long run. The real price of electricity last year was at the lowest level since just before 2006, when the real U.S. electricity price, measured in 2021 dollars, averaged 13.99 cents/kWh.

In our latest Short-Term Energy Outlook, we forecast that residential retail electricity prices will continue to rise in 2022, although at a slightly slower rate. In 2022, we expect the average nominal price will increase by 3.9% to 14.26 cents/kWh. This expected increase in nominal electricity prices would be at a similar growth rate to our assumption for inflation next year (4.0%), which is based on macroeconomic data from IHS Markit.



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

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415 solar power plants in Iran put into operation

About 415 new solar power plants with a total capacity of 2.4 megawatts have been put into operation across the country in the past two months, the Iranian Renewable Energy and Energy Efficiency Organization announced on February 26. So far, Iran has 6,674 solar power plants in operation. Iran's renewable energy power plants have a power generation capacity of more than 920 MW, of which solar power plants account for the largest share of power generation, followed by wind power plants.

In Iran's total power generation, power generation accounts for 90%, and hydropower accounts for about 7%. In January this year, Iran's Ministry of Energy signed a memorandum of understanding with private companies to build 10,000 megawatts of renewable energy power plants across the country. The Iranian government allocated more than 30 trillion riyals (about 115.8 million U.S. dollars) for the development of renewable energy in the budget for the next year (starting on March 21), the highest level in history.

Tanfon Solar

<http://www.tanfon.com>

1 March 2022

ENTSO-E: Continental Europe TSOs are fully committed to the synchronisation with Ukraine and Moldova power systems

Continental Europe TSOs are now focused on identifying the key conditions needed to support the electricity supply to Ukraine as a matter of priority. ENTSO-E and its Member TSOs understand the urgency to address the request for emergency synchronisation whilst ensuring the security and stability of the Continental European power system.

ENTSO-E would like to thank the Commissioner Simson and the EU Energy Ministers for their support for the work of Continental European TSOs to ensure the safe operation of the concerned electricity systems. At the Energy Council meeting on 28 February 2022, Member States underlined the importance of enabling the emergency synchronisation of the Ukrainian power grid to the power grid of Continental Europe and the need to consider the impact on Republic of Moldova.

On behalf of ENTSO-E and its Member TSOs, the Board of ENTSO-E today acknowledged the exceptional efforts of Ukrenergo to operate and maintain the power system in these difficult times and will continue to support their efforts. ENTSO-E's Board confirmed its full support for swift emergency synchronisation definition of key conditions for synchronisation by the Continental European TSOs.

On 27 February 2022, Continental Europe TSOs have received an urgent request from Ukrenergo, the Ukrainian TSO, for an emergency synchronization of the Ukrainian power system, including the Burshtyn island with the Continental Europe power system.

On 28 February 2022, Moldelectrica, the Moldovan TSO (Moldelectrica) submitted a request for emergency synchronisation in line with the Ukrenergo request.

Identification of the conditions for urgent synchronisation will include an assessment of Protection and Dynamic Stability, Operations and Markets, Legal and Regulatory and Information Technology including Cybersecurity.

ENTSO-E

<http://www.entsoe.eu>

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50Hertz increases investments in grid infrastructure to accelerate energy transition

The electricity transmission system operator 50Hertz increases investments in the infrastructure required for the transport of renewable energies. One focus of 50Hertz is on grid connections for large offshore wind farms in the Baltic and the North Sea. 50Hertz wants to boost the connection capacity for offshore wind farms from around 1 GW today to more than 7 GW in 2030. In this way, the company and its employees can make a significant contribution to achieving climate protection targets, maintaining security of supply and strengthening energy sovereignty.

A well-developed grid infrastructure is key for ensuring that sufficient - and increasingly renewable - electricity is available to private households as well as industrial companies. 'The legislation now initiated by the German government to accelerate the expansion of renewable energy plants is important. Also to reduce dependence on imported energy sources in the medium and long term,' said Stefan Kapferer, CEO of 50Hertz. 'However, politicians must not forget that the energy from wind and photovoltaic plants must also be transported to the centers of consumption. Legislative activities must therefore also include measures that accelerate the urgently needed grid expansion.'

50Hertz plans to invest up to €5.6 billion in overhead power lines, land and submarine cables, and substations over the next five years (2022 to 2026). This is almost twice as much as in the past five years (2017 to 2021). In addition to the expansion of renewable energies, this development is also being driven by a forecast sharp rise in demand for electricity in the company's own network area. This will arise because more and more existing industries are decarbonizing their processes and new, energy-intensive companies will settle, due to the existing high share of renewables in electricity consumption in the 50Hertz area.

The increasing electrification of the transport and heating sectors will also lead to higher electricity consumption. Current studies by 50Hertz predict a 30 to 40 percent increase in electricity demand in the grid area by 2030. This trend is already perceptible today: in 2021, electricity consumption in the eastern German territorial states, Berlin and Hamburg has already risen by three percent year-on-year to 103 terawatt hours (TWh).

In retrospect, 2021 was a successful year for 50Hertz: The company can report an annual result of 165 million euros. The company also plans to continue financing the investments required for the additional grid conversion and expansion mainly via the capital markets - another green bond is scheduled to be issued in 2022. Nevertheless, even in the current situation, more appropriate regulatory conditions are required. Marco Nix, Chief Financial

50Hertz and its expansion plans - especially in this special situation for the whole of Europe - have the full backing of its largest shareholder, Elia Group. Chris Peeters, Elia Group-CEO and Chairman of the supervisory board: 'As Elia Group, we remain strongly committed to the energy transition and the German 'Energiewende' in particular. In every strategic decision we take, in every investment we make, we take the interests of society into account. That's why it is so important that we have a local partner on board: KfW Development Bank.'

Offshore wind power plays a central role in 50Hertz's strategy. Wind turbines at sea achieve many full-load hours and thus generate a lot of green electricity relatively continuously. Currently, 50Hertz feeds wind power from four Baltic Sea wind farms with

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around 1,000 megawatts (MW) of capacity into its onshore transmission grid. By 2030, 50Hertz plans to connect additional wind farms to the grid in the maritime area between Rügen and the Danish island of Bornholm, off the Darß, and for the first time in the North Sea. Overall, this means an additional total capacity of over 6,000 MW of offshore wind power that can be fed into the grid. New overhead lines and underground cables are also required on land to transport renewable electricity.

The Grid Development Plan 2035 (2021) approved by the Federal Network Agency (Bundesnetzagentur) envisages around 500 km of additional network reinforcement and expansion measures in eastern Germany and Hamburg by 2035. This includes another high-voltage direct current (HVDC) link between Mecklenburg-Western Pomerania and the North Frisian coast. To this end, 50Hertz and TenneT want to build an innovative hub for direct current in the Heide area that can receive and distribute offshore and onshore wind power. This electricity will flow to consumption centres in southern Germany via, for example, the SuedOstLink, which has already been submitted for planning approval, and the SuedOstLink Plus, which has yet to be approved.

The expansion of renewables also needs to be stepped up. Last year, onshore wind turbines with only a total capacity of 547 MW (installed onshore wind capacity in 2021: 19,875 MW) were commissioned in eastern Germany, a total which was well short of the volumes needed to reach the climate goals (around 1,000 MW/year).

However, we are seeing positive developments when it comes to photovoltaics, with PV plants with a total capacity of 1,670 MW (installed PV capacity in 2021: 16,355 MW) being built. For a secure power supply based on renewable energies, however, a balanced development of PV as well as onshore and offshore wind power is required.

50 Hertz

<http://www.50hertz.com>

2 March 2022

The Baltic electricity transmission system operators are reducing the commercial capacity of system connections with Russia

The Baltic electricity transmission network operators have unanimously decided to reduce commercial electricity imports through existing connections with Russia.

"Transmission network operators in the Baltic States have decided to reduce commercial flows from Russian networks. The operation of the electricity system will be ensured by local electricity production in Lithuania and imports from strategic partners - European Union countries through the existing connections with Sweden, Poland and Latvia. This will help to ensure the stability and reliable operation of the transmission networks," says Rokas Masiulis, CEO of Litgrid.

From 3rd March 2022, the total amount of electricity imported into the Baltic States from Russia will not exceed 300 MW. Respectively, no more than 150 MW of electricity will be able to enter through the Lithuania-Russia and Latvia-Russia connections.

Lithuania has already taken action to reduce electricity flows from the third countries. From November 2020 commercial flow from Belarus was suspended. From summer 2020 Russia and Belarus cannot use Lithuania's electricity infrastructure for reserve services.

Litgrid

<http://www.litgrid.eu>

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Prysmian wins EUR 1.2 billion contract to deliver UK-Germany interconnector

Prysmian has won a contract worth around EUR 1.2 billion to deliver the 725-kilometer NeuConnect interconnector that will directly link the German and UK electricity grids for the first time. The Italian cabling giant will provide the turnkey design, manufacturing, installation, testing, and commissioning of the NeuConnect project.

The scope includes the complete cable system to be operated at ± 525 kV HVDC utilizing mass-impregnated (MI) paper insulated cables, and include fiber optic cables on the land and selected submarine sections, complemented with cable monitoring systems that shall support the monitoring, maintenance and services to be provided during the warranty period. The subsea and onshore power cables will be manufactured at Prysmian's Arco Felice factory near Naples. Offshore installation activities will involve three of the company's cable-laying vessels (CLVs) including Leonardo da Vinci, Cable Enterprise, and Ulisse.

"When completed in the coming years, NeuConnect will join the world's longest interconnectors," said Hakan Ozmen, EVP Projects at Prysmian Group. "Moreover, it is one of the first interconnectors to be financed through a project financing arrangement, demonstrating that the major infrastructure projects needed to deliver the sustainable energy goals in Europe are supported by private investment."

NeuConnect's route will run between the UK converter station located on the Isle of Grain in Kent, passing through the UK, Dutch and German waters to the landing point in Lower Saxony in Germany to connect with the converter station near Wilhelmshaven.

The 1.4 GW interconnector is expected to help in delivering a more resilient supply for both countries as well as a net reduction in carbon emissions of 16 MtCO₂ over 25 years to support German, UK, and European net-zero goals. The project is privately financed by a group of international investors that includes Meridiam, Allianz Capital Partners and Kansai Electric Power, and is contingent on the tendering of the converter station and financing agreements for the project. Commissioning is scheduled for the second half of the decade.

Offshore WIND

<http://www.offshorewind.biz>

2 March 2022

Taiwan: Massive power outage affects five million households

Major cities across Taiwan including the capital Taipei have seen widespread power failures after a reported accident at a power plant. The nation's economic affairs minister, Wang Meihua, said an accident had occurred at a power plant in southern Taiwan, according to a report by state-linked Central News Agency. The ministry would deal with the matter "urgently", she added. The outage affected some five million households in Taiwan, she said.

State-run power operator Taipower said there had been an incident with a transformer at the Xingda power plant in the southern city of Kaohsiung, and that they were activating backup sources of power. The power plant reportedly provides around a seventh of Taiwan's power.

Taiwan-based TSMC, the world's largest contract chip maker, said a number of its plants had experienced short "power dips". It added that it was checking if there was any "actual impact", said a Reuters report. At a press conference on Thursday, Ms Wang

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apologised for the outage, adding that the northern parts of the island would have their power back by noon and that power would start being restored in the southern parts from midday.

Taiwan's President Tsai Ing-wen was set to meet the US ex-Secretary of State Mike Pompeo. She said in a Facebook post that a scheduled livestream of her chat with Mr Pompeo had to be temporarily cancelled as a result. Local media outlet Taiwan News had earlier on Thursday reported chaotic scenes at road junctions as traffic lights failed to function. Traffic police had been dispatched to direct vehicles and fire trucks deployed across cities to deal with emergencies such as rescuing people trapped in lifts, the news outlet reported. The island does occasionally experience large power outages. In 2017, a massive blackout hit half of Taiwan, affecting 6.68 million households.

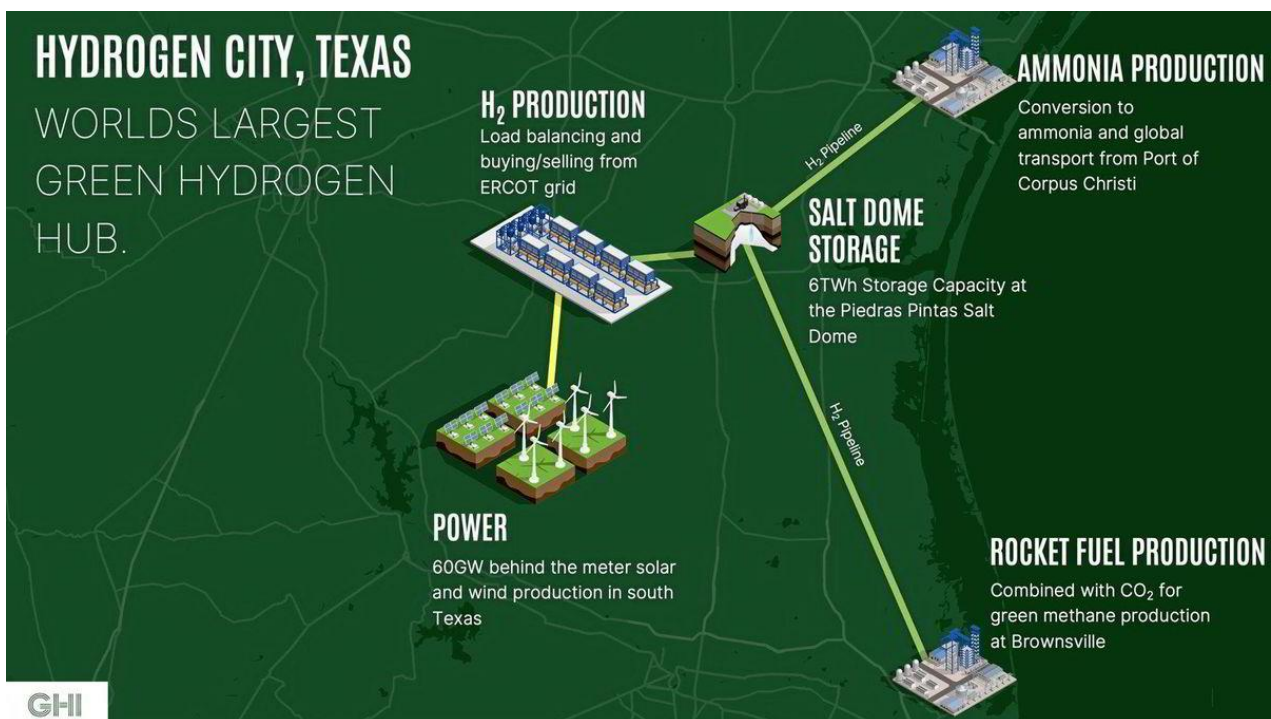
BBC News
<http://www.bbc.com>

3 March 2022

World's largest green hydrogen project unveiled in Texas, with plan to produce clean rocket fuel for Elon Musk

US start-up Green Hydrogen International (GHI) has announced a 60GW renewable H₂ project in a sparsely populated area of South Texas, to be powered by wind and solar, with its own salt cavern for storage and a plan to produce clean rocket fuel for Elon Musk's SpaceX.

The project in Duval County — a sparsely populated Democratic stronghold about 145km (90 miles) west of Corpus Christi — would produce more than 2.5 million tonnes of green hydrogen a year upon completion, equivalent to roughly 3.5% of global grey hydrogen production today. It will be centred around a hydrogen storage facility in the Piedras Pintas Salt Dome, with pipelines to the port cities of Corpus Christi and Brownsville on the Mexico border, where SpaceX's Starbase is located.



“The company is looking at combining hydrogen with CO₂ at the Port of Brownsville to create a green methane rocket fuel for launch operations in South Texas,” GHI said in a

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statement. SpaceX is currently developing a new type of rocket engine called SpaceX Raptor that would use cryogenic liquid methane and liquid oxygen, rather than the kerosene-based fuel the company has used to date. The first 2GW phase of Hydrogen City is due to begin operations in 2026, with two storage caverns in the salt dome. “Access to salt storage is critical to the scaling-up of green hydrogen production as it allows for maximum utilization of electrolyzers and serves as a buffer between variable wind and solar production and final delivery of green hydrogen to customers,” said GHI.

The Texas-based company — founded in 2019 by experienced renewables developer Brian Maxwell — says it could create more than 50 hydrogen storage caverns in the salt dome, “providing up to 6TWh of energy storage and turning the dome into a major green hydrogen storage hub, similar to the role Henry Hub plays in the natural gas market”.

GHI says it is exploring several possible end-uses for its hydrogen, including: sustainable rocket fuel; clean aviation fuel; green ammonia for fertiliser production, or export to Asia; or as a substitute for natural gas in power plants.

While Hydrogen City would be mainly powered by local wind and solar farms, GHI adds that it plans to draw “additional renewable energy... from the [local] ERCOT grid during periods of low prices.”

The largest single-site green hydrogen project announced until now has been the Western Green Energy Hub in Western Australia, which would be powered by 50GW of wind and solar, although it is not clear what size electrolyzers would be used. A planned 30GW facility in Kazakhstan, powered by 45GW of wind and solar has also been unveiled. There is also a project called HyDeal Ambition that adds up to 67GW at multiple sites across Spain, France and Germany.

Recharge

<http://www.rechargenews.com>

3 March 2022

EIA: A 10-Point Plan to Reduce the European Union’s Reliance on Russian Natural Gas

The European Union could reduce its imports of Russian natural gas by more than one-third within a year through a combination of measures that would be consistent with the European Green Deal and support energy security and affordability, new IEA analysis shows.

Europe’s reliance on imported natural gas from Russia has again been thrown into sharp relief by Russia’s invasion of Ukraine. The IEA’s 10-Point Plan to Reduce the European Union’s Reliance on Russian Natural Gas includes a range of complementary actions that can be taken in the coming months, such as turning more to other suppliers, drawing on other energy sources and accelerating efforts to provide consumers, businesses and industry with the means to use clean and efficient alternatives to natural gas. The proposed measures are fully consistent with the EU’s European Green Deal and its Fit for 55 package, paving the way for further emissions reductions in the years to come.

In 2021, the European Union imported 155 billion cubic metres of natural gas from Russia, accounting for around 45% of EU gas imports and close to 40% of its total gas consumption. Progress towards Europe’s net zero ambitions will bring down its use and imports of gas over time, but today’s crisis raises the specific question about imports from Russia and what more can be done in the immediate future to bring them down. “Nobody is under any illusions anymore. Russia’s use of its natural gas resources as an economic and

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political weapon show Europe needs to act quickly to be ready to face considerable uncertainty over Russian gas supplies next winter,” said IEA Executive Director Fatih Birol. “The IEA’s 10-Point Plan provides practical steps to cut Europe’s reliance on Russian gas imports by over a third within a year while supporting the shift to clean energy in a secure and affordable way. Europe needs to rapidly reduce the dominant role of Russia in its energy markets and ramp up the alternatives as quickly as possible.”

The key actions recommended in the IEA’s 10-Point Plan include not signing any new gas contracts with Russia; maximising gas supplies from other sources; accelerating the deployment of solar and wind; making the most of existing low emissions energy sources, such as nuclear and renewables; and ramping up energy efficiency measures in homes and businesses.

Taken together, these steps could reduce the European Union’s imports of Russian gas by more than 50 billion cubic metres, or over one-third, within a year, the IEA estimates. This takes into account the need for additional refilling of European gas storage facilities in 2022. Many of the actions recommended in the plan – including stepping up energy efficiency measures, accelerating renewable deployment and expanding low emissions sources of power system flexibility – are key elements of the IEA’s Roadmap to Net Zero by 2050.

The IEA analysis notes that other avenues are available to the EU if it wishes or needs to reduce reliance on Russian gas even more quickly – but with significant trade-offs. The major near-term option would involve switching away from gas consumption in the power sector via increased use of Europe’s coal-fired fleet or by using alternative fuels, such as oil, within existing gas-fired power plants.

Given that these alternatives to gas use are not aligned with the European Green Deal, they are not included in the 10-Point Plan described above. They may also be costly from an economic point of view. However, they could displace large volumes of gas relatively quickly. If the fuel-switching option were to be fully exercised in addition to the complete implementation of the 10-Point Plan described above, it would result in a total annual reduction in EU imports of gas from Russia of more than 80 billion cubic metres, or over half, while still resulting in a modest decline in overall emissions.

Reducing reliance on Russian gas will not be simple for the EU, requiring a concerted and sustained policy effort across multiple sectors, alongside strong international dialogue on energy markets and security. There are multiple links between Europe’s policy choices and broader global market balances. Strengthened international collaboration with alternative pipeline and LNG exporters – and with other major gas importers and consumers – will be critical. Clear communication between governments, industry and consumers is also an essential element for successful implementation. As the world’s leading energy authority, the IEA will continue to serve as a focal point for global dialogue on how to ensure a secure and sustainable energy future.

The 10 points

1. Do not sign any new gas supply contracts with Russia. [Impact: Enables greater diversification of supply this year and beyond]
2. Replace Russian supplies with gas from alternative sources [Impact: Increases non-Russian gas supply by around 30 billion cubic metres within a year]
3. Introduce minimum gas storage obligations [Impact: Enhances resilience of the gas system by next winter]

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4. Accelerate the deployment of new wind and solar projects [Impact: Reduces gas use by 6 billion cubic metres within a year]
5. Maximise power generation from bioenergy and nuclear [Impact: Reduces gas use by 13 billion cubic metres within a year]
6. Enact short-term tax measures on windfall profits to shelter vulnerable electricity consumers from high prices [Impact: Cuts energy bills even when gas prices remain high]
7. Speed up the replacement of gas boilers with heat pumps [Impact: Reduces gas use by an additional 2 billion cubic metres within a year]
8. Accelerate energy efficiency improvements in buildings and industry [Impact: Reduces gas use by close to 2 billion cubic metres within a year]
9. Encourage a temporary thermostat reduction of 1 °C by consumers [Impact: Reduces gas use by some 10 billion cubic metres within a year]
10. Step up efforts to diversify and decarbonise sources of power system flexibility [Impact: Loosens the strong links between gas supply and Europe's electricity security]

EIA

<http://www.iea.org>

3 March 2022

Solar-driven system produces electricity and fresh water in the desert

Stable supply of water, energy, and food are the three of the most essential and indispensable factors of modern life. However, a fraction of the world's population still doesn't have access to clean water or green power, and many of them live in rural areas with an arid or semi-arid climate.

Scientists at Saudi Arabia's King Abdullah University of Science and Technology (KAUST) have developed a solar-driven system that successfully grows crops by using water drawn from the air while producing electricity. The experimental system combines photovoltaic panels with an absorbent hydrogel to make water out of the air using clean energy that would've been wasted and is suitable for decentralized, small-scale farms in remote places like deserts and oceanic islands. The integrated water-electricity-crop co-production system (WEC2P) is composed of a solar photovoltaic panel placed atop a layer of hydrogel, which is mounted on top of a large metal box to condense and collect water.

The hydrogel can effectively absorb water vapor from ambient air and release the water content when heated. The presence of this layer also increases the efficiency of the photovoltaic panel by about 9% since it absorbs excess heat while keeping the panel's temperature lower. The team used the waste heat from solar panels when generating electricity to drive absorbed water out of the hydrogel. The metal box below collects the vapor and condenses the gas into water, which can be collected for use in irrigation – or for drinking.

Researchers conducted a plant-growing test by using the WEC2P system in Saudi Arabia for two weeks in June when the weather was very hot. They used the water solely collected from air to irrigate 60 water spinach seeds planted in a plastic plant-growing box. During the experiment, the solar panel, with a hydrogel layer that was about the size of "the top of a student desk," generated a total of 1,519 watt-hours of electricity and about 2 liters of water, which allowed 57 out of 60 of the water spinach seeds to sprout and grow normally

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to 18 centimeters. "Our goal is to create an integrated system of clean energy, water, and food production, especially the water-creation part in our design, which sets us apart from current agro-photovoltaics," says senior author Peng Wang. The team plans to create a better hydrogel that can absorb more water from the air to turn the proof-of-concept design into an actual product. They hope their design can be a decentralized power and water system to light homes and water crops.

InceptiveMind

<http://www.inceptivemind.com>

4 March 2022

Brazil reaches 14 GW of solar capacity

According to the Brazilian Photovoltaic Solar Energy Association (Absolar), the installed solar capacity in Brazil nearly doubled in 2021, from 7.7 GW in 2020 to 14 GW in 2021. Most of the capacity would be distributed solar power plants used for self-consumption (9.3 GW), while large solar power plants would account for 4.7 GW, i.e., 2.4% of the capacity. Overall, the total solar capacity would exceed that of coal-fired and oil-fired power plants and would even surpass the capacity of the 14 GW Itaipu Binacional hydropower plant.

Enerdata

<http://www.enerdata.net>

5 March 2022

China aims to build 450 GW of solar, wind power on Gobi Desert

China plans to build 450 gigawatts (GW) of solar and wind power generation capacity on the Gobi and other desert regions, the chief of the state planner said on Saturday, as part of efforts to boost renewable power use to meet climate change goals. President Xi Jinping has pledged to bring China's total wind and solar capacity to at least 1,200 GW and to cap its carbon emission to a peak by 2030.

"China is going to build the biggest scale of solar and wind power generation capacity on the Gobi and desert in history, at 450 GW," He Lifeng, director of the National Development and Reform Commission (NDRC), said on the sidelines of the National People's Congress.

China had installed 306 GW of solar power capacity and 328 GW wind capacity by the end of 2021. The construction of about 100 GW of solar power capacity is already under way in the desert area. He also acknowledged that high-efficient coal-fired power plants and ultra-high voltage electricity transmission lines are required in order to support the steady operation of the grid system amid large scale of renewable power installation.

Coal-fired power utilities can generate a stable baseload power supply to renewables, which can fluctuate with weather conditions. His comment echoed a statement from China's Vice Premier Han Zheng this week that China should give full play to "coal's basic guaranteeing role in energy supplies".

The NDRC said in its 2022 work plan issued on Saturday that China will "continue to leverage the peak-shaving and basic supporting role of traditional energy, especially coal and coal-fired power."

Reuters

<http://www.reuters.com>

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Baltic states have agreed to disconnect from Russian power grid already before 2025

The Baltic states have agreed to complete the desynchronization from the Russian power grid and synchronize with European networks already before 2025, the Economics Ministry's parliamentary secretary Ilze Indriksone (National Alliance) told the Saeima Public Expenditure and Audit Committee on Tuesday. The Baltic states are scheduled to complete the desynchronization from the BRELL grid, which connects Latvia, Lithuania and Estonia with Russia, in 2025.

Indriksone indicated that an agreement has been reached with Estonia and Lithuania that the synchronization project can be implemented earlier, without waiting until 2025. Economics Minister Janis Vitenbergs (National Alliance) has also asked Europe to support the plan so the solutions can be introduced sooner, the parliamentary secretary told lawmakers.

According to Indriksone, speeding up the desynchronization from Russia will require additional financing but that this is an opportunity to ensure more secure electricity supply already now. As reported, the Baltic power grids are still part of the post-Soviet BRELL ring, which also includes Russia and Belarus, and remain dependent on the control center in Moscow and the Russian electricity system. The Baltic countries were planning to synchronize their power systems with that of continental Europe by 2025.

Baltic Times

<http://www.baltictimes.com>

10 March 2022

Total ISO-NE capacity revenue falls 25% to \$1B in latest auction

Capacity prices in ISO New England's four capacity zones were flat or fell in the grid operator's most recent forward capacity auction, with total estimated capacity revenue falling nearly 25% to \$1.04 billion from \$1.36 billion a year ago, according to results released Wednesday. About 311 MW of new generation, consisting of solar, battery storage and hybrid projects, won capacity obligations in the auction, down from about 950 MW of new resources last year, according to ISO-NE, the grid operator for the six New England states.

Looking ahead to future auctions, offshore wind resources will likely begin replacing existing generating plants in ISO-NE's capacity auctions, Joe Prosack, a power analyst with ESAI Power, said Thursday.

Utility Dive

<http://www.utilitydive.com>

11 March 2022

Huge floating solar farm puts Thailand on track towards carbon neutrality

In Thailand's northeastern province of Ubon Ratchathani, a reservoir has been transformed into a shimmering network of solar panels - capable of reducing the kingdom's carbon emissions by 47,000 tonnes every year. Touted as the "world's largest floating hydro-solar farm", the Sirindhorn dam project is capable of creating solar power by day and hydropower by night.

The 720,000 square metre installation is the first of 15 farms Thailand plans to build as part of its ongoing commitment to reach carbon neutrality by the year 2050. "There are

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144,000 solar panels here. One panel is two square metres, and the whole farm is equivalent to 70 football fields," says Prasertsak Chergchawano, Thailand's deputy governor of electricity.

The Southeast Asian country is stepping up efforts to wean itself off fossil fuels after Prime Minister Prayut Chan-O-Cha committed to achieving net-zero greenhouse gas emissions by the year 2065. Alongside other world leaders at COP26 in Glasgow, Chan-O-Cha stated his intention to "ramp up measures in tackling climate change in any way imaginable." Hitting these ambitious targets will require a major revamp of Thailand's power industry. The nation is still heavily reliant on fossil fuel, with 55 per cent of its energy derived from natural gas as of October 2021. This contrasts sharply with just 11 per cent stemming from renewables and hydropower, according to the Energy Policy and Planning Office (EGAT).

EGAT plans to produce 2,725 megawatts of power from floating hydro-solar farms by the year 2037 - over 30 per cent of the nation's annual power needs. But as the kingdom's green revolution gets underway, many people are sceptical of the scheme.

The €32 million Sirindhorn project took nearly two years to build - with numerous delays resulting from solar panel delivery issues and technicians falling sick. Locals have also expressed concern, claiming the farm has forced them out of areas traditionally used for livelihood. Despite this, the electricity generating authority insists the project will not affect agriculture, fishing or other community activities.

"We've used only 0.2 to 0.3 per cent of the dam's surface area. People can make use of lands for agriculture, residency and other purposes," says Chergchawano. As well as generating power, officials hope the giant farm will also prove a draw for tourists. A 415-metre long 'Nature Walkway' has now been installed beside the dam, providing panoramic views of the reservoir and its floating solar cells.

Euronews

<https://www.euronews.com>

12 March 2022

Electricity restored to parts of Cape Town

Electricity has been restored to parts of Cape Town after a malfunction at Eskom's Tafelbaai substation caused several areas to be without power for several hours on Saturday. At the time of publication, areas in zones 2 and 7 were still swathed in darkness.

According to the City of Cape Town, areas 9 and 15 had its power restored as it had switched those zones to another supply area following the Eskom power line failure. Area 2 include Century City, Maitland, Ndabeni, Lagoon Beach and Woodbridge Island and surrounds. Area 7 include the CBD, the Atlantic Seaboard, parts of Woodstock and Paarden Eiland. These areas were affected after an Eskom high voltage line power outage on Saturday and were expected to experience intermittent power supply.

"Customers in these areas might notice their power come back on briefly, and off again. This is due to tripping and is an expected occurrence after such a large outage," said the City. Eskom Western Cape spokesperson Kyle Cookson said the power utility estimated the power to be restored at 23:00. The City said power would be restored "soon" as it continued to reconnect electricity area by area to avoid the system being overloaded. The City stressed there was "currently no load-shedding in City-supplied areas". "If there are

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areas beside areas 7 and 2 where there are power faults, this is due to normal faults and teams are attending to it," said the City.

A fault at Eskom's Tafelbaai substation had left large parts of Cape Town without electricity from Saturday afternoon, the power utility had confirmed earlier. "The feed in station links Eskom's supply to the City network. Within about an hour, Eskom and thus the City will likely understand the scale of the situation and what actions can be taken. The City will update its customers again shortly," said Van Reenen. Some of the areas affected include the CBD and surrounds, the Atlantic Seaboard and the southern suburbs.

"Eskom operators are currently on-site doing inspections to determine the nature of the fault. There is currently no estimated time for electricity restoration, but this will be communicated as soon as it becomes available," said Eskom.

The City of Cape Town's mayoral committee member for energy and climate change, Beverley van Reenen, said on Saturday shortly after the power outage that a team from the City was conducting a fault-finding exercise. "The City of Cape Town is aware of a power outage affecting Areas 2, 7, 9 and 15 due to an Eskom overhead line fault. City teams are working with urgency with Eskom to quickly resolve the fault and restore power to all affected areas.

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