15 June 2024

Iran to import 500MW of electricity to meet peak summer demand

"Importing electricity will be carried out along with other measures to provide sustainable electricity in the summer period," Rajabi Mashhadi said in a press conference on Wednesday. Rajabi Mashhadi announced a 9,000 MW increase in the country's power plant capacity, which was done by the private and public sectors.

Daily electricity consumption in Iran reached 69,370 MW on Monday, June 10, registering a 7,000 MW increase compared to the same date last year, according to the data released by Iran Grid Management Company (IGMC). According to IGMC, the gradual increase in temperature has caused a surge in the use of air conditioning appliances, and consequently, electricity consumption has also begun to increase again. Based on IGMC data, the country's electricity consumption stood at 61,300 MW on the same day last year.

In order to meet the electricity demand in the peak summer period, the Iranian Energy Ministry has put several programs on its agenda among which increasing electricity production and managing consumption are the major ones. The ministry is going to implement a comprehensive program during the summer, based on which low-consuming households are going to be rewarded while the subscribers whose consumption exceeds the normal level will face a penalty.

Over the past decade, constant temperature rises and the significant decrease in rainfalls across Iran have put the country in a hard situation regarding electricity supply during peak consumption periods. Iran's Power Generation, Distribution, and Transmission Company (known as Tavanir) has repeatedly announced that the company is implementing a variety of programs for managing the situation and preventing blackouts in the country.

Tehran Times
http://www.tehrantimes.com/

17 June 2024

Revolutionising energy storage: Highview Power raises £300 million for UK liquid air energy storage project from Mosaic Capital, UKIB, Centrica and partners

Highview Power, an energy storage pioneer, has secured a £300 million investment to develop the first large-scale liquid air energy storage (LAES) plant in the UK.

Orrick advised private equity firm Mosaic Capital on the funding round, which international energy and services company Centrica and the UK Infrastructure Bank (UKIB) led, with participation from Rio Tinto, Goldman Sachs, KIRKBI and Mosaic Capital. The investment will enable construction of one of the world's largest plants using liquid air energy storage, plants in Carrington, Manchester. Construction is to begin immediately, with the goal of the plant beginning operation in 2026. Once complete, the plant will have a storage capacity of 300 MWh and an output power of 50 MW an hour for six hours.

Highview Power's programme will set the bar for energy storage systems worldwide, positioning the UK as a global leader in energy storage and flexibility. Richard Butland, co-founder and CEO of Highview Power, said, "There is no energy transition without storage. The UK's investment in world-leading offshore wind and renewables requires a national long-duration energy storage programme to capture excess wind and support the grid's transformation.

"UKIB and Centrica and our partners have today backed our ambitious plan to bring renewable energy storage into the UK economy at scale, liberating the potential of what is both the greenest and by far the cheapest energy source for the UK economy and provide energy security."

Highview Power aims to accelerate the deployment of its larger facilities across the UK by 2035. This aligns with one of National Grid's target scenario forecasts, of a need for 2 GW from liquid air energy storage, which would account for nearly 20% of the UK's long-duration energy storage requirements.

Orrick
http://www.orrick.com/

18 June 2024

A new liquid Battery could deliver the renewable energy miracle

Stanford chemists hope to stop the variability of renewable energy on the electrical grid by creating a liquid battery that offers long-term storage. Hopefully, this liquid organic hydrogen carriers (LOHC) battery will offer storage and smooth out ebb and flow of renewable power production without certain negative side effects. The team described its work in a study published in the Journal of the American Chemical Society.

"We are developing a new strategy for selectively converting and long-term storing of electrical energy in liquid fuels," Robert Waymouth, Stanford chemistry professor, said in a university news release. "We also discovered a novel, selective catalytic system for storing electrical energy in a liquid fuel without generating gaseous hydrogen."

Our current electrical grid uses energy at the rate it gets generated. That works well with methods of energy generation that are relatively consistent, but unfortunately, renewable energy like solar or wind is known for uneven energy production. As a result, we need to find ways of storing any excess energy produced on high-energy-production days so that it can be used on low-energy-production days. The team from Stanford believes that LOHCs can one day serve as "liquid batteries"—storing energy and efficiently releasing it as usable fuel or electricity when needed. And it may do by converting the excess into relatively simple ingredients—such as acetone and isopropanol, more commonly known as rubbing alcohol—that can exist for extended periods of time as high-density liquid forms of hydrogen.

"When you have excess energy, and there's no demand for it on the grid, you store it as isopropanol," Waymouth said. "When you need the energy, you can return it as electricity." Making it efficient, though ... that's the trick. Currently, methods to produce isopropanol with electricity prove inefficient. "We need a way to make isopropanol directly from protons and electrons without producing hydrogen gas," Waymouth said.

This study offers up a solution that uses acetone, iridium, and a surprise additive of cobaltocene, a chemical compound involving the metal cobalt. "The researchers found that cobaltocene is unusually efficient when used as a co-catalyst in this reaction," the news release read, "directly delivering protons and electrons to the iridium catalyst rather than liberating hydrogen gas, as was previously expected."The effort combines a mixture of accessible ingredients to create a non-toxic way of storing energy long-term. The team hopes to continue to mine the possibilities of differing catalysts (such as iron) to make this liquid battery system even more affordable and scalable. "This is basic fundamental science," Waymouth said, "but we think we have a new strategy for more selectively storing electrical energy in liquid fuels."

Popular Mechanics
http://www.popularmechanics.com/

18 June 2024

Sweden opts against subsea interconnector with Germany over power price concerns

The Government of Sweden has rejected a proposal to build a 700 MW subsea interconnector between Sweden and Germany, citing the inefficiency of the German

electricity market and fears that the move would push power prices up. Hansa PowerBridge, a joint project between grid operators Svenska Kraftnät and 50Hertz, was aimed at facilitating the transmission of renewable electricity from Scandinavia to Germany.

Southern Sweden already has an electricity production deficit, and connecting it with Germany via the proposed subsea interconnector would further destabilize the market and lead to higher power prices, according to Ebba Busch, Sweden's Deputy Prime Minister and Minister for Energy, Business and Industry, news agencies reported. The Swedish government explained that Germany's power market, unlike Sweden's, is not divided into price areas that allow it to manage grid bottlenecks. Although it has led to significant congestion, Germany is not willing to split its market into zones fearing it might lead to electricity price hikes. German grid operator 50Hertz said the Hansa PowerBridge cable was an opportunity to strengthen Europe's internal electricity market. The company added, however, that Sweden's decision would not affect the security of supply and system stability within its network area.

Hansa PowerBridge was planned to become operational in 2025 or 2026, following an investment of some EUR 600 million. The onshore-offshore power cable would have connected the Güstrow municipality in Germany with the Swedish municipality of Hörby, via the Baltic Sea. The initiative to build the undersea cable between the two countries is part of Germany's effort to stabilize its power grid and enable it to integrate the increasing solar and wind capacity. Germany's renewable energy capacity grew in 2023 by more than 17 GW, or 12%, to a total of around 170 GW. The country's renewables boom was driven by solar, which accounted for as much as 14.1 GW of the new capacity, with further strong growth expected in 2024.

Balkan Energy News
http://balkangreenenergynews.com/

18 June 2024

DOE leads effort to improve the cybersecurity of energy supply chains

Today, the U.S. Department of Energy (DOE) released new Supply Chain Cybersecurity Principles, developed in collaboration with Idaho National Laboratory. The principles establish best practices for cybersecurity throughout the supply chain that supports energy infrastructure. Developed for manufacturers and end users alike, the principles create a framework to strengthen key technologies used to manage and operate electricity, oil, and natural gas systems around the world. Several prominent suppliers and manufacturers serving the energy sector have expressed support for the principles, including GE Vernova, Schneider Electric, Hitachi Energy, Schweitzer Engineering Laboratories, Rockwell Automation, Siemens, Siemens Energy, and Honeywell.

"Together with our G7 allies, we're helping ensure energy infrastructure worldwide is more reliable and resilient against tomorrow's threats and challenges." "The U.S. energy sector is a target for cyber criminals and for foreign adversaries, alike," said Deputy National Security Advisor for Cyber and Emerging Technologies Anne Neuberger. "The Biden-Harris Administration is prioritizing the security and resilience of our critical energy infrastructure with this global initiative, emphasizing the importance of aligning individual supply chain security efforts for operational technology used in the energy sector."

The supply chain constitutes a significant source of risk for energy systems as components of the American grid, pipelines, and related infrastructure are developed and manufactured by disparate companies on a global scale. President Biden has made supply chain security an area of intense focus and called on agencies with responsibility for critical infrastructure to take meaningful steps to proactively address security concerns.

Energy systems across the globe are going through a period of tremendous change as they become more digitized, integrate new sources of clean energy, and implement new communications pathways. A global approach to supply chain cybersecurity is imperative and can take the form of collaboration among leading manufacturers from like-minded countries such as Japan, Canada, France, Germany, Italy, and the U.K. A global effort can help secure equipment and technologies before they are exploited by cyber actors seeking to cause destruction or disruption to critical infrastructure.

DOE
http://www.energy.gov/

19 June 2024

China's first industrial nuclear steam project enters operation

China's first industrial-use nuclear energy steam supply project, Heqi No.1, was officially put into operation on Wednesday in Lianyungang, East China's Jiangsu Province. This marks a step forward in the comprehensive utilization of nuclear energy in China - not simply restricted to power generation or to meet the heating demand of urban households, but to expand into the field of industrial steam supply.

The Heqi No.1 project is one of the first green and low-carbon advanced technology demonstration projects in China, CCTV news reported, citing China Atomic Energy Authority (CAEA). The annual supply of carbon-zero clean steam of the project can reach up to 4.8 million tons, equivalent to reducing the burning of standard coal by 400,000 tons per year, per CAEA. The steam generated by clean energy can also reduce emissions equivalent to 1.07 million tons of carbon dioxide, 184 tons of sulfur dioxide and 263 tons of nitrogen oxides, and equivalent to adding 2,900 hectares of afforestation area. The steam project is located at the Tianwan Nuclear Power Plant in Lianyungang. The steam produced at the power plant will be transported to the nearby Lianyungang Petrochemical Industry Base through a 23.36-kilometers-long pipe, according to the Xinhua News Agency.

The steam produced by nuclear energy can be used in the production of chemicals, greatly reducing the use of standard coal and carbon emissions, while helping enterprises to reduce cost and increase efficiency. According to Xinhua, the water that will be transformed into steam comes from desalinated seawater. Heqi No.1 project is a clean steam supply model for the national petrochemical industry, said Zhang Yi, chairman of Jiangsu Nuclear Power Co, the operator of the Tianwan Nuclear Power Plant.

"We will continue to explore more applications of nuclear energy, such as in hydrogen production, to enhance the comprehensive utilization of nuclear energy and boost local development," Zhang said. In addition to its application of in heating and steam supply, nuclear energy can also be widely used in the production of isotope and hydrogen, seawater desalination and many other fields, according to the CAEA. Nuclear technology has been widely used across industry, agriculture, medicine, environmental protection, security and other fields, integrated into all aspects of people's lives, building industrial scale, and generating significant economic and social benefits.

Global Times
http://www.globaltimes.cn/

19 June 2024

Alarm bells as heatwave pushes up peak demand, Power Ministry asks utilities to be on high alert

A sweltering heatwave and an expected surge in agricultural load by end-June, a key body of power engineers employed across state and central utilities, on Monday flagged the possibility of a grid outage in Punjab that could have a cascading impact on the country's

grid, and also warned that an imminent surge in demand "may lead to an unmanageable power situation".

Over the last one month, the northern region has been witnessing a record demand due to the prevailing heat conditions. On Monday, it touched the highest-ever peak demand of 89 giga watt (1 GW is 1,000 megawatts), which was successfully met. But such high demand has led to power supply cuts in Lucknow and Meerut, and also impacted passenger services in Delhi international airport Monday afternoon after a "significant voltage spike in the grid, reportedly due to the tripping of a 765KV line".

While a surge in domestic consumption load in the country's northern parts are behind the shortages, the Ministry of Power spokesperson told The Indian Express, "All utilities have been advised to maintain a state of high alert and minimise forced outage of equipment." To meet demand, the Northern Region is also importing 25-30 per cent of its power requirement from the neighbouring regions, the spokesperson said.

The current crisis situation also brings back into focus some of the lingering structural issues. A growing demand-supply mismatch in India's power market, triggered by a slowdown in the pace of new capacity addition of coal-fired power plants coupled with the lack of effective storage options for renewable power has kept the country's grid managers on their toes over the last three summers. With soaring temperatures leading to a surge in power demand, the failure to augment baseload capacity is progressively exposing the structural issues posed by the variability of renewable energy.

With renewables, electricity is generated only when the sun shines or when the wind blows, which is not always in sync with the demand cycle. As renewables grow to become a big chunk of the installed generation capacity, till the time that viable storage options are developed, the grid has no option but to fall back on thermal or nuclear for base load capacity. Consequently, stepping up thermal, especially coal, and nuclear generation, is the only way forward till the issue of intermittency in RE (renewable energy) generation is solved.

Since March 2020, the country has added about 11,990 MW of thermal power, while renewables capacity addition has been well over 56,000 MW.

Peak shortages, which happen during certain hours of the day when loads increase, surged from 1.39 GW in 2018-19 to 8.65 GW in 2022-23, the year after demand crashed during the previous two years due to Covid-19. In 2023-24, it dropped to 3.34 GW due to a cooler than expected summer caused by unseasonal rainfall. While till April end, there has not been any peak demand shortage, data for May-June is not available.

This year, with peak demand remaining at around 250 GW amid sustained heat waves pushing up air conditioning load, the country's grid managers are struggling to keep the grid balanced. Tripping of grid infrastructure at different locations across the country most likely due to increased drawal has further aggravated the situation.

In its letter to Punjab Chief Minister Bhagwant Mann, the AIPEF chairman Shailendra Dubey, said, "While the situation of power availability and supply is becoming serious day by day, neither the government of India nor any state government has initiated steps to control the power demand. If the situation continues, there are fair chances of grid disturbance."

Grid disturbances occur when one or more power system elements trip due to mismatch in demand and supply. Usually, grid disturbances lead to localised power outages but can also have a cascading effect on the entire grid. The power ministry has taken several measures to ensure grid stability, including instructing imported coal-based thermal plants to operate at full capacity until October 15 and maintaining adequate coal stock. It also instructed idling gas-based thermal plants to remain operational until June-end and allowed the sale of surplus power produced from 'linkage coal' in the market, and said states can tie up power with other states having surplus capacity via PUShP (Portal for Utilisation of

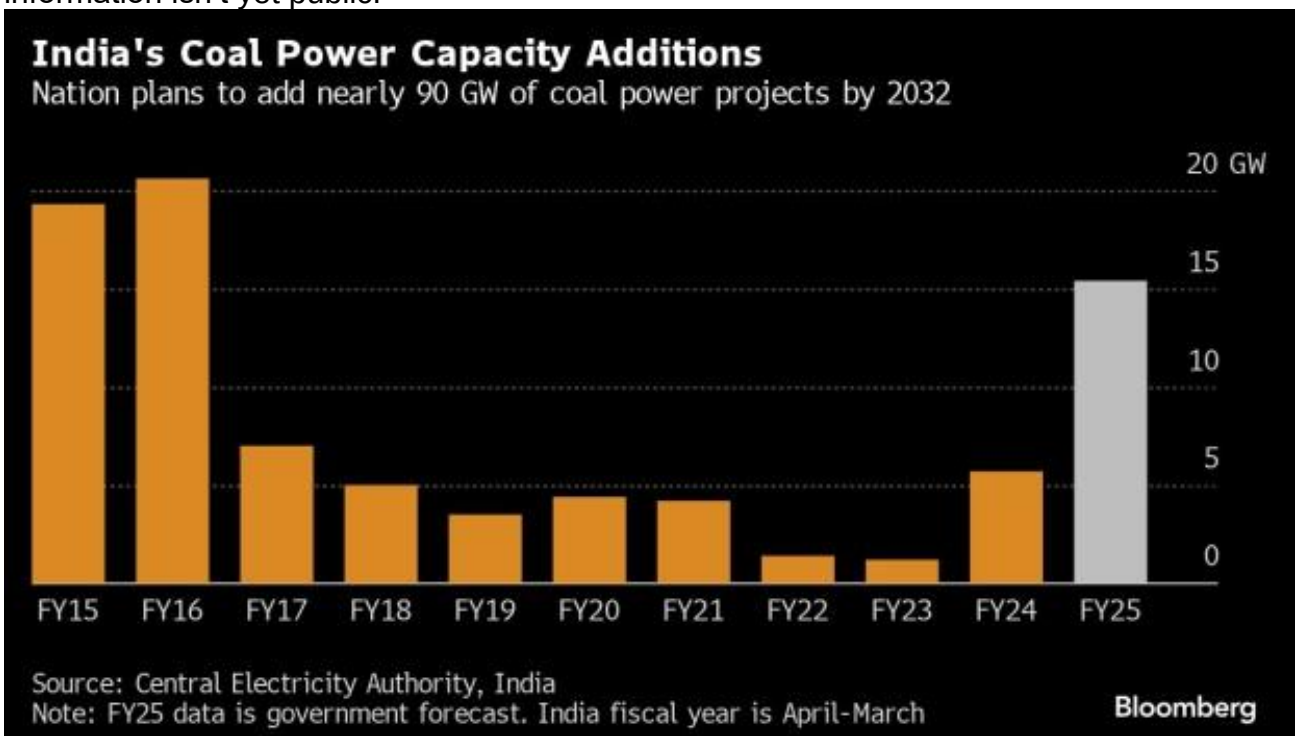
Surplus Power). According to a retired official in the power ministry, it may not be possible for renewable power to plug the gap for declining thermal generation till the time viable storage options are developed. “The concept of renewables achieving grid-parity is proving to be a farce. If the cost of standby thermal power is taken into account, renewable power is now almost twice its cost on paper,” said the retired official, who was closely associated with the capacity addition plan.

Indian Express
http://indianexpress.com/

19 June 2024

India Set to See Biggest Jump in Coal-Fired Power in a Decade

India will add more new coal power capacity than it has in almost a decade this year, as the country rushes to deploy generation to cope with surging electricity demand. The world’s most populous nation expects to add 15.4 gigawatts in the year through March 2025, the most in nine years, said people familiar with the matter, asking not to be named as the information isn’t yet public.



New Delhi is pursuing ambitious clean-power targets, but the reality of rapid economic growth has prolonged reliance on the dirtiest fossil fuel. Increasingly severe heat waves are making matters worse, pushing electricity consumption to fresh records every year. Coal still generates about three-quarters of India’s electricity, and the government sees it remaining the mainstay fuel for at least another decade.

India has managed to add more than 100 gigawatts of renewables capacity over the past decade, outpacing growth in thermal power generation. However, insufficient energy storage is holding back expansion of environmentally friendly electricity. Battery storage is still not affordable in India’s competitive power market and most pumped hydro projects — an alternative storage technology — are still at a nascent stage. Other low-carbon options, such as large dams and nuclear plants are also moving at a slow pace.

India said last year that it plans to add close to 90 gigawatts of coal-fired capacity by 2032, lifting a forecast from just months before by more than half. The country has 28.5

gigawatts of coal power currently being built and more than 50 gigawatts that are planned to be awarded for construction over the next three years, according to the people.

BNN Bloomberg
http://www.bnnbloomberg.ca/

19 June 2024

U.S. Senate passes bill to support advanced nuclear energy deployment

The U.S. Senate on Tuesday passed a bill to accelerate the deployment of nuclear energy capacity, including by speeding permitting and creating new incentives for advanced nuclear reactor technologies.

Expanding nuclear power has broad bipartisan support, with Democrats seeing it as critical to decarbonizing the power sector to fight climate change and Republicans viewing it as a way to ensure reliable electricity supply and create jobs. A version of the bill had already passed in the House of Representatives and it will now go to President Joe Biden for a signature to become law. It passed the Senate 88-2 votes, opens new tab.

"In a major victory for our climate and American energy security, the U.S. Senate has passed the ADVANCE Act with overwhelming, bipartisan support," said Senator Tom Carper, a Democrat, who is Chairman of the Senate Environment and Public Works Committee. "Today, we sent the ADVANCE Act to the president's desk because Congress worked together to recognize the importance of nuclear energy to America's future and got the job done," said Republican Shelley Moore Capito, a ranking member of the committee.

Among other things, the bill would cut regulatory costs for companies seeking to license advanced nuclear reactor technologies, would create a prize for the successful deployment of next-generation reactors, and would speed licensing for nuclear facilities at certain sites. The bill could benefit companies like Bill Gates-backed TerraPower, which is trying to build a $4 billion Natrium reactor in Wyoming on the site of an old coal plant but is struggling to secure a key permit.

The U.S. nuclear industry has struggled to expand in recent decades due to soaring costs and complex permitting requirements, and as advanced nuclear technologies prove difficult to fund and develop.

Reuters
http://www.reuters.com/

20 June 2024

TenneT and KfW terminate discussions on a full sale of TenneT Germany. TenneT prepares structural funding alternatives for its German operations

Today discussions between TenneT Holding and Kreditanstalt für Wiederaufbau (KfW), acting on behalf of the Federal Government of Germany, on a full sale of TenneT Germany have been terminated.

This announcement comes after the Federal Government of Germany has informed the Dutch State that it cannot deliver on the planned transaction due to budgetary challenges. As previously announced, TenneT Holding prepares tapping into public or private capital markets for a structural funding solution for its German operations. The German Government is committed to support such alternative solutions. In the meantime, TenneT remains fully committed to executing its large investment plans in both countries, backed by the Dutch State which recently provided TenneT a EUR 25 billion shareholder loan for the years 2024 and 2025.

TennetT
http://www.tennet.eu/

20 June 2024

Power restored after Ecuador suffers nationwide blackout

Public Works Minister Roberto Luque confirmed that 95 percent of the country's power had been restored on Wednesday after a national blackout earlier that day. An estimated 18 million citizens, according to Reuters, were left in the dark for as little as 20 minutes up to several hours, severely affecting hospitals and public transportation lines. Footage showed subway trains unexpectedly stalled at platforms and crowds of commuters demanding refunds. The outage comes days after weekend rains triggered a fatal landslide in central Ecuador that killed at least eight people and left at least 20 more injured.

What caused the outage? A failure in a transmission line caused a cascade disconnection, which generated a national blackout, Luque said.

WORLD NEWS GROUP
http://wng.org/

21 June 2024

Tata Power Subsidiary Deploys 850+ E-Bus Charging Points in India

Tata PowerElectric busesCharging StationsTata Power, Indian conglomerate Tata Group's power company, is aggressively expanding its renewable energy business through TPREL. The company has set up thousands of public EV charging points and more than 850 of them are electric bus charging points.

TPREL has strategically installed electric bus charging points in 30+ bus depots in India's prominent cities like Delhi, Mumbai, Bengaluru, Ahmedabad, Lucknow, Dharwad, Jammu, and Srinagar. Goa, one of the country's most popular states for tourism, also has Tata electric bus charging points. TPREL's charging points include fast chargers that can offload power at the rate of 180-240 kW. The average charging time at these fast-charging points is 1 to 1.5 hours.

Various state transport corporations, including DTC, BEST, BMTC, JSCL, SSCL, and BRTS-AJL have benefitted from Tata Power's electric bus charging network. Tata Power's chargers have enabled more than 2,300 public electric buses across the country. In addition to installing electric bus charging points, the company has designed and built various bus depots in India. Talking about Tata Power's EV business during its Q4 FY2024 earnings conference call in May, MD and CEO Dr. Praveer Sinha said that the company has nearly 86,000 home chargers and more than 5,500 public chargers. The same month, the power company announced that it had sold 5,000 cards for its EZ Charge network of 4,932+ RFID-enabled EV-charging points, spread across 530 cities. Tata Power aims to install approximately 25,000 EV charging points in India by 2028.

In addition to its electric vehicle charging network, Tata Power's renewable energy business involves wind and solar energy generation. The company is into thermal and hydro energy generation as well. It has an operational capacity of 14,790 MW, of which 40% or 5,930 MW to be more specific, comes from clean energy sources. The company's diversified portfolio includes solar roof solutions, energy transmission and distribution, energy management solutions, and consultancy and advisory services as well.

Electrive
http://www.electrive.com/

21 June 2024

Grid incident report South-Eastern part of the Continental Europe power system

On 21 June 2024 around 12:20, a major grid incident occurred in the South-Eastern part of the Continental Europe power system. The incident resulted in a black-out in the

electricity grids of Albania, Montenegro, Bosnia-Herzegovina and a partial blackout in Croatia. The affected TSOs, with the support of the neighboring TSOs, restored the power on their grids within approximately 2 hours aiming at minimizing the impact of the disruption on the consumers.

ENTSO-E is currently collecting all relevant technical data about this event from the affected TSOs and will provide more information as soon as possible.

In accordance with the Incident Classification Scale methodology, the Systems Operations Committee of ENTSO-E will perform a detailed investigation of this event in the coming weeks, with the support of an expert panel.

ENTSO-E
http://www.entsoe.eu/

23 June 2024

Global Offshore Wind Capacity Reaches 75 GW

The world's total offshore wind capacity has increased by 21 percent over the last 12 months, from 61.5 gigawatts (GW) a year ago to 75 GW, according to a new report by British energy trade group Renewable UK. China maintains a commanding lead with 36.76 GW, nearly half of the global total, followed by the UK with 14.7 GW of installed capacity. Germany is third with 8.3 GW, the Netherlands fourth with 3.7 GW and Denmark fifth with 2.7 GW.

The report estimates that global operational offshore wind capacity could reach 277GW by the end of 2030, a fourfold increase. With countries racing to achieve their net-zero emissions goal, wind energy is likely to play a critical role in this transition. The global pipeline of projects at all stages of development (operational, under construction, consented, in planning or at an early stage of development) has plateaued this year, and it stands at 1,500 projects totaling 1231GW – barely up 0.2 percent compared to last year's total. The industry has stopped its acceleration because of project delays, developers trimming their portfolios, and changes in methods of leasing and consenting projects around the world.

China has the largest pipeline of projects (227 GW), and the UK is second at 96 GW. The USA is third with 94 GW, Sweden fourth with 68 GW and Brazil capping the top five with 61 GW. As the volume of new offshore wind installations is growing, especially in Europe, investments in grid infrastructure have become critical. In fact, grid integration is ranked as one of the most challenging issues the wind industry faces in both the short term (5 years) and long term (beyond 10 years).

As a result, the energy consultancy Rystad projects that the demand for offshore substations will become a huge market, especially in Europe. The substations are crucial in the offshore wind industry as they collect power generated by wind turbines and help in transmitting the power to shore. Approximately 137 substations will be installed off continental Europe this decade, requiring $20 billion in total investment, according to Rystad. Over 120 of these facilities will be installed between 2024 and 2030, at a cost of around $18 billion. Offshore substations are particularly beneficial for projects over 200 MW in capacity and located more than 10 miles from the shore, as they help minimize power transmission losses.

Maritime Executive
http://maritime-executive.com/

24 June 2024

Malta: 'No power cuts like last summer due to new cables' – Miriam Dalli

Malta has not experienced the same type of power cuts as last summer due to new underground electricity cables, Energy Minister Miriam Dalli said. Earlier this month, a one-

hour nationwide power outage was caused by the Malta-Sicily interconnector being switched off for maintenance works at the Magħtab terminal station. According to Enemalta, during testing of the switchgear, a number of distribution feeders tripped. Despite power being restored over an hour later, many people expressed their fear that the island will go through a repeat of last summer, where for nine days many parts of the country were left without electricity as temperatures soared above 40°.

Dalli dismissed such concerns telling Times of Malta that "the works carried out in the past few months, where we placed more than 70 kilometres of cables, are leading us to not experience power cuts that we experienced last year". The additional cables will increase alternative connections and reduce the risks of network disruptions and make it easier and quicker to restore service following outages. Enemalta is also planning to build another new distribution centre in Siġġiewi and upgrade the ones in Msida and St Andrew's.

"There is continuous maintenance work going on, and we have seen that when there is a power cut it is addressed as quickly as possible," she said. Dalli stressed that last Sunday's national power cut was different to what took place last summer. "It was a situation where there was damage to the switchgear related to the interconnector, just as damage can happen in anything else," she said. "The interconnector had to be switched off, with maintenance work ongoing at that moment, and as it was tested, it tripped the plant." She said some localities had the electricity supply back within 15 minutes, while in other places it was restored after an hour. "These are two cases which are very different, and thanks to Enemalta workers who address situations in the shortest time."

Times of Malta
http://timesofmalta.com/

24 June 2024

Fontes renováveis atingem 49,1% na matriz energética brasileira

Nos últimos dois anos, a participação das renováveis na Oferta Interna de Energia (OIE) brasileira aumentou para 49,1%, em 2023. Em 2021, o percentual de fontes renováveis na matriz energética brasileira era de 45%. O dado foi divulgado, nesta semana, no Balanço Energético Nacional (BEN) 2024 elaborado pela Empresa de Pesquisa Energética (EPE) em parceria com Ministério de Minas e Energia (MME).

"Esses dados mostram o resultado das ações que temos feito à frente do MME, sob a liderança do presidente Lula, para desenvolver e fortalecer a transição energética justa e inclusiva. Seguimos liderando os diálogos mundiais sobre o tema, atraindo investimentos para aumentar cada vez mais o papel de protagonista do país na nova economia verde, na economia da energia renovável", explicou o ministro Alexandre Silveira sobre os dados divulgados.

De acordo com o BEN 2024, os altos níveis de renovabilidade na Oferta Interna de Energia foram assegurados especialmente pelo desenvolvimento das fontes eólica, solar e biomassa. A energia hidráulica manteve-se estável com regime hídrico favorável, aponta o documento.

O incremento das fontes renováveis nas últimas duas décadas evidencia a liderança que o Brasil vem apresentando nas ações que visam à transição energética, especialmente por meio da inserção e fortalecimento de novas fontes na matriz energética brasileira. E a meta é aumentar ainda mais. Os esforços do Ministério de Minas e Energia têm sido de atrair investimentos na área, aumentando a participação das renováveis no país, descarbonizando setores e gerando emprego, renda e oportunidades para a população.

Mais detalhes sobre o BEN

Elaborado com base em dados levantados pela EPE, o Balanço Energético Nacional é divulgado anualmente e traz uma extensa pesquisa e a contabilidade de informações

relativas à oferta e consumo de energia no Brasil. O relatório contempla as atividades de extração de recursos energéticos primários, sua conversão em formas secundárias, a importação e exportação, a distribuição e o uso final da energia.

Esta é uma série de matérias que serão divulgadas até a próxima semana para detalhar os principais destaques do BEN 2024 em relação aos setores de energia elétrica, planejamento energético, petróleo, gás natural e biocombustíveis.

Ministry of Mines and Energy of Brazil
http://www.gov.br/

25 June 2024

Vineyard Wind 1 just became the US's largest operating offshore wind farm

Sustainable energy company Avangrid and green investors Copenhagen Infrastructure Partners today announced that the Vineyard Wind 1 project is now delivering more than 136 megawatts (MW) to the electric grid in Massachusetts. (New York's South Fork Wind, the US's first complete utility-scale offshore wind farm, is 132 MW.)

In February 2024, Vineyard Wind delivered approximately 68 MW from five turbines to the grid. Vineyard Wind 1 now has 10 turbines in operation, enough to power 64,000 homes and businesses.

Each GE Haliade-X 13 MW turbine has a 220-meter (722-foot) rotor, 107-meter (351-foot) blades, and is 248 meters (814 feet) tall – roughly 2.7 times taller than the Statue of Liberty. Each is capable of providing power to more than 6,000 homes and businesses.

The project currently has 47 foundations and transition pieces installed, as well as 21 wind turbines, and the installation of the 22nd turbine is underway. Once completed, the project will consist of 62 wind turbines. Additional power will be delivered to the grid sequentially, with each turbine starting production once it completes the commissioning process.

Vineyard Wind 1, which is 15 miles off the coast of Martha's Vineyard, will be New England's largest renewable energy facility once fully operational, delivering 806 MW – enough clean electricity to power 400,000 homes and businesses. It began offshore construction in late 2022, achieved steel-in-the-water in June 2023, and completed the US's first offshore substation in July 2023.

In July 2021, Vineyard Wind signed the first Project Labor Agreement for offshore wind in the US, which outlined the creation of 500 union jobs. By December 2023, Vineyard Wind 1 had doubled its commitment by creating 937 union jobs through two years of construction.

Electrek's Take

Avangrid doesn't say what the project's expected completion date is in this latest announcement. The $3.5 billion project was originally expected to reach its full power potential by mid-2024, but I can't see 52 more wind turbines coming online before the end of summer, but more certainly will. However, I expect this project will gain momentum now that the first turbines are online.

This offshore wind farm will prove to be a fantastic clean energy asset in the face of New England's winter peak demand.

Electrek
http://electrek.co/

26 June 2024

Startup aims to transform the power grid with superconducting transmission lines

Last year in Woburn, Massachusetts, a power line was deployed across a 100-foot stretch of land. Passersby wouldn't have found much interesting about the installation: The

line was supported by standard utility poles, the likes of which most of us have driven by millions of times. In fact, the familiarity of the sight is a key part of the technology's promise.

The lines are designed to transport five to 10 times the amount of power of conventional transmission lines, using essentially the same footprint and voltage level. That will be key to helping them overcome the regulatory hurdles and community opposition that has made increasing transmission capacity nearly impossible across large swaths of the globe, particularly in America and Europe, where new power distribution systems play a vital role in the shift to renewable energy and the resilience of the grid.

The lines are the product of years of work by the startup VEIR, which was co-founded by Tim Heidel '05, SM '06, SM '09, PhD '10. They make use of superconducting cables and a proprietary cooling system that will enable initial transmission capacity up to 400 megawatts and, in future versions, up to several gigawatts.

"We can deploy much higher power levels at much lower voltage, and so we can deploy the same high power but with a footprint and visual impact that is far less intrusive, and therefore can overcome a lot of the public opposition as well as siting and permitting barriers," Heidel says.

VEIR's solution comes at a time when more than 10,000 renewable energy projects at various stages of development are seeking permission to connect to U.S. grids. The White House has said the U.S. must more than double existing regional transmission capacity in order to reach 2035 decarbonization goals.

All of this comes as electricity demand is skyrocketing amid the increasing use of data centers and AI, and the electrification of everything from passenger vehicles to home heating systems. Despite those trends, building high-power transmission lines remains stubbornly difficult. "Building high-power transmission infrastructure can take a decade or more, and there's been quite a few examples of projects that folks have had to abandon because they realize that there's just so much opposition, or there's too much complexity to pull it off cost effectively," Heidel says. "We can drop down in voltage but carry the same amount of power because we can build systems that operate at much higher current levels, and that's how our lines are able to melt into the background and avoid the same opposition." Heidel says VEIR has built a pipeline of interested customers including utilities, data center operators, industrial companies, and renewable energy developers. VEIR is aiming to complete its first commercial-scale pilot carrying high power in 2026.

MIT
http://web.mit.edu/

26 June 2024

Ohi units cleared for another 10 years' operation

Under regulations which came into force in July 2013, Japanese reactors had a nominal operating period of 40 years. One extension to this - limited to a maximum of 20 years - could be granted, requiring amongst other things, a special inspection to verify the integrity of reactor pressure vessels and containment vessels after 35 years of operation.

However, in December 2022, the NRA approved a draft of a new rule that would allow reactors to be operated for more than the current limit of 60 years. Under the amendment, the operators of reactors in use for 30 years or longer must formulate a long-term reactor management plan and gain approval from the regulator at least once every 10 years if they are to continue to operate. The new policy effectively extends the period reactors can remain in operation beyond 60 years by excluding the time they spent offline for inspections from the total service life.

The legislation was approved by Japan's Cabinet in February last year and enacted in May 2023. It comes into full effect in June next year. The Ohi 3 and 4 reactors gained

permission for operation extensions to 40 years under the old regulatory system in November 2021 and August 2022, respectively. Kansai applied to the Nuclear Regulation Authority (NRA) on 21 December to operate the units for over 60 years. The two 1180 MWe pressurised water reactors were connected to the grid in June 1991 and June 1992, respectively.

With the NRA's approval, Ohi 3 can now operate until 17 December 2031, while Ohi 4 can operate until 1 February 2033. "We will continue to actively incorporate the latest knowledge from Japan and abroad and reflect it in plant design and equipment maintenance, thereby striving to improve the safety and reliability of nuclear power plants," Kansai said. Kyushu Electric Power Company submitted its long-term reactor management plan to the NRA on 24 June for units 1 and 2 of its Sendai nuclear power plant in Kagoshima Prefecture.

World Nuclear News
http://www.world-nuclear-news.org/