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Special Interview

The energy transition is seen by many as one of the biggest economic opportunities of the 21st century. But there can be no transition without transmission. *TEI Times* speaks to Hitachi Energy's Niklas Persson. *Page 11*



Asia's energy flywheel

Asia's energy transition has become a massive industrial flywheel that has finally overcome initial friction, with innovation in finance and financing tools seeing the region become a rule-shaper instead of a rule-taker. *Page 14*



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Pouring cold water on renewables makes no sense, says Junior Isles. *Page 16*

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The UK's latest offshore wind auction, Auction Round 7 (AR7) has awarded 8.4 GW in Contracts for Difference (CfDs) to six fixed-bottom offshore wind projects, and 200 MW for two floating wind projects. *Page 6*

Egypt-Saudi \$1.8 billion grid project set to launch

The Egyptian government has announced that the electricity interconnection project between Egypt and Saudi Arabia has entered its final stage, paving the way for launch early this year. *Page 7*

ABB deals strengthen grid offerings

Global technology company, ABB, has expanded and deepened its offering and expertise in grid electrification and automation through deals that will help it take advantage of the changing network needs of an energy sector in transition. *Page 8*

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Clean energy "steering direction" of global energy system

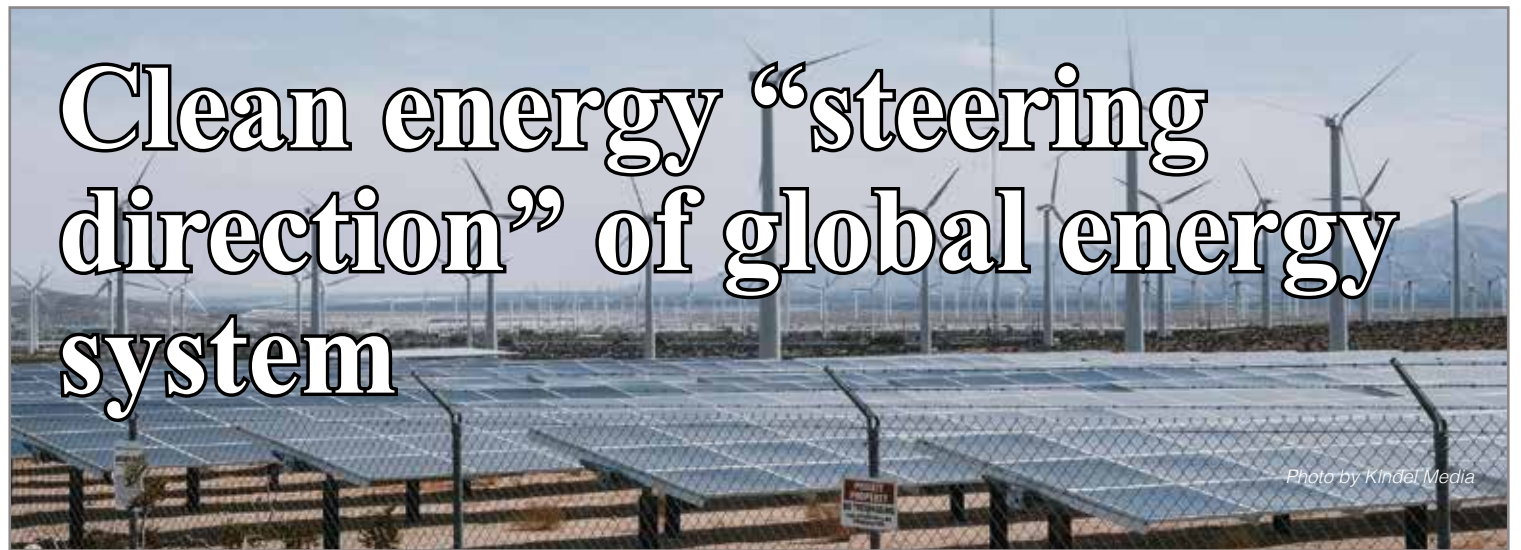


Photo by Kindel Media

Electricity produced from wind and solar overtook coal fired generation for the first three quarters of 2025 – the first time this has happened for a sustained period. The milestone came as coal demand plateaued, with predictions of consumption edging downwards from 2030. **Junior Isles**

Solar and wind not only kept pace with global electricity demand growth, they surpassed it across a sustained period for the first time in 2025, signalling that clean power is now steering the direction of the global energy system.

According to UK-based energy think-tank Ember, solar and wind supplied 17.6 per cent of global electricity in the first three quarters of 2025, up from 15.2 per cent over the same period last year, pushing the total share of low-carbon sources to 43 per cent.

The rise of "electrotech" – solar, wind, batteries and electrified transport, heating and industry – became

the dominant engine of global energy growth, led by China's emergence as the world's first electrostate. As AI and data centre demand grew, clean power and strong grids became the new competitive edge for modern economies.

At the heart of this shift is solar, whose growth was more than three times larger than any other source of electricity so far in 2025, confirming its role as the dominant force reshaping the global power system.

In addition to China, solar power also gained momentum in regions once seen as peripheral, from Central

Europe to Africa, while BRICS nations crossed a major milestone by generating more than half of global solar power. Rapid advances in battery technology and a decline in prices brought around-the-clock solar into credible, near-commercial reality, opening the door to fossil-free baseload power in sunny regions.

As renewables, including solar, wind, hydro and smaller sources such as geothermal, generated more electricity than coal for a sustained period for the first time, the International Energy Agency reported that global coal demand reached a plateau in 2025.

The IEA's 'Coal 2025' report found that global coal demand was on course to rise by 0.5 per cent in 2025 and is forecast to fall through the end of this decade as competition intensifies with other power sources – including renewables, natural gas and nuclear.

In India, an early and intense monsoon season resulted in a decline in annual coal use for only the third time in five decades. In the United States, higher natural gas prices and policy measures that slowed coal plant retirements lifted coal consumption, which

Continued on Page 2

Renewable energy industries react to US withdrawal from UNFCCC and IRENA

The US government's announcement that it is withdrawing from the UN Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC) highlights the Trump administration's disregard of the existential risks facing the people of the United States and around the world, according to Climate Rights International.

The UNFCCC and the IPCC are among the 66 international agreements and bodies from which the US announced its withdrawal earlier this month. The UNFCCC is the main global treaty coordinating global action to combat climate change, and the IPCC is the scientific body tasked with assessing the science of climate change. Its work, to which American scientists have been major contributors, forms the scientific backbone for international climate negotiations and policy development. The US announced its withdrawal from the landmark Paris Agreement just after

Donald Trump was inaugurated as President in January 2025.

With this decision, the US will become the only country on Earth not party to the UNFCCC. The US is also withdrawing from a range of other international bodies related to the environment, energy policy, and climate, including the International Renewable Energy Agency and the Renewable Energy Policy Network for the 21st Century.

The Global Renewables Alliance said the decision by the US to withdraw from the UNFCCC, IRENA and several other international conventions represents "a step away for the US Administration" from multilateral cooperation on climate change mitigation and the energy transition, at a time when international coordination "is critical for delivery at speed and scale".

Bruce Douglas, CEO of the Global Renewables Alliance, said: "The renewable energy transition is the

economic opportunity of the century. By stepping away, the US is choosing to miss out on jobs, investment and industrial growth that are already reshaping the global economy. The rest of the world is moving forward, together."

The Alliance noted that the US is one of the world's largest carbon emitters and highly vulnerable to the damaging effects of climate change, making this decision "a setback for the world and for ordinary Americans". It said, however, that global momentum remains strong, as 198 countries continue to work together through the UNFCCC, "driving economic growth, energy security and shared prosperity. And the economics of clean, affordable renewables mean that companies and consumers continue to choose technologies like solar and wind".

REN21 called the decision "unfortunate" but said the move does not alter the global trajectory towards

renewables. The energy transition is already underway and continues to accelerate, driven not by ideology, but by economics. Renewable energy delivers greater energy security, shields economies from volatile fuel prices, creates jobs, reduces environmental damage, and supports more peaceful and equitable development pathways.

Rana Adib, Executive Director of REN21, said: "Renewable energy is the strongest economic choice countries, sub-national governments, cities, and citizens can make today. It is the best option for energy security, the smartest investment for long-term prosperity, and a critical foundation for protecting nature. The shift to renewables is happening globally; it is no longer optional or reversible."

"It is happening because it makes economic sense and because societies need reliable, affordable energy in a changing world."

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had been on a downward trajectory for the previous 15 years. After two years of double-digit declines, coal demand in the European Union shrank only modestly. At the same time, in China, coal use remained broadly unchanged from its 2024 level.

By 2030, however, global coal demand is expected to have ticked lower, returning to the same level as in 2023. This is largely driven by shifts in the power sector, which accounts for two-thirds of total coal consumption today.

With renewable capacity surging, nuclear expanding steadily, and a huge wave of liquefied natural gas coming to market, coal fired power generation is forecast to decline from 2026 onward. Coal demand from industry is expected to remain more resilient.

In China, which currently accounts for more than half of global coal use, demand is expected to fall slightly by the end of the decade. The country continues to deploy renewable energy capacity at a rapid pace, with the government looking to reach a peak in domestic coal consumption by 2030.

“Despite uncharacteristic trends in several key coal markets in 2025, our forecast for the coming years has not changed substantially from a year ago: we expect global coal demand to plateau before edging down by 2030,” said IEA Director of Energy Markets and Security Keisuke Sadamori. “That said, there are many uncertainties affecting the outlook for coal, most notably in China, where developments – from economic growth and policy choices, to energy market dynamics and weather – will continue to have an outside influence on the global picture. More broadly, trends in electricity demand growth and the integration of renewables worldwide could impact coal’s trajectory.”

Should China see faster-than-expected growth in electricity consumption, slower integration of renewables, or strong investment in coal gasification, it could push global coal demand above the forecasts, according to the report.

Major uncertainties also persist globally over the pace of electricity demand growth in both advanced and developing economies, policy approaches, and the pace of coal substitution in certain sectors and regions.

Nicolas Fulghum, Senior Data Analyst, Ember, said that as 2025 came to an end, the direction of travel was “unmistakable”.

He said: “Clean power is scaling, markets are shifting and the electricity system is becoming the centre of economic strategy – from AI growth to energy security. In 2026, the challenge will be turning this momentum into system-level transformation. Countries that expand storage, fix grid bottlenecks, set higher ambition and empower markets to integrate renewables will shape the next phase of global leadership.”



Fulghum: the electricity system is becoming the centre of economic strategy

EU says Grids Package crucial for Europe’s competitiveness and energy security

Photo by antonio filigno

The European Commission has proposed its EU Grids Package under the warning that the “biggest danger” to the bloc’s decarbonisation and energy security goals is the slow construction of its power grid. **Junior Isles**

The backbone of European energy system, the grids infrastructure, will be modernised and expanded to “unleash its full potential” when the proposed European Grids Package and Energy Highways proposal becomes law.

Announced by EU President Ursula von der Leyen in her State of the Union 2025 address, the proposal has now moved to the European Parliament and the Council of the EU for review, with final approval expected around the end of 2026 or early 2027.

The EU Grids Package will enable energy to flow efficiently across all Member States, integrating cheaper clean energy and accelerating electrification. This will help lower energy prices and support affordable living for all Europeans. Importantly, it will ensure secure and reliable supply as Europe moves away from Russian energy imports to achieve energy independence.

The Package is designed to address the most urgent infrastructure needs that require additional short-term support and commitment for implementation. They were selected based on their strategic importance to complete the Energy Union and on the level of

political support from the EU needed for their successful implementation.

Despite the progress achieved within the current EU legal framework, the EU has not reached the level of interconnectivity among Member States that would enable a genuine Energy Union, as several Member States are not on track to meet the 15 per cent interconnection target by 2030.

This lack of energy integration is damaging EU industry competitiveness. In 2024, industrial electricity prices in the EU reached €0.199 per kWh, compared to €0.082 in China and €0.075 in the US. In the first half of 2025, the average electricity price for EU consumers varied from €0.3835/kWh in Germany to €0.1040/kWh in Hungary, while non-household electricity prices ranged from €0.2726/kWh in Ireland to €0.0804/kWh in Finland. The Commission says a key reason for this disparity is the insufficient level of investment in and integration of the bloc’s infrastructure.

Dan Jørgensen, the EU Commissioner for Energy warned that the biggest danger to the bloc’s decarbonisa-

tion and energy security goals was the slow construction of its power grid. He told the *Financial Times*: “In Europe, it’s a huge problem and we lose billions every year in lost value because of curtailment and bottlenecks.”

Costs from grid congestion reached €5.2 billion in 2022, and could rise to €26 billion by 2030, according to figures from the EU energy regulator ACER. Further, a report by the German think-tank Agora Energiewende, said the EU could save more than €560 billion between 2030 and 2050 if EU countries co-ordinated their energy infrastructure planning across sectors.

Commenting on the proposal, infrastructure expert Taco Engelaar, Managing Director at Neara, said: “Geopolitically, boosting interconnection is both a necessity and a risk. Interconnected grids can cause problems to rapidly spread – as we saw in Spain and Portugal. And mean any hostile activity could have a cascading effect across the bloc. As Jørgensen says, our strategic connections have also become strategic targets.”

“But the solution to these threats is, ironically, deeper integration. Done right, it can safeguard the continent

from supply challenges if we create more routes to stability when one area is hit by an issue, and reduce the vulnerability of vital energy hubs across the Baltics and through Poland by ensuring they have multiple routes of connection, creating a safety net that supports independent and resilient national systems. Interconnectivity done right is a game-changer, done wrong it’s a danger. We can’t afford to fumble this.”

■ The European Union has agreed to phase out Russian natural gas imports by late 2027 as part of an effort to end the bloc’s decade-long dependency on Russian energy. Representatives for EU governments and the European Parliament reached an agreement in early December on proposals set out by the European Commission in June last year to end shipments from the EU’s former top gas supplier following Russia’s invasion of Ukraine in 2022.

Under the agreement, the EU will permanently halt the import of Russian gas and move toward a phase-out of Russian oil. Liquefied natural gas (LNG) imports will be phased out by the end of 2026 and pipeline gas by the end of September 2027.

Bumps in the road for hydrogen

Almost 60 major low-carbon hydrogen projects, including by oil groups BP and ExxonMobil, were cancelled or put on hold last year, as the industry was hit by spiralling costs, policy uncertainty and a lack of buyers.

The projects that have been cancelled or paused had a combined annual output of 4.9 million tonnes, according to data from S&P Global, equivalent to more than four times the world’s installed clean hydrogen capacity.

In December BP pulled out of planned investments in hydrogen plants in Oman and Teesside in north-east England, having abandoned a green hydrogen facility that was set to be built in Australia. In November

Exxon paused a hydrogen plant in Texas that would have been one of the world’s largest.

Cancellations and project delays highlight issues in scaling up a technology that has long held promise as a key way of cutting carbon emissions.

Murray Douglas, Head of hydrogen research at Wood Mackenzie, said: “It’s been a challenging year or two for any company trying to develop [clean] hydrogen projects. The willingness to pay any sort of green premium across all low-carbon technologies has evaporated.”

Wood Mackenzie has tracked more than 300 cancelled, stalled or inactive low-carbon hydrogen schemes since

2020.

The EU hopes that its recently proposed EU Grids Package and the Energy Highways initiative will provide much needed support for the industry. The Package puts energy infrastructure at the core of the transition towards more affordable energy necessary to boosting European business and supporting the implementation of the Commission’s Action Plan for Affordable Energy.

For hydrogen, the Grids Package addresses three core aspects of energy infrastructure: funding mechanisms for derisking critical cross-border infrastructure; accelerated deployment through streamlined permitting; and

integrated planning and better system integration.

Jorgo Chatzimarkakis, CEO of Hydrogen Europe, commented: “With the right infrastructure in place, hydrogen will help reduce renewable energy curtailment and deal with variable demand, providing the flexibility the system critically needs. But hydrogen flexibility can only be unlocked once hydrogen grids and storage sites are made available to the market.”

“This is why we welcome the Commissions focus on integrated system planning and efforts to improve the time to market. In a truly decarbonised system, two infrastructures are cheaper than one.”

EU and UK work together on electricity market designs

The European Commission and the United Kingdom have concluded exploratory talks on the UK’s participation in the European Union’s internal electricity market. The two sides will now set out the necessary framework for that participation.

A joint statement of Commissioner Maroš Šefčovič and HM Paymaster General and Minister for the Cabinet Office The Rt Hon Nick Thomas-Symonds MP, said: “Closer cooperation on electricity would bring real benefits to businesses and consumers across Europe, drive up investment in the North Seas and strengthen energy security.”

The Commission and the UK will now proceed swiftly on the UK’s association to Erasmus+ and on the negotiations of the UK’s participation in the internal electricity market of the European Union in accordance with their respective procedures and legal frameworks and in respect of each other’s decision-making autonomy.

Responding to the UK-EU joint statement, Adam Berman, Director of Policy and Advocacy at Energy UK said: “The announcement is a step in the right direction towards lowering energy bills, tackling emissions, and bolstering our energy security. Cooperation with the EU on issues like electricity trading and carbon pricing will

ensure we can achieve net zero faster – and at lower cost.”

Well-functioning electricity markets can be an efficient tool for balancing supply and demand, coordinating operational decisions and signalling investment needs, according to a new report by the International Energy Agency (IEA). As electricity systems transform to handle a broader range of technologies and growing power demand, effective market designs for secure operations and timely investment are essential, says the report.

The report – ‘Electricity Market Design: Building on strengths, addressing gaps’ – looks at how wholesale market designs and the policies that comple-

ment them are performing across Europe, the United States, Japan and Australia, and provides insights on how they can adapt to changing system needs. It finds that while short-term markets have performed well in supporting efficient and secure electricity dispatch, long-term markets have been less effective in meeting investment and risk-management needs.

Complementary mechanisms, such as capacity remuneration schemes and renewable support programmes, have played a significant role in advancing investment and policy objectives, but in some cases their design has contributed to system inefficiencies and higher costs, the report says.

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Offshore wind projects challenge Trump 'stop-work' order

- New York Attorney General hits back at 'arbitrary and capricious' order
- Developers highlight past engagement on 'nearly complete' plants

Janet Wood

Offshore wind developers in the US continue to challenge a "stop-work order" issued by the Trump administration that forced major US offshore wind projects under construction to pause work while federal agencies review alleged national security issues.

The stop-work order covered five projects, all under construction, with a combined capacity of 5.8 GW, and it came shortly after a federal judge overturned Trump's indefinite halt of all

federal approvals and permitting for new wind energy projects.

New York Attorney General (AG) Letitia James filed two lawsuits against what she said is "the Trump administration's unlawful attempt to halt construction" on Equinor's Empire Wind 1 and Ørsted's Sunrise Wind, under construction in federal waters off New York. The orders are "arbitrary and capricious, in violation of the Administrative Procedure Act", she said.

James argued that halting construction risks delaying or permanently derailing the projects, jeopardising

contracts, local tax revenue, workforce training programmes, and long-term economic development tied to New York's clean energy transition.

In a federal lawsuit Dominion Energy argued that the Bureau of Ocean Energy Management (BOEM) order "sets forth no rational basis, cannot be reconciled with BOEM's own regulations and prior issued lease terms and approvals, is arbitrary and capricious, is procedurally deficient, violates the Outer Continental Shelf Lands Act, and infringes upon constitutional principles that limit actions by the Executive

Branch". Dominion said its 2.6 GW wind farm was on track for full commissioning by the end of this year.

Empire Offshore Wind LLC, said: "While Empire continues to work closely with Bureau of Ocean Energy Management (BOEM) and the other relevant authorities to find a prompt resolution to the matter, the order is in Equinor's view unlawful and threatens the progress of ongoing work with significant implications for the project."

Ørsted and joint venture partner Skyborn Renewables have also filed for a

preliminary injunction for the 704 MW Revolution Wind offshore wind farm, set to power Connecticut and Rhode Island, which was approximately 87 per cent complete at the time the stop-work order was issued.

The stop-work order is not the first for Empire Wind. It was the first project in the US on which construction was paused after the Trump administration took office – first halted in April 2025, just as seabed preparation work was starting at the offshore construction site. The order was lifted the following month.

Mexico prepares second clean energy tender

The government of Mexico is launching a second public tender for clean power generation and energy storage projects. The country's first tender round resulted in contracts totalling 3.3 GW of renewable capacity and 1.2 GW of storage.

The projects were classified as being 'strategic', which meant they had clearly defined and shortened timelines for permitting and construction.

"Permitting and grid interconnection processes that used to take two years were compressed into just two months. That gives a huge amount of certainty to financiers, developers and off-takers," said Alejandro Robles, Director of MRS Sustentables, in an interview with Energía Estratégica.

Robles expects more private-sector participation in the new round. He said: "Some major players preferred

to wait and see how the first one unfolded, and now they will step in. If improvements are introduced, it could be even more powerful".

His suggested improvements included greater flexibility for bidders, for example in where projects can connect to the grid.

Robles said the first tender acted as a strong market filter.

"You need secured land leases, advanced grid interconnection studies, environmental and social impact assessments already filed, and the financial capacity to assume grid reinforcements," he said.

All awarded projects were required to integrate battery systems equivalent to 30 per cent of nominal capacity, with three hours of backup for solar PV and four hours for wind power.

Iberdrola commissions high-voltage lines in North and South America

Through its US subsidiary Avangrid, Iberdrola has commissioned the New England Clean Energy Connect link between the USA and Canada.

The 233 km, 1.2 GW HVDC link, under construction since 2018, represents an investment of \$1.65 billion. It has 40-year contracts with Massachusetts distributors and Hydro-Québec, and has already begun to carry hydroelectric power from Quebec.

The project included two static synchronous compensators (STATCOMs) at the Buxton substation in Maine to maintain voltage and improve supply quality

Meanwhile Iberdrola's Brazilian subsidiary Neoenergia has commissioned Alto Paranaíba. The 1600 km transmission line, with six substations, make this project the biggest of its kind developed by Iberdrola in Brazil and one of the largest electricity transmission initiatives in the country. It significantly increases the power transmission capacity between the north of the state of Minas Gerais and São Paulo.

The company said all works were completed more than 15 months ahead of the deadline and required an investment of around €669 million.

Brazil plans route away from fossil fuels

- Ministries to prepare roadmap
- Rising wind and solar requires grid expansion

Janet Wood

Brazil has affirmed President Luiz Inácio Lula da Silva's backing for a roadmap for the country's transition away from fossil fuels.

A presidential dispatch in December ordered government departments to prepare within two months, draft guidelines to develop a "roadmap for a just and planned energy transition, with a view to gradually reducing the country's dependence on fossil fuels". The dispatch applies to the departments of mines and energy, finance, environment and the chief of staff's office. The directive calls on the ministries to propose financing mechanisms for an energy transition policy, including a dedicated fund backed by government oil and gas revenues.

Most of Brazil's domestic energy needs are currently met by renewable energy or biofuels, but it is a major producer of crude oil, which is the

country's top source of export revenues. The roadmap includes ministries that diverge over fossil fuels. Mines and Energy Minister Alexandre Silveira has pushed strongly for new hydrocarbon prospecting off Brazil's coastline, while the environment ministry, previously called for a "ceiling" on oil exploration.

UN COP30 Chief Executive Ana Toni said that Brazil would "need to plan" because its economy would suffer from the wind-down of revenues from fossil fuels.

"So if we don't plan, if we don't use the resources that we have in a wise manner — countries that will not plan — they will be left behind." She added that "President Lula was extremely helpful in the way he put it. We need to end our dependency".

Suely Araújo, Public Policy Co-ordinator at the non-profit Climate Observatory said: "We must demand clear goals and a definition of the means of

implementation."

The initiative comes as Brazil faces the need to expand its electricity transmission network to accommodate a shift in generation. Hydroelectric dams previously provided most power supply, but new capacity additions have been in the form of wind and solar power. Wind and solar capacity has increased from 8 GW in 2015 to 99 GW in 2025, according to data from consultancy Aurora Energy Research, and it has tapped natural resources from new areas that have to be connected. More than half of the country's electricity consumption is in the southeast, but most renewables plants are in the northeast.

"There is a mismatch between transmission [infrastructure] and installed renewable capacity," explained Matheus Dias, Senior Research Associate at Aurora. Building a new line takes on average five years more than a renewable power plant, he added.

House offers FERC power over plant closures

The US House of Representatives has passed the Power Plant Reliability Act, which gives the Federal Energy Regulatory Commission (FERC) authority to require power plants to remain open if closure poses reliability concerns.

FERC would step in if a state commission raises concerns. If FERC finds

the closure could contribute to reliability issues within five years of the complaint, the commission could require the plant to stay open for up to five years, exempting it from environmental regulations.

"When a state seeks to close a power plant without identifying sufficient

replacement, there is little recourse for affected households in neighbouring states that need the power," said Bob Latta, Republican chair of the House Energy and Commerce Subcommittee on Energy. "The Power Plant Reliability Act solves this by providing a bridge solution to maintain generating

resources until sufficient capacity can come online to fill the gap," he said.

But Energy Sub-committee member Kathy Castor, a Democrat, said a more limited version of the proposed authority already exists.

"The Department of Energy already has the authority under the Federal

Power Act to prevent power plants from retiring if doing so would cause reliability problems, but Republicans want to go further," she said.

Castor also raised concerns about the timescale, saying it was "nearly impossible" to predict the impact of a planned retirement five years in advance.

Philippines baseload coal fired generation grows, even as renewables accelerate

- Coal demand to rise by 15 per cent by end of decade
- Green auctions in second half of 2025 will deliver 17 GW

Syed Ali

Despite its energy transition efforts, the Philippines is projected to remain one of Southeast Asia's largest coal consumers through 2030, according to the International Energy Agency (IEA).

The IEA forecasts the Philippines' coal demand to rise by 15 per cent to 54 million tons by 2030, keeping the country a regional top consumer alongside Indonesia and Vietnam.

"While renewable deployment accelerates, coal fired generation continues to provide baseload supply," the IEA said in its annual coal report.

Coal still accounted for the bulk of the country's power generation mix at around 63 per cent, while renewable

energy made up only 22 per cent, latest Department of Energy data showed.

Power generation remains the main driver, accounting for about 75 per cent of total coal demand. The region's strong economic growth and the commissioning of new coal fired power plants were said to have supported this expansion.

At the start of this year Pangilinan-led Meralco PowerGen Corp. (MGEN) announced that it will invest roughly Peso8.8 billion (about \$150 million) in expanding its coal fired power capacity in Cebu. MGEN President and CEO Emmanuel Rubio said the investment would fund the development of the 73 MW Toledo coal project in the province.

In addition to the Toledo project,

MGen is developing a 1200 MW ultra-supercritical coal plant in Quezon province.

But despite its high dependence on coal, the country says it remains committed to accelerating clean energy growth. Boosting clean energy capacity was among the government's key priorities in 2025, with the Department of Energy (DOE) and the Energy Regulatory Commission (ERC) focused on achieving the targets set under the Green Energy Auction (GEA) Program.

Two auctions held last year – GEA-3 (June) and GEA-4 (September) – indicate that in the next 10 years, nearly 17 000 MW of renewable energy (RE) projects could help wean the country off fossil fuel dependency. Under

GEA-3, the DOE issued award notices to seven bidders for the delivery of a total capacity of 6677.218 MW between 2025 and 2035. Technologies involved consisted mostly of impounding hydropower, pumped-storage hydropower and geothermal projects.

Another 10 195 MW of capacity was awarded under GEA-4 involving 123 projects for delivery between 2026 and 2029. The projects included ground- and roof-mounted solar, floating solar onshore wind and integrated renewable energy with energy storage systems.

Meanwhile, in late November the DOE finally launched the bidding for its first offshore wind projects, initiating GEA-5 with a projected capacity of 3300 MW.

From January to November, RE facilities totalling Peso1.42 trillion (\$25.11 billion) dominated the list of projects approved by the Board of Investments (BOI) for green lane certifications, which help streamline, simplify and automate approvals for high-impact projects like RE to ensure swift realisation of the investment. In terms of approved investments, BOI recorded around Peso479.78 billion worth of power projects during the 11-month period.

Under the 'Clean Energy Scenario of the Philippine Energy Plan (PEP)', the country is aiming for 35 per cent renewable energy share in the power generation mix by 2030, with a target of raising this to some 50 per cent by 2040.

Samsung Heavy develops floating SMR nuclear power platform

Photo by O-seop Sim

Samsung Heavy Industries has developed a floating offshore nuclear power platform capable of hosting small modular reactors (SMRs) in various configurations, the company said.

The South Korean shipbuilder has received approval in principle from the American Bureau of Shipping (ABS) for the conceptual design of its Floating SMR (FSMR) platform equipped with two SMART 100 reactors. SMART 100 is an integrated SMR developed by the Korea Atomic Energy Research Institute (KAERI) that received standard design approval from South Korea's Nuclear Safety and Security Commission in September 2024.

Under the project, Samsung Heavy Industries is responsible for integrating the SMRs with the floating structure, designing the overall nuclear power generation facilities, and developing a multi-barrier reactor contain-

ment system. KAERI is tasked with adapting the land-based SMART 100 reactor design for offshore use.

Ahn Young-kyu, Vice President and Head of technology development at Samsung Heavy Industries, said the certification marks an important milestone in pioneering the offshore nuclear power generation market. He added that the company aims to secure safe and cost-efficient offshore nuclear technologies by leveraging its advanced floating platform expertise.

■ South Korea's nuclear watchdog has decided to conduct a further review of the operation of the Saeul-3 reactor before granting official approval. The Nuclear Safety and Security Commission made the decision after holding a meeting on whether to approve the operation of the Saeul-3, a homegrown APR1400 reactor located at the Saeul Nuclear Power Site in the southeastern port city of Ulsan.

National Assembly approves energy policy framework through 2030

Vietnam's National Assembly has passed a resolution outlining mechanisms and policies for national energy development from 2026 to 2030, with 89.64 per cent of lawmakers voting in favour of the 16-article framework.

The resolution grants the Prime Minister authority to approve investment policies and select investors for offshore wind projects during 2025-30 without land-use auctions or investor bidding processes. For the 2031-35 period, provincial-level People's Committee chairmen will handle project approvals, marking a decentralisation of authority.

The news came as GE Vernova announced the start of commercial operation of PetroVietnam Power Corporation (PV Power)'s 1.6 GW Nhon Trach 3 & 4 Power Plant in Ong Keo Industrial Park in the Dai Phuoc commune, approximately 70 km southeast of Ho Chi Minh City, Vietnam.

The plant is expected to play a crucial role in meeting the growing electricity demand in the southern region of Vietnam. It also marks the expansion of gas fired power generation, accelerating the transition from coal to gas to support the country's sustainable development goals.

Australia revises renewable energy forecasts for wind and transmission

Photo by Pat Saengcharoen

Australia will need to rely more heavily on large solar farms, batteries and households to meet its 82 per cent renewable energy goal by 2030, says the country's energy market operator.

The announcement came as the Australian Energy Market Operator (AEMO) released a draft of its highly anticipated 2026 Integrated System Plan (ISP), in which it radically scaled back previous forecasts for wind generation and transmission line capacity.

Previously AEMO forecast that wind generation capacity should reach 42.6 GW by the end of the decade. This has now been revised down to 26 GW by 2030, 40 GW by 2035 and 57 GW by 2050. AEMO attributed the changes partly to higher building costs, citing that solar was "somewhat cheaper and easier to build than wind" and "pairs well with storage". The draft paper also highlights that offshore wind projects are approximately 40 per cent more expensive to build and connect than onshore wind farms.

By contrast, AEMO now expects that 2 GW of grid-scale solar will be needed by 2030 and 63 GW by 2050, suggesting that solar will make a greater contribution to Australia's energy mix in the coming years than previously thought. Additionally, AEMO has indicated that battery energy storage system (BESS) capacity will be 60 per cent greater than previ-

ously forecast by 2030, with grid-scale operational BESS capacity being revised up from 15 GW in the previous 2024 ISP, to 24 GW.

By 2035, it estimates Australia will need 120 GW of combined grid-scale wind and solar, 32 GW grid-scale batteries, 14 GW of flexible gas and 12 GW of pumped hydro to meet its energy needs. AEMO expects that electricity consumption required for industry, business and transport will nearly double to 389 TWh by 2050, partly fuelled by rising demand from new energy-intensive industries such as data centres.

The draft plan also revises AEMO's previous forecasts for expanded transmission capacity. It estimates that a further 6000 km of power transmission lines will need to be added to the existing 44 000 km network by 2050, down from the previous estimate of 10 000 km. The downgraded forecast is partly due to 365 km of transmission lines having already been built and a further 2800 km already committed or anticipated for other projects, as well as several projects having been abandoned.

Delays to certain transmission project buildouts, and the decline in battery costs, have consequently meant BESS will serve as a buffer for slower transmission development. This means BESS will continue to serve as a central

pillar of the National Energy Market (NEM) by providing system security such as frequency control, voltage stability and additional system strength.

Leanne Olden, an expert in energy law at Pinsent Masons, said the revised forecasts would be particularly relevant to businesses involved in wind farm development and transmission networks. "It is significant that AEMO is now slashing its forecast for the amount of wind, as well as transmission, that will be required as this was an expected major source of investment," she said. "Clients will want to be aware that not as many projects will need to be built as was previously anticipated, or that different technologies may be preferred."

Notably, in December Australian media reported that a consortium led by AGL Energy halted feasibility studies for the Gippsland Skies offshore wind project and will surrender its feasibility licence for the proposed 2.5 GW development off Victoria's Gippsland coast. It was the third project in the Gippsland zone to be abandoned in 2025.

■ Samsung C&T Corp., the construction arm of Samsung Group, said last month, its joint venture with Australia's DT Infrastructure has secured a Won940 billion (\$635.7 million) deal to build high-voltage power transmission facilities in Australia.

Offshore wind achieves CfDs up on 2022 prices

Photo by Damir K

- UK seventh round awards 8.4 GW
- First Polish round awards 3.4 GW

Janet Wood

The UK's latest offshore wind auction, Auction Round 7 (AR7) has awarded 8.4 GW in Contracts for Difference (CfDs) to six fixed-bottom offshore wind projects, and 200 MW for two floating wind projects.

WindEurope described AR7 as "one of the most competitive offshore auctions ever held in Europe". A record 19 projects with a total potential capacity of 24 GW were eligible to bid. The prices guaranteed to project developers in this auction round range

from £89-£91/MWh for fixed-bottom offshore wind to £216 per MWh for floating offshore wind. The current wholesale price is between £80 and £90/MWh.

The prices for fixed-bottom offshore wind are about 11 per cent higher than last year, and roughly 75 per cent above prices awarded in 2022. Some of the 2022 contracts resulted in developers pulling out or rebidding for more money.

Jess Ralston, Energy Analyst at the Energy and Climate Intelligence Unit (ECIU), said: "This is set to be a break-

through moment in the UK's energy independence and for stabilising household and industry's energy bills. Wind lowered the wholesale power price by around a third last year by squeezing out gas generation, which has a direct benefit on electricity bills."

She added: "Every wind turbine we build means we need less gas from abroad as the North Sea continues its inevitable decline, so we'll be less reliant on the actions of foreign actors like Putin."

Meanwhile, Poland has completed its first offshore wind auction, resulting in

CfDs on more than 3.4 GW of capacity. The projects awarded are Baltica 9 (PGE, €116.27/MWh), Baltic East (Orlen Group, €113.39/MWh), and Bałtyk 1 (Equinor and Polenergia, €117.06/MWh). All three are expected to produce first power in December 2032. "The conclusion of the first-ever offshore auction in Poland is a breakthrough moment for the development of offshore wind energy in the Polish part of the Baltic Sea."

"The auction was a success, guaranteeing the continuity of project implementation and ensuring the stability of

local content development," said Dariusz Lubera, CEO of PGE Polska Grupa Energetyczna.

Earlier this year, the European wind industry proposed a New Offshore Wind Deal to speed up and de-risk the build-out of homegrown and competitive offshore wind energy. It calls on European governments to coordinate an annual build-out of 15 GW per year from 2031 to 2040, with 10 GW per year resulting from CfD auctions. In return, the industry pledged large private investments and further cost reductions.

Solar leads rising renewables in Germany and across the EU

- Coal pushed down the pack
- Battery investment follows on

Janet Wood

Renewables accounted for 55.9 per cent of Germany's electricity mix in 2025, unchanged from the previous year, according to data from the Fraunhofer Institute for Solar Energy Systems ISE, but solar power overtook lignite for the first time to become Germany's second-largest source of public net electricity generation, behind wind power.

Solar generation increased by 21 per cent year-on-year, reflecting both capacity additions and higher utilisation. Solar installations generated around 87 TWh of electricity in 2025, of which approximately 71 TWh was fed into the public grid, while 16.9 TWh was consumed directly by producers. The institute noted that annual solar installations must rise to 22 GW in 2026 to stay on track with national targets.

Wind power remained Germany's largest electricity source, generating 132 TWh in 2025. But despite capacity additions of 4.5 GW onshore and 0.29 GW offshore, wind expansion

continues to lag government targets.

Meanwhile, fossil fuel-based electricity generation remained largely stable. Lignite-fired power generation declined, offset by higher natural gas use.

The institute also highlighted rapid growth in battery storage in Germany, driven by volatile electricity prices and falling battery costs. Large-scale battery storage capacity increased by 60 per cent in 2025 to 3.7 GWh, while total installed battery storage reached nearly 25 GWh, mostly in residential systems. The country leads European deployment with over 3.5 GW expected this year, doubling to 7 GW by 2034. According to Fraunhofer ISE, Germany will require between 100-170 GWh of battery storage capacity by 2030.

Germany's figures mirror those of the European Union. Across the bloc, electricity generation from photovoltaics exceeded coal fired power generation for the first time in 2025, reaching 275 TWh, compared with 243 TWh from lignite and hard coal combined.

Over the past decade, EU solar generation has tripled, while coal-based power has declined by around 60 per cent. Similarly, European battery storage deployment is expected to grow 45 per cent year-over-year to 16 GW in 2025.

Europe's battery market has "matured into an increasingly attractive investment destination", according to new analysis from Wood Mackenzie. It said "considerable BESS volumes are now being deployed across Europe", reaching 11 GW as of 2024.

But the analysis said that whilst current market conditions appear lucrative for batteries, revenue streams face pressure. Ancillary service revenues become a smaller portion of the revenue stack due to increased competition.

"The German BESS market sits at a critical juncture where strong fundamentals meet increasing competitive pressures that will cannibalise price fluctuations over time," said Rory McCarthy, VP, Head of Power and Renewables Consulting EMEA at Wood Mackenzie.

EIB supports distribution networks in Slovakia

The European Investment Bank (EIB) and Západoslovenská energetika (ZSE) Group have agreed a €350 million loan to finance a multi-year investment programme to modernise electricity distribution networks across Slovakia.

The EIB loan will support ZSE Group in upgrading high-, medium- and low-voltage overhead lines and underground cables, modernising

transformers and substations, and rolling out smart technologies and grid automation.

EIB Vice-President responsible for Slovakia, Marek Mora, said: "Modernisation of Slovakia's distribution networks will strengthen the foundations of the Slovak economy, making it more resilient to modern challenges including meeting the projected increase in electrification."

Markus Kaune, CEO at ZSE Group, said: "In the coming three years, we will be able to continue our high investment level, which has almost doubled since 2022. We are committed to building a smarter, more resilient and future-ready grid that meets the evolving needs of customers and the energy system, and especially the progressing electrification, e.g. in heating and transport."



Photo by Guillaume Meurice

The European Commission has launched its third European Hydrogen Bank (EHB) auction, offering subsidies of up to €3 billion to hydrogen projects.

The budget comprises €1.3 billion from the EU and another €1.7 billion from national budgets. Alongside, the EU's Innovation Fund will dedicate €2.9 billion for manufacturing of clean technologies and decarbonisation projects, meaning a cumulative €6 billion is potentially available to the hydrogen sector.

The EHB auction will allocate funds across renewable fuel of non-biological origin (RFNBO), low-carbon hydrogen and projects with off-takers in the maritime or aviation sector.

In addition, Germany and Spain have

announced national top-up funds. Germany will contribute €1.3 billion for renewable hydrogen production that will flow into the Denmark-Germany pipeline, serving off-takers connected to the German Kernnetz. Spain will add €278.6 million for renewable hydrogen and €136.4 million for maritime and aviation.

Daniel Fraile, Chief Policy & Market Officer of Hydrogen Europe, said: "The launch of the third auction and call for grants is excellent news as we continue to support the growth of a decarbonised hydrogen market. We encourage the European Commission to continue supporting the Hydrogen Bank and Innovation Fund as a means of unlocking public and private investments into this important technology."

Norway needs more power for data centres and electrified transport

The speed of electrification in Norway could leave it with a power shortfall, according to new report from DNV analysing the Norwegian energy transition towards 2060.

"Energy Transition Outlook Norway" forecasts demand for electricity, and found it is increasing six times faster than the development of new power sources. Electricity demand will increase by 18 TWh over the next five years but new power development will only provide 3 TWh. It said Norway is heading towards a power deficit around 2030, with an expected net import of up to 5 TWh annually in the early 2030s.

Behind the growth surge is data centres, which are growing faster in Norway than in other European countries because it has cheap electricity and a

cooler climate. DNV forecasts that data centres will use 15 TWh by 2040 – for seven per cent of Norway's total electricity consumption. The transport sector will also undergo electrification, increasing from six per cent today to 46 per cent by 2060, mainly due to road transport.

"Geopolitics, national priorities, and lack of public support are slowing down Norway's renewable energy efforts. This also hampers opportunities for electricity exports, the electrification of existing industry, and the establishment of new industry. Onshore and offshore wind power are the only mature and scalable solutions that can provide new capacity quickly and at an acceptable cost," said Remi Eriksen, Group President and CEO of DNV.

International News

Egypt-Saudi \$1.8 billion grid project set to launch

- Electricity interconnection project due for imminent launch
- International deals support renewable energy push

Nadia Weekes

The Egyptian government has announced that the electricity interconnection project between Egypt and Saudi Arabia has entered its final stage, paving the way for launch early this year.

A meeting in December between Egyptian Prime Minister Mostafa Madbouly and Saudi Minister of Electricity and Renewable Energy Mahmoud Esmat signalled that the launch of the project's 1.5 GW first phase is imminent, with the 3 GW second phase expected to follow later this year.

The high voltage interconnection project is expected to enhance the

electrical stability of both countries during peak periods. It is the largest such project in the Middle East, spanning over 1350 km of overhead lines and submarine cables, with a total cost of \$1.8 billion.

The project aims to capitalise on the difference in peak demand times between the two grids – Egypt's summer peak and Saudi Arabia's winter peak – to deliver fuel savings and greater grid reliability.

The Egyptian-Saudi project is seen as the nucleus of a broader regional interconnection linking Africa, Asia and Europe. It includes three main substations: Egypt's Badr, east of Cairo, Saudi Arabia's Tabuk and Medina.

Meanwhile, the European Bank for Reconstruction and Development (EBRD) has approved a €200 million financing package to support grid upgrades by the Egyptian Electricity Transmission Company (EETC).

A new high-voltage overhead transmission line will evacuate more than 2.1 GW of renewable energy from the Gulf of Suez region, a key hub for wind power. Minister of Electricity and Renewable Energy Mahmoud Esmat described the deal as a "crucial step" towards integrating the 22 GW of renewable capacity targeted by 2030.

In a separate development, Egypt has signed deals worth \$1.8 billion to boost renewable energy generation. Scatec

(STECF) will develop a large solar-with-storage facility in the Minya region, while Sungrow will build a battery manufacturing plant in the Suez Canal Economic Zone.

The foundation stone for another manufacturing facility, Atum Solar, was laid in December in the Suez Canal Economic Zone. The \$210 million project, involving Chinese, Emirati, Bahraini and Egyptian partners, will deliver a plant capable of manufacturing 2 GW of solar cells and 2 GW of solar modules annually.

The entire production of solar cells is intended for export to the US market, while solar modules will supply MENA markets.

On the power generation front, AMEA Power and Kyuden International Corporation of Japan have partnered with the International Finance Corporation (IFC) and other lenders to deliver Abydos II – a project integrating 1 GW of solar PV with 600 MWh of battery storage, representing the largest single-site renewable energy and battery storage facility in Africa.

Expected to reach commercial operation in June 2026, the project marks Kyuden International Corporation's first investment in Egypt.

Finally, the Cabinet approved a tender process for wind farms with a total capacity of 580 MW in the Gabal El Zeit area.

Türkiye eyes new nuclear launch amid renewables boom

Photo by Meruyert Gonullu

Türkiye's first nuclear power plant, Akkuyu, is due to launch this year, the project's Russian developer, Rosatom, has revealed. Located in the Gulnar district of Mersin, the facility has had its key systems installed, energised and successfully tested.

Described as one of the country's largest direct foreign investments, it is estimated to generate a combined \$11 billion in economic value. Around 2000 Turkish companies have taken part in the project so far, with 350 currently under contract.

Akkuyu features four power units with Russian-designed VVER Generation III+ reactors. Each unit has a capacity of 1200 MW. It is said to be the first nuclear energy project globally to be implemented under the 'build-own-operate' model.

Meanwhile, Türkiye marked a significant milestone in its power generation mix, as its installed renewable energy capacity in 2025 exceeded 75 GW, with solar power outpacing natural gas for the first time.

The Energy and Natural Resources Ministry said in a statement that renewables accounted for approximately two-thirds of newly installed electricity capacity last year, and one-third of total capacity.

Türkiye completed solar and wind tenders to allocate 3.8 GW of capacity last year, expected to generate investments of about \$4 billion. Energy and Natural Resources Minister Alparslan Bayraktar said the country plans to hold such tenders for at least 2 GW annually. Türkiye targets 120 GW of solar and wind capacity by 2035.

Aksa Enerji to build 119 MW liquid fuel power plant in Burkina Faso

Aksa Enerji, the energy subsidiary of Türkiye's Kazanci Holding, has signed a 20-year electricity purchase agreement with Burkina Faso's national electricity company, Sonabel, to construct and operate a 119 MW oil fired power plant in the capital city, Ouagadougou.

The power plant, which is scheduled to be commissioned in the latter part of 2026, will run on liquid fuel. Aksa Enerji said it plans to integrate local supply chains and labour into the project execution, in line with its broader approach to sustainable operations in developing markets.

MENA to see ten-fold growth in solar and wind capacity by 2040

Photo by Chant Durand

- Aggressive growth forecast for 'cheap' solar and wind
- Larger-than-perceived boom in Africa's solar installations

Nadia Weekes

The Middle East and North Africa (MENA) region is entering a period of rapid renewable power growth, leading to a ten-fold capacity growth by 2040, according to a report by energy analyst and insurance provider DNV.

"The rapid rise of renewables in the Gulf, and MENA more broadly, is not replacing hydrocarbons overnight, but it is reshaping the power system," said Ditlev Engel, CEO Energy Systems at DNV.

"This development is driven mainly by economics. Renewables now provide low-cost electricity, and clean power is becoming necessary for competitive industry and future hydrogen production," he added.

By 2060, electricity is expected to meet 35 per cent of total energy demand in the region, with most of that electricity (85 per cent) generated from renewables.

Large renewable power projects are multiplying across the region, including very large solar plants, solar-plus-storage facilities and new wind developments. Electricity demand is rising

in sectors such as data centres, electric mobility and green hydrogen production, while existing industries are increasing their use of low-carbon power.

Solar power remains the leading renewable technology in the region. Installed solar capacity is projected to increase from 76 GW in 2024 to 340 GW by 2029. The share of projects combined with battery storage is also expected to rise as developers seek round-the-clock supply and greater system flexibility.

Wind power, though starting from a smaller base, is expected to triple in each decade from 2020 to 2060. Wind generation patterns complement solar output, with higher production at night and during seasonal wind periods, especially when combined with storage.

The African Solar Industry Association (AFSIA)'s annual report reveals that the continent is emerging as one of the most dynamic solar growth regions globally.

"Africa has long been perceived as a marginal solar market," said John van Zuylen, CEO of AFSIA. "The Africa Solar Outlook 2026 demonstrates that this perception no longer

reflects reality. Solar is already far more widespread than previously believed, and Africa is now experiencing the fastest solar growth of any region worldwide."

Globally, solar energy capacity grew by an estimated 544-660 GW last year. In Africa, combining bottom-up project research with a top-down approach taking into account solar exports from China, AFSIA suggests that up to 64 GW of solar capacity is likely to have been installed across the continent.

Battery energy storage systems (BESS) are also expanding fast, enabling solar power to provide dispatchable, round-the-clock electricity. It has been estimated that 24-hour solar electricity through solar and storage can be delivered at approximately \$76/MWh, which is often cheaper than new fossil-fuel generation, particularly in countries dependent on fuel imports.

In 2025, leading performers by solar capacity per capita include South Africa, Seychelles, Mauritius, Namibia and Cape Verde, while countries such as Chad, Comoros, Equatorial Guinea and Botswana recorded the strongest upward movements year-on-year.

Bahrain to be supplied by 2.8 GW Saudi solar-and-storage project

Riyadh-based Acwa Power and Bahrain's state oil firm Bapco Energies have agreed to develop a solar power plant with large-scale battery energy storage in Saudi Arabia's Eastern

Province that will supply electricity to Bahrain.

The solar plant will have a generation capacity of up to 2.8 GW, to be developed over several phases. Electricity

generated by the facility will be transmitted to the load centre of Bapco Energies in Bahrain, accelerating the country's transition to renewable energy sources.

Bahrain, the Gulf's smallest oil producer, aims to reduce carbon emissions by 30 per cent by 2035 and reach net zero by 2060. Under its National Renewable Energy Plan, renewables will

represent 20 per cent of the country's energy mix by 2035. In August, Bahrain's Electricity and Water Authority started work on the country's first solar plant, with capacity of up to 150 MW.

8 | Companies News



Photo by ABB

- Agreement signed to acquire Netcontrol
- Acquisition completed of Gamesa Electric's power electronics business

Junior Isles

Global technology company, ABB, has expanded and deepened its offering and expertise in grid electrification and automation through deals that will help it take advantage of the changing network needs of an energy sector in transition.

In December the company signed an agreement to acquire Netcontrol, a provider of electrical grid automation solutions for power utilities and critical infrastructure operators. The transaction is expected to close in Q1 2026, subject to regulatory approvals and customary closing conditions. Financial terms were not disclosed.

As electrification accelerates and the energy transition progresses, grids are under pressure from rising demand, more renewables, and extreme weather. With electricity expected to reach

50 per cent of global energy use by 2050, according to the International Energy Agency (IEA), grids must become smarter and digitalised.

"As we add renewable sources and new consumers, like electric vehicles and heat pumps, connecting everything reliably becomes more and more challenging. Utilities need digitalisation and automation to keep the grid stable, resilient, and flexible," said Adrian Guggisberg, Division President, ABB Distribution Solutions. "Acquiring Netcontrol is a strong fit supporting our grid automation portfolio expansion."

The news came as the company completed its acquisition of Gamesa Electric's power electronics business in Spain from Siemens Gamesa, originally announced on December 18, 2024. Financial terms were not disclosed. The business reported annual revenues of approximately €145 mil-

lion for the fiscal year ended September 30, 2025.

The acquired portfolio includes power conversion products such as wind converters for doubly-fed induction generator (DFIG), industrial battery energy storage systems (BESS), and utility-scale solar inverters. The transaction brings in around 400 employees, including key resources in Spain, India, China, United States and Australia and two converter factories in Madrid and Valencia.

ABB has also entered into a supply and services agreement with Siemens Gamesa. The acquisition increases the total capacity of ABB's serviceable installed base of wind converters by approximately 46 GW and supports the profitable growth strategy of the Motion business area.

"By combining ABB's global reach and Gamesa Electric's portfolio and

expertise, the company is well positioned to capture growing demand and accelerate renewable energy adoption worldwide," said Daniel Gerber, Business Line Manager, Renewable Power of ABB's Motion High Power division.

The announcements follow news that ABB and German energy company, E.On, will join forces to accelerate energy efficiency across industrial and commercial sectors.

The collaboration will see ABB bring its expertise in assessing and optimising fleets of electric motor-driven systems, including pumps, fans, compressors, and other industrial equipment, helping customers identify and unlock energy savings potential across their operations. This is complemented by E.On's capabilities in financing and operating complex energy systems.

"Together, the companies will deliver a unique offering – from energy

appraisals and system design to financing, implementation, and long-term operation," ABB said in a press release.

The ABB and E.On partnership will focus on key industrial sectors in Europe, where the need for decarbonisation and energy resilience is urgent – including food & beverage, chemicals, metal and glass production, pulp & paper and data centres.

"This collaboration addresses a critical barrier identified by the International Energy Agency: the financing gap that hinders the widespread implementation of energy efficiency measures," said Christoph Hiesgen, Head of Business Development, E.On Energy Infrastructure Solutions. "By offering an end-to-end solution, ABB and E.On can remove upfront investment hurdles and make energy efficiency accessible, measurable, and profitable."

Ørsted rallies after court lifts block on US wind farm

Shares in Denmark-based renewables developer Ørsted rose in mid-January following a US court ruling that said the company could resume building its Revolution wind power project off the coast of Rhode Island despite having its lease suspended.

Revolution Wind, its joint venture with Skyborn Renewables, won its request to the US District Court of Columbia for a preliminary injunction blocking a lease suspension imposed on the offshore wind project by the Trump administration.

As shares in Ørsted climbed as much as 6.6 per cent, Ørsted said the decision would allow it to restart work on the wind farm, which is almost 90 per cent complete, while it continued to challenge both the lease suspension and an earlier stop-work order.

It is the second time a court has found in favour of Revolution Wind, after the September lifting of an earlier

stop-work order issued the previous month.

The project is one of five major offshore wind farms under construction in the US whose leases were suspended on December 22 by the Federal government, citing national security concerns, the Trump administration ordered work to stop on the projects. Sunrise Wind, a wholly-owned Ørsted project, and Equinor's Empire Wind are also challenging their suspensions in the courts.

Commenting on the ruling, Rasmus Errboe, Ørsted's Chief Executive, said: "I am satisfied with the outcome – it's an important project." Errboe added that he had not yet been given a date for a hearing on Sunrise Wind, but anticipated it could be early February.

He said the company expected to be able to finish both projects. "We have been successful now two times in court with Revolution Wind. We have all the

permits in place. We have been through a year-long permitting process. We have had extensive dialogue with all relevant agencies during that process."

Signe Sørensen, analyst for the Americas at Aegir Insights, said the ruling was a "key victory not only for the likelihood that other projects will also successfully be able to fight their stop-work orders, but also because of the broader implication that the US courts still function as checks on politics".

In filing its injunction at the start of the new year, Ørsted said in a statement that the US government's order to suspend the lease on its Revolution Wind project was a violation of applicable law.

"Litigation is a necessary step to protect the rights of the project," it said, warning that the project faced "substantial harm" if the suspension order remained



Photo by Splash-247

Wärtsilä has agreed to divest its Gas Solutions business to the German private equity investor Mutares SE & Co. KGaA.

As part of Wärtsilä Portfolio Business, Gas Solutions has operated independently, offering systems and lifecycle solutions for the gas value chain. Its core expertise includes handling of gas in maritime transport, inert gas systems, enabling gas-to-power, and delivering liquefaction and biogas solutions. In 2024, the annual revenue of

Gas Solutions was €300 million.

Bernd Bertram, Head of Portfolio Business, Wärtsilä says: "This divestment is yet another proof point of our Portfolio Business divestment strategy coming to life. With Mutares, Gas Solutions will have a strong platform to continue driving the business, for the benefit of its customers and the highly skilled Gas Solutions professionals."

Subject to approvals, the transaction is expected to be completed in the second quarter of 2026.

Octopus Energy swings into the red

UK-based energy company Octopus Energy swung back into a loss at the end of December, having spent heavily on a rapid expansion.

Octopus, which is now the UK's largest household energy supplier and has 11 million customers globally, saw its revenues rise 10 per cent to £13.7 billion in the year to April 2025. But after two years of narrow profitability, the UK energy group posted a pre-tax loss of £254.8 million, according to its full-

year results.

The company blamed much of its financial deterioration on exceptional factors. It said the warmest spring on record had hit its earnings before interest, tax, depreciation and amortisation (ebitda) by £103 million, as customers reduced their gas consumption.

The company also had to pay £144 million to the government as part of final settlements over its acquisition of Bulb – the collapsed energy supplier it

received state support to take over – and for a scheme that capped consumers' energy bills during the crisis after Russia's 2022 invasion of Ukraine.

But Octopus also saw its underlying ebitda, which strips out those one-off costs, fall 69 per cent to £90 million due to rising costs.

The results follow the announcement that Octopus Energy has reached a deal to sell a minority stake in its Kraken Technologies unit, a transaction that

would value the software business at \$8.65 billion and pave the way for its potential public listing.

The UK energy group is selling about \$1 billion of Kraken equity to a syndicate of investors. Most of the \$1 billion proceeds from the investment in Kraken, around \$850 million, will go to Octopus Energy, and the remaining \$150 million to Kraken.

Amir Orad, Chief Executive of Kraken, said becoming an independent

company would give the business "the focus and freedom to scale as a neutral, global operating system for utilities".

Kraken's software was originally developed in-house for use by Octopus Energy but has since been licensed to a range of utilities including E.On Next, TalkTalk and National Grid US. Energy and water groups use it to manage everything from customer accounts to batteries, renewable generation and electric vehicle charging.

Tenders, Bids & Contracts

Americas

Envision wins 630 MW wind project in Brazil

Envision has signed a contract with Casa dos Ventos of Brazil to supply 630 MW wind turbines and a 30-year long-term service agreement.

Under the terms of the agreement, Envision will supply its 8.xMW Galileo AI wind turbines. Envision said that the partnership may expand beyond turbine supply to include collaboration in full lifecycle digital asset management, AI-driven data centres, and integrated green hydrogen and ammonia solutions.

Canada orders 508 MW Nordex turbines

Nordex has won orders in Canada for the supply and installation of a total of 73 wind turbines. The two orders comprise N163 turbines and N175/6.X turbines. They have a combined capacity of 508 MW and each contract includes long-term servicing agreements for the turbines.

Nordex will deliver the cold weather turbines in 2027 and 2028. The machines will be equipped with the Nordex Advanced Anti-Icing System for rotor blades.

The names of the customers and the wind farms are not disclosed.

In addition, Nordex will supply 34 N163/5.X turbines totalling 200 MW to a wind farm project in New Brunswick. This order also includes a 30-year service agreement. The turbines will be delivered from mid-2027.

Siemens Energy steam turbines for Bruce A

Canada's Bruce Power has signed an agreement with Siemens Energy Canada for new high-pressure steam turbines for its Bruce A nuclear units.

As part of Bruce Power's Project 2030 and Life Extension asset management projects, the upgrades are expected to increase output by over 30 MW per unit, giving approximately 125 MW of additional electricity to Ontario's grid following the turbine replacements, scheduled to be completed between 2028 and 2031.

Asia-Pacific

Vestas wins Shinan-Ui offshore wind contract

Vestas has won a contract for the 390 MW Shinan-Ui offshore wind project, which will be built off Jeollanam Province, South Korea, by a consortium consisting of Hanwha Ocean, SK Eternix, Korea Midland Power (KOMIPO), Future Energy Fund, and Hyundai Engineering & Construction.

Vestas will supply 26 V236-15.0 MW offshore wind turbines. It also won a 20-year service agreement. Delivery of the 15 MW wind turbines is scheduled to start in 2027, with commercial operations of the 390 MW wind farm expected to begin in 2028.

Everllence supports Borneo energy transition

Everllence will supply a total of 14 large engines with a combined output of over 240 MW to three new power-plant projects on the Malaysian part of the island of Borneo. The plants will supply energy to a solar-glass production facility as well as the national power grid.

Everllence has also signed a contract with KAB Energy Holdings to supply seven 18V51/60DF engines with a total output of 120 MW. A new gas fired power plant is being built on Labuan Island, off the coast of Borneo

to replace retiring assets and to supply the local grid as well as to serve a region that has seen strong growth in manufacturing in recent years. KAB Energy Holdings is responsible for engineering, procurement and construction (EPC). Commissioning is planned for the end of 2026.

HVDC system for Indian transmission corridor

Adani Energy Solutions has awarded a contract to GE Vernova to supply HVDC technology for the 2.5 GW Khavda-South Olpad renewable power transmission corridor in India.

GE Vernova will supply a high-capacity ± 500 kV, 2500 MW (2×1250 MW) voltage sourced converter (VSC)-based bipolar HVDC system for the point-to-point link. The scope covers the design of the complete HVDC system, including converter stations at each end, the supply of all major converter station equipment, and responsibility for erection, testing, and commissioning activities, excluding associated civil works.

Delivery will be planned in phases, with overall completion targeted by 2030.

The Khavda-South Olpad corridor forms a critical backbone for India's renewable energy expansion. The corridor is designed to enable large volumes of renewable electricity generated in western India to be transferred efficiently into the wider grid.

Google signs renewables PPA with TotalEnergies

TotalEnergies and Google have signed a 21-year power purchase agreement (PPA) to supply Google with a total volume of 1 TWh of certified renewable power from the Citra Energies solar plant in the northern Kedah state, Malaysia.

The solar farm, which is scheduled to enter construction in early 2026, will support Google's data centre operations in Malaysia.

Europe

Voith to modernise Santa Uxia hydro plant

Voith has won a contract from Xallas Electricidad y Aleaciones (XEAL) to supply two Francis runners for the Santa Uxia hydropower station in Galicia, Spain.

The two new runners will be delivered as part of a broader modernisation effort, improving the station's operating range without requiring any changes to the existing technical layout.

Voith's scope also includes dismantling, installation support, and refurbishment of selected components. It aims to increase the plant's hydraulic efficiency, reduce wear, and extend the lifetime of the machines while maintaining compatibility with the existing infrastructure.

Arabelle ST-gensets for Poland's first NPP

Bechtel and Westinghouse Electric Company, building Choczewo, Poland's first nuclear power plant for Polskie Elektrorownie Jądrowe (PEJ), has awarded a contract to supply three steam turbine and generator sets from Arabelle Solutions.

Arabelle Solutions will supply all three units of Choczewo nuclear power plant with the steam turbine, generator including auxiliary systems, as well as key equipment of the water steam cycle including the condenser, moisture separator reheaters, low and high-pressure feedwater heaters, and feedwater and deaerating tanks.

The high efficiency Arabelle steam

turbine will be coupled with a hydrogen and water-cooled GIGATOP 4-pole generator synchronised to the 50 Hz Polish grid.

Sumitomo Electric to supply HVDC in UK

Sumitomo Electric has been awarded a contract from UK's National Grid Electricity Transmission (NGET) for supply and installation of the 140 km 525 kV HVDC cable project "Sea Link" between Kent and Suffolk in the UK. Construction of Sea Link is scheduled to start in 2027.

The Sea Link HVDC cable will be produced in Sumitomo Electric's submarine cable factory at Port of Nigg in Scotland.

Sea Link is one of the key infrastructure projects of NGET's "The Great Grid Upgrade" which aims to substantially increase electricity transmission capacity in the UK.

Lahti Energia invests in sand battery

Polar Night Energy and Lahti Energia will construct an industrial-scale thermal energy storage for Lahti Energia's district heating network in Vääksy, Finland. The new sand battery will have a heating power of 2 MW and a storage capacity of 250 MWh, making it the world's largest sand-based thermal energy storage system once completed.

The sand battery will supply heat to Lahti Energia's Vääksy district heating network and will cut fossil-based emissions in the Vääksy district heating network by around 60 per cent each year.

A sand battery is a high-temperature thermal energy storage system that uses sand or a similar solid material to store renewable energy.

Polar Night Energy will act as the main contractor for the construction project. On-site work will begin in early 2026, and the sand battery will be completed in summer 2027.

Nordex orders in Europe

Nordex has announced that it has won a number of orders across Europe. These include four projects in France. One project will be equipped with five N131/3000 turbines. Two further projects are set to install eight and four N117/3675 turbines, respectively, while another wind farm will feature four N149/4.X turbines. The total new orders amount to 77 MW. These are scheduled to be delivered by 2027.

In Belgium, with new orders totalling 25 MW, one project will receive three N131/3600 turbines; four N117/3675 turbines will be installed across two other wind farms. These are scheduled to be delivered by 2027.

In Germany, Nordex has received an order in North Rhine-Westphalia from Bürgerwind Hollich for a repowering project. Nordex will supply and install twelve N163/6.X wind turbines and four N149/5.X turbines, for a total output of 106.8 MW.

In Poland, Nordex has received an order from an unspecified IPP for 20 N149/5.X wind turbines providing 118 MW.

International

Mitsubishi H₂-ready gas turbines for Qatar

Ras Abu Fontas Power Company has awarded a contract to Mitsubishi Power and Samsung C&T Engineering & Construction, in partnership with Qatar General Electricity and Water Corporation (KAHRAMAA).

Mitsubishi Power will supply its

hydrogen-ready M701JAC gas turbines for Qatar's Facility E Independent Water and Power Project (IWPP). Mitsubishi Power also signed a long-term service agreement with Ras Abu Fontas Power Company for the provision of parts, repairs and services throughout the plant's operational life. Samsung will be the EPC contractor for the project.

Doosan Enerbility will supply 430 MW steam turbines and generators.

The project will be located in the Ras Abu Fontas area, 25 km south of Doha, and will have a capacity of 2.4 GW – around 20 per cent of Qatar's grid capacity.

The Facility E project is expected to begin operations in 2028.

Wärtsilä wins Australian BESS order

Wärtsilä has won a contract from Flow Power of Australia to supply a 100 MW/223 MWh battery energy storage system (BESS) for the Bennetts Creek plant at Morwell Terminal Station in Victoria, Australia. The BESS will provide essential ancillary services, such as frequency regulation, strengthening grid stability and accelerating Australia's transition towards a renewable energy future.

Bennetts Creek will also provide frequency regulation, a key ancillary service, which offers a steady, valuable income stream that complements energy arbitrage and helps meet key compliance requirements for BESS projects. It also plays a crucial role in keeping the grid stable as traditional generators retire.

Construction of the project will commence in 2026 and is expected to be operational in 2028.

In addition, Wärtsilä will supply the fourth stage of the Eraring battery facility at Origin Energy's Eraring Power Station in New South Wales, Australia. This will add 360 MWh of new energy storage capacity to the project, bringing the total capacity of the Eraring battery to 700 MW/3160 MWh. This extension is scheduled for completion in Q1 2027.

Iran and Russia discuss nuclear plant deals

The Iranian government has announced that it is in discussions with Russia regarding the construction of new nuclear power plants.

Behrouz Kamalvandi, spokesperson for the Atomic Energy Organisation of Iran, said: "Our technical co-operation with the International Atomic Energy Agency continues. All inspections in recent months were conducted with the approval of the Supreme National Security Council, covering activities in sectors of our nuclear industry that have not been targeted by any attacks."

Kamalvandi said that one nuclear power plant is currently operational and two are under construction. Iran and Russia have signed contracts for four additional nuclear power plants, each with a 1200 MW capacity, in the Sirik region of southern Iran.

It has also been reported that Russia and Iran are jointly working on a co-operation protocol for SMRs

INTEC to supply solar plant in Azerbaijan

INTEC Energy Solutions has been awarded a \$117 million EPC contract by Shafag (Jabrayil) Solar Limited (SJSL). The contract is for a 288 MW solar power plant in Azerbaijan.

The contract is for the full scope of EPC services, as well as O&M for the first two years of operations. Under the contract, INTEC has completed the mobilisation of facilities and is currently continuing with earthworks.



Hydrogen

Hydrogen industry takes pragmatic approach with policy changes

The new year is seeing the global energy landscape undergo a profound transformation according to a new report from Wood MacKenzie. The excitement about the hydrogen industry that was displayed in 2024 and 2025 has given way to a practical approach towards the economics driving the nascent industry.

Gary Lakes

2026 will be a “year of reckoning” for the hydrogen industry writes Murray Douglas, Vice President, Hydrogen and Derivatives Research at Wood MacKenzie. The company’s new report, ‘Hydrogen: 5 things to look for in 2026’, was released in January with emphasis on how the industry is adapting to market circumstances.

“After the optimism of 2024 and the sobering realities of 2025, the market is entering a new phase, marked by a fundamental reassessment of what drives project economics,” Douglas states in the online introduction to the report. “While the challenges of securing offtake, managing costs and navigating regulatory complexity persist, we are seeing a clearer picture of exactly what will drive commercial scale – and which markets will lead,” he said.

In 2026, the industry is no longer defined by ambitious 2030 targets and vague Memorandums of Understanding (MoUs), the report asserts. In essence, the market is now defined by steel in the ground, finalised offtake agreements, and the survival of the most economically resilient projects.

A major change has been a pivot on policy with the European Commission, moving to pragmatism and shedding the dogma of ‘green’ hydrogen – hydrogen produced by renewable energy – that has hindered several projects due to costs. The defining theme of early 2026 is the strategic retreat from rigid regulatory mandates. For years, the European Union led the charge with a strict focus on Renewable Fuels of Non-Biological Origin (RFNBO). However, as 2025 drew to a close, the reality of high electricity prices and supply chain bottlenecks forced a reassessment.

The publication of the Low-Carbon Fuels Delegated Act in late 2025 has become the catalyst for 2026’s most significant shift: the rehabilitation of ‘blue’ hydrogen – hydrogen produced with the use of natural gas. By providing a clear framework for hydrogen produced from natural gas with carbon capture and storage (CCS), the EU has effectively signalled that low-carbon molecules are essential for bridging the gap to a fully green future. The first quarter of 2026 is already seeing a wave of Final Investment Decisions (FIDs) for blue ammonia facilities in

Norway and the Netherlands, which are now seen as lower-risk bets compared to pure green projects.

While policy shifts in the West provide the framework, 2026 is the year the world’s largest infrastructure projects move from construction to commissioning, according to project updates and regional media reports. The NEOM Green Hydrogen Project in Saudi Arabia is currently the industry’s north star.

As of January 2026, the facility is roughly 90 per cent complete. The sheer scale of the 4 GW wind and solar installation is now visible from space, and the first ‘cool-down’ tests of the ammonia synthesis loops are scheduled for this summer. NEOM is no longer a concept; it is an industrial titan preparing to ship its first molecules by early 2027.

Simultaneously, India has surprised global markets by moving faster than many European developers. By leveraging brownfield sites – existing fertiliser plants that already have storage and logistics in place – Indian firms like AM Green and ACME have bypassed many of the ‘greenfield’ hurdles. The January 2026 announcement

of a 500 000 t annual offtake agreement between India and Germany’s Uniper has solidified the India-Europe energy corridor as a primary artery for the global trade of green molecules.

A major engine of change will involve the adoption by the maritime industry of green ammonia as fuel. If 2024 was the year of the prototype, 2026 is the year of the commercial engine. The shipping industry, responsible for nearly 3 per cent of global CO₂ emissions, has reached a technological tipping point. Engine giants MAN Energy Solutions and WinGD are delivering their first commercial-grade, two-stroke ammonia dual-fuel engines to shipyards this year.

The economic data for 2026 reveals a stark regional divide in production costs. The ‘Levelised Cost of Ammonia (LCOA) is currently trending across three distinct tiers: the subsidy leaders such as the US and the Middle East where it is priced at \$450-\$600/t; the emerging exporters such as India, Egypt and Morocco where it is priced at \$600-\$800/t; and the high cost pioneers which is essentially domestic production in Europe where it is prohibitively expensive at \$900+/t.

The European costing has triggered an urgent focus on import terminal infrastructure, with the ports of Rotterdam, Hamburg, and Antwerp spending 2026 racing to install the cryogenic storage tanks needed to receive the coming wave of international shipments.

Despite the progress, 2026 has brought one significant technical bottleneck into sharp focus: ammonia cracking. While ammonia is an excellent carrier for hydrogen because it is easy to liquefy and transport, turning it back into high-purity hydrogen at the destination remains energy-intensive and expensive.

Throughout 2026, the focus will remain on offtake certainty. The Hydrogen Bank auctions in Europe and the tax credit guidance under the Inflation Reduction Act in the US have provided the rules of the game.

The hydrogen/ammonia sector in 2026 is no longer a playground for startups, it has become the domain of heavy industry, sovereign wealth funds, and global logistics giants. The hype has faded, but the infrastructure – massive, complex, and essential – is finally rising.

Gas

Global gas market to see another shift in the year ahead

The state of the global gas market in 2026 will be one of transition from scarcity to abundance. The massive wave of LNG projects from the US and Qatar will provide a buffer against the types of price shocks seen in the early 2020s. And the market will be more interconnected than ever.

Gary Lakes

The global natural gas and liquefied natural gas (LNG) markets have undergone a tectonic shift since 2022. Following the energy crisis sparked by the invasion of Ukraine and the subsequent severing of Russian pipeline flows to Europe, the world entered a period of intense volatility and structural realignment. But as 2026 gets underway, the market is transitioning from a period of crisis management and scarcity into what analysts describe as the second LNG wave.

By 2026, the global gas landscape will be defined by a massive influx of new supply, shifting demand centres in Asia, and the continued integration of gas as a bridge fuel in the energy transition.

The year 2026 is widely identified by the International Energy Agency (IEA) and commodity analysts as the beginning of a supply glut. Between 2025 and 2027, global LNG liquefaction capacity is expected to expand by

over 100 million tons per annum (mtpa) – an unprecedented 25 per cent increase in total global capacity.

There are two primary actors that will drive what will create a supply revolution: the United States and Qatar.

The US will solidify its dominance during 2026 when it is expected to cement its positions as the world’s largest LNG exporter. Key projects slated to come online or reach full ramp-up by end-year include Golden Pass LNG (a joint venture between QatarEnergy and ExxonMobil) and Plaquemines LNG. Additionally, the Corpus Christi Stage 3 expansion will be contributing significantly to the Atlantic Basin’s liquidity. Despite recent regulatory pauses on new export permits, the projects already under construction will ensure the US remains the primary flexible supplier to both Europe and Asia.

Qatar is currently executing the largest LNG expansion in history with the North Field Expansion. The North Field East (NFE) and North Field

South (NFS) projects aim to raise Qatar’s export capacity from 77 mtpa to 126 mtpa. While the full weight of this expansion will be felt closer to 2027, the initial phases in 2026 will begin to offer the long-term, low-cost contracts that price-sensitive Asian buyers crave.

In the Southern Hemisphere, the North West Shelf and other Australian projects remain vital, though they face maturing fields. Meanwhile, Canada is set to enter the fray with LNG Canada (Phase 1), which is expected to be fully operational by 2026, providing a direct short-shipping route from British Columbia to North Asian markets. In Africa, the Tortue Ahmeyim (Mauritania/Senegal) and Mozambique’s offshore projects are expected to contribute to a more diversified supply portfolio.

While supply is surging, the demand side of 2026 presents a complex picture of regional divergence.

By the end of this year, Europe’s emergency build-out of Floating

Storage and Regasification Units (FSRUs) will be complete. However, the European Union’s commitment to the REPowerEU plan suggests that gas demand will be on a downward trajectory. High prices and a rapid pivot to renewables and heat pumps have permanently destroyed some industrial gas demand. In 2026, Europe will act as the ‘market of last resort’ – taking surplus LNG when prices are low, but aggressively cutting consumption when they spike.

The real growth story in 2026 lies in South and Southeast Asia. Countries like India, Vietnam, and the Philippines are increasingly turning to gas to replace coal in power generation. In China, while the coal-to-gas switch continues, the volatility of the past years has made Beijing cautious. By 2026, China will likely leverage its massive long-term contract portfolio to act as a global balancer, re-selling cargoes when domestic gas demand is low.

The market crunch of 2022–2024 is

expected to ease significantly by 2026. Market analysts predict that the Title Transfer Facility (TTF) in Europe and the Japan-Korea Marker (JKM) in Asia will see a convergence and a general softening of prices as the supply-demand balance tilts toward a surplus.

A critical theme for 2026 will be the carbon intensity of gas. As carbon border adjustment mechanisms (CBAM) and stricter methane regulations come into force in the EU and the US, the market will begin to see a two-tier pricing system. Green LNG – cargoes with verified low-methane emissions and carbon-offsetting credentials – will command a premium.

For stakeholders, 2026 will be a year of intense competition. For buyers, it offers a window of relief and an opportunity to lock in more favourable long-term contracts. For gas producers, the focus will shift from volume to decarbonisation as the industry justifies its place in a world aiming for net zero.

II | Special Interview



The energy transition is seen by many as one of the biggest economic opportunities of the 21st century. But there can be no transition without transmission. Hitachi Energy's Niklas Persson discusses why companies building transmission systems will need to focus on deploying pioneering technologies, such as power electronics, while putting in place the skills, supply chains, partnerships and collaboration agreements to make it happen.

Junior Isles

The energy transition faced some headwinds in 2025. With a slowdown triggered by unfavourable policies in the US and China's shift from fixed tariffs to auctions impacting project economics, the International Energy Agency has lowered its growth forecasts for renewables.

In spite of challenging times, however, growth is expected to remain strong in the medium/long-term. According to the Paris-based agency, the amount of installed renewable power capacity is forecast to more than double by 2030. Meanwhile DNV's most recent 'Energy Transition Outlook' notes that the US slowdown will have only a marginal effect on the global energy transition as momentum continues to build elsewhere, and predicts an almost even split between fossil and non-fossil fuels in 2050.

Still, the renewables sector will have to navigate headwinds as it grapples with supply chain issues, grid infrastructure modernisation and financing. Certainly, the grid for renewable integration is widely recognised as possibly the biggest challenge to the energy transition. As is often

noted, there can be no transition without transmission.

Commenting on the challenges facing the transition, Niklas Persson, Managing Director of Business Unit Grid Integration at Hitachi Energy, said: "Over the last year and a half, we have seen a few issues – in the US some projects have been cancelled. We have also seen some auctions in Europe that have not been successful and are delaying projects. However, the whole sentiment is here to stay. It's coming from the electrification of industry, the whole transportation sector, and, of course, data centres."

According to Persson, the transition is essentially being driven from two sides: from the consumer side, or what he calls the edge of the grid – i.e. the electrification of transportation and industry, as well as data centre demand – and from the generation side, where the likes of Europe, China, India, and the Middle East are leading the shift to solar and wind. "This [shift] calls for a different means of transmitting that generation to the edge where the consumption will be," said Persson.

He added: "Now it's also more about energy security due to a global geopolitical situation where there is an increasing desire to manage your own generation, which is also driving a different generation mix. This is all creating a super-cycle demand that will last for the next 10-20 years."

One of the biggest challenges is moving this new generation, much of which will be renewable, to the point of consumption. This will require strengthening existing grids and building new grid capacity at the rate needed to keep pace with generation.

Much of the technological developments in the transmission sector are, therefore, being driven by the expected generation mix of the future. Subsequently, there has been significant focus on maintaining grid stability as the amount of renewables increases.

A grid based on renewables does not

have the same system inertia as one that has rotating turbines, and can therefore be harder to control. The importance of network control was highlighted in the blackout across the Iberian Peninsula in April last year, with some citing the higher reliance on renewables as one of the causes.

As the generation mix moves to more variable generation from wind and solar, there is clearly a need to control networks more reliably. While some argue that variable renewables could cause a more unstable network, Persson notes that this no longer needs to be the case. "That could be true if you used the outdated technologies you had in the past. Traditional solutions alone cannot manage increasing grid complexity," he said.

In traditional power systems, mechanical inertia is used to provide grid stability. In conventional power plants the inertia typically comes from the rotating mass of spinning turbines. Wind and solar plants, however, are connected to the grid via inverters. These electronic devices act as current sources, synchronising their output to follow the grid's existing voltage and frequency. They use Phase-Locked Loops (PLLs) to track the grid's waveform and inject or absorb power, but they cannot start a grid during a blackout or stabilise it during a major disturbance, as they rely on a stable external voltage/frequency reference.

Persson commented: "In the past, inverter-based solutions were grid-following, which means that if you go outside frequency and voltage ranges you have to close the plant down. This, in turn, can cause cascading effects and then blackouts. But with newer power electronics you can have grid-forming. With digitalisation and grid-forming capabilities the grid can be formed to be stable in terms of frequency and voltage, for both AC and DC applications."

"Now we have HVDC systems using converters that are based on power electronics, STATCOMs [static

synchronous compensators] and even hybrid solutions that use STATCOMs or Enhanced-STATCOMs coupled with some other grid supporting resources such as battery storage, supercapacitors, or synchronous condensers, to mitigate any issues caused by a lack of inertia in the grid. This is where technology helps to have a stable grid – even if you change the generation mix compared to what you had in the past."

He added: "We believe that in principle every country can manage a grid that has around 60-65 per cent of [intermittent] renewables, i.e. wind and solar, if it invests in the right technologies."

Several projects demonstrate the capabilities of these technologies. In April 2024, Hitachi Energy secured an order from SP Energy Networks to design and deliver a first-of-its-kind power quality solution to stabilise the grid and boost the flow of renewable energy from Scotland to England.

The project, located at SP Energy Networks' substation at Eccles, consists of two sets of an SVC Light® STATCOM and a synchronous condenser controlled centrally by the MACH™ control system, connected at a common electrical node. Each STATCOM installation uses Hitachi Energy's advanced power electronics and MACH control and protection solution to provide system strength, instantaneous voltage control, and enable maximum power flow.

According to Hitachi Energy, the combination of technologies will maximise the future power system's potential while also providing increased system stability and security, thus supporting the increasing integration of renewables into the grid.

The integration of renewables, often through the use of HVDC links, is an important application for power electronics, and Persson provided several examples.

The 1200 MW Caithness Moray – Shetland project in Scotland is a good example of how power electronics is

Persson: Traditional solutions alone cannot manage increasing grid complexity



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The electrification of transport is a significant driver of the energy transition

bringing new possibilities. Hailed as Europe's first multi-terminal HVDC VSC (voltage source converter) system, it connects the electricity grids on both sides of the Moray Firth and Shetland. The project is designed as a five terminal system to allow for future HVDC extensions and the transfer of more power, more efficiently. In addition to providing flexibility to transfer power in multiple directions based on supply and demand, the project enhances grid performance and resilience through voltage and frequency control.

Integrating offshore wind is certainly a key HVDC market. With the transmission distances typically exceeding 100 km from offshore wind-farms to onshore, HVDC is usually the only technically feasible option.

This distance element is crucial for underwater interconnectors between countries as well as for transmitting power over very long distances on land, for example in countries like India, China and North America. "Here it is very effective to use DC instead of AC due to lower losses – in the region of one per cent instead of 10 per cent in an AC system," said Persson.

Commenting on the HVDC market and the use of power electronics, Persson said: "There are many applications. It's driven either by energy security, where regions or countries are connected. For example, if Spain had been well interconnected it could have been supported by other grids and avoided the blackout. HVDC links are connected using power electronics; so grids don't have to be synchronised, unlike with AC grids."

He also cites delivering electricity into urban cities like Mumbai, India, as another important market. "In

these cities, it's often difficult to get the right-of-way to build overhead AC lines. Just laying one HVDC cable allows you to get 1 GW into the city."

But the application of power electronics solutions goes beyond the integration of renewables and HVDC connectors.

According to Persson, it is being increasingly used in data centre projects where there can be wide fluctuations in load very quickly.

"Loads can ramp up very quickly for AI calculations, and then ramp down very quickly. This disturbs grid stability. We foresee power electronics as one of the solutions for managing this instability. It is a growing market, and we are seeing strong demand in Europe, in places like the UK and the Nordics. There is very strong demand in the US, thanks to the growing data centres; so, there is a lot of STACOMs on the AC side. We also see a growing demand in India and across Asia."

Power electronics are also important for electrifying oil and gas platforms. Hitachi Energy has carried out several projects and is currently working on the electrification of a 3.6 GW project in Abu Dhabi. "This is largely being driven by [emission] reduction targets to run oil and gas fields," said Persson.

The huge demand in these various sectors is good news for equipment suppliers and solutions providers, but it comes with challenges.

There has been massive investment in the transmission sector globally – not only in Europe, but also in the Middle East and throughout Asia as well as in countries like India and the USA. But it is not enough.

According to the IEA's 'World Energy Outlook 2025', investments in electricity generation have increased by almost 70 per cent since 2015 to

reach \$1 trillion per year, but annual grid spending has risen at less than half the pace to \$400 billion. This, it said, increases congestion and delays the connection of new sources of electricity generation and demand.

Persson noted: "On the consumption side, it is very easy to do things quickly. For example, projects for industry or data centres seldom take more than two years to construct, commission and generate revenues. But the time to connect to the grid – the time to receive permits and get a connection to the grid – is very often more than two years. And this is one of the big challenges that this industry is facing right now – the time it takes to connect consumers to the grid."

"At the same time, the demand is much higher than 5-6 years ago. While we anticipated the increase, it came much faster and more massively than expected. The investment levels needed for transmission in 2030-2035 is 5-6 times higher than what we saw prior to 2020."

Hitachi Energy is taking a strategic approach to meet the demands of the power transmission sector.

Since 2020, the company has announced that it will invest \$9 billion through 2027, one of the largest in the industry, to address the need for skills; stronger, more efficient supply chains; greater manufacturing capacity and R&D; and developing the technologies that will be needed going forward. A significant part of this will be to ease bottlenecks in the transformer market.

According to the IEA, a rise in transmission spending is putting the spotlight on bottlenecks in supply chains. Although permitting is the primary cause of delays in transmission projects, particularly in advanced economies, supply of cables, transformers, materials and other components is also becoming a limiting factor.

"There's a huge demand for transformers, also from utilities just to strengthen the transmission grid. You can say transformers are the key bottleneck to manage from an OEM perspective. And that's partly why we have this investment strategy through 2027," noted Persson.

Looking at how project times have changed with the transmission equipment demand, Persson used offshore wind as an example. "The fastest offshore wind project we have done is the 1.2 GW Dogger Bank project in the UK. That took 38 months but around four years was the usual. Now, with the demand, projects take between 5-7 years, partly driven by the bottlenecks in components such as transformers. But what we have successfully done, through planning with customers, is change the business model."

Hitachi Energy and its partners have moved from taking a "project-by-project approach" to a more collaborative setup, enabling, for example, secure procurement of components early based on known volumes.

"If you don't go with a project-by-project approach – where you can be faced with long delivery time because the OEM supply chain is full – and instead start to plan together with customers, you can achieve reasonable delivery times. It will be a little bit north of four years but still not excessively long."

He added that although there are no problems securing wind turbines, the other three main areas of an offshore wind project – HVDC converter equipment, cable manufacturing and platform manufacturing – can be bottlenecks. "If you come, opportunistically, and say: 'I want to buy an HVDC today', of course you face longer delivery times. But through planning, and the new business model entailing framework agreements and capacity reservation agreements, with most customers we have been able to mitigate the longest delivery times and meet customer demands."

The framework and capacity reservation agreements it signed with German energy company RWE to develop three major HVDC projects are a good example. It allows Hitachi Energy and its partner, Aibel, to manage resources such as supply chain, workforce hiring, allocating engineering and manufacturing capacity, and ordering materials ahead of time.

In another example, the Dutch-German Transmission System Operator, TenneT, signed a multi-year Framework Agreement with Hitachi Energy as part of TenneT's 2 GW HVDC offshore wind programme. The agreement will see the company supply onshore converter stations to accelerate the integration of bulk renewable energy sources into European power grids.

Bringing such visibility into the project pipeline and planning collaboratively is particularly beneficial for the supply chain.

"We are also supporting our supply chain in developing their capacity and competence. This has worked well so far," said Persson. Importantly, he added: "Hitachi Energy is very vertically integrated. We are the only company that manufactures its own power semiconductors. We don't have to compete with, say, the car industry or other suppliers. So, we are able to control the supply chain for these key components ourselves."

For transformers, there is a lot of integration of these key power electronic components; the same applies to switchgear. Of course, there are a lot of external suppliers for these key components, but we have a very

Yichu, Taiwan. Wind and solar plants can now be connected to the grid using newer power electronics that enable grid stability





An HVDC valve hall. The integration of renewables often through the use of HVDC links is an important application for power electronics

vertical value chain within Hitachi Energy for these systems. This is helping us to ensure we have a robust supply chain. So far, it's working well."

To meet its project delivery goals Hitachi Energy plans to employ 15 000 people between 2023 and 2027 and is currently "in the middle" of that hiring cycle.

"We have been extremely successful in finding good people. Going into the energy transition, the industry is attractive for both young and experienced people. The technology is quite complex, and the projects are interesting. So, we have been able to find key competence," said Persson.

"If someone had asked me three or four years ago: 'what is your most critical issue in managing this?' I would have said the ability to hire skilled people. But we have been extremely successful in positioning the attractiveness of this industry. So, we are finding people globally."

Hiring, people, however, is only part of the story. The most interesting part, says Persson, is to 'onboard' people and develop them, so they understand the industry. He added: "Here we have specific programmes like putting people back into school to train on our technology; we have buddy and mentorship programmes to ensure we have the right skills at the right time."

At the same time, the company's manufacturing capabilities are being expanded. As a European-centric company – with its headquarters in Switzerland, Europe will be one of main areas of expansion.

Persson explained: "The fastest way for us to invest is to expand our brownfield factories because the management and competence are al-

ready there to expand the [production] capacity as well as the engineering capacity. There, we also have the competence to develop the people that we onboard."

In addition, expansion is also under-

affordable. DC grids or meshed grids are important for harvesting the full potential wind in the North Sea, for example. This would allow operators to drastically reduce the number of converter systems needed, if multi-terminal meshed grids are used.

Persson said: "We are investing in innovation to be prepared for when the DC grid is needed. I am not concerned about the [readiness of the] technology. We already have a multi-terminal system in the UK and have already developed and tested an HVDC circuit breaker. So, from a technology perspective, we are ready to apply it as soon as the countries and transmission system operators need them. We foresee that a DC grid, or meshed grid, or hybrid connector, will come some time between 2030 and 2040."

This timing largely depends on countries having the grid codes in place for operating an interconnected DC grid, covering areas such as multi-vendor interoperability and standards. It is also dependent on having a regulatory framework that addresses concerns such as revenue-sharing, who will have access to the wind generation when the wind is blowing.

Currently, the UK and Germany

the power to the consumption points," noted Persson.

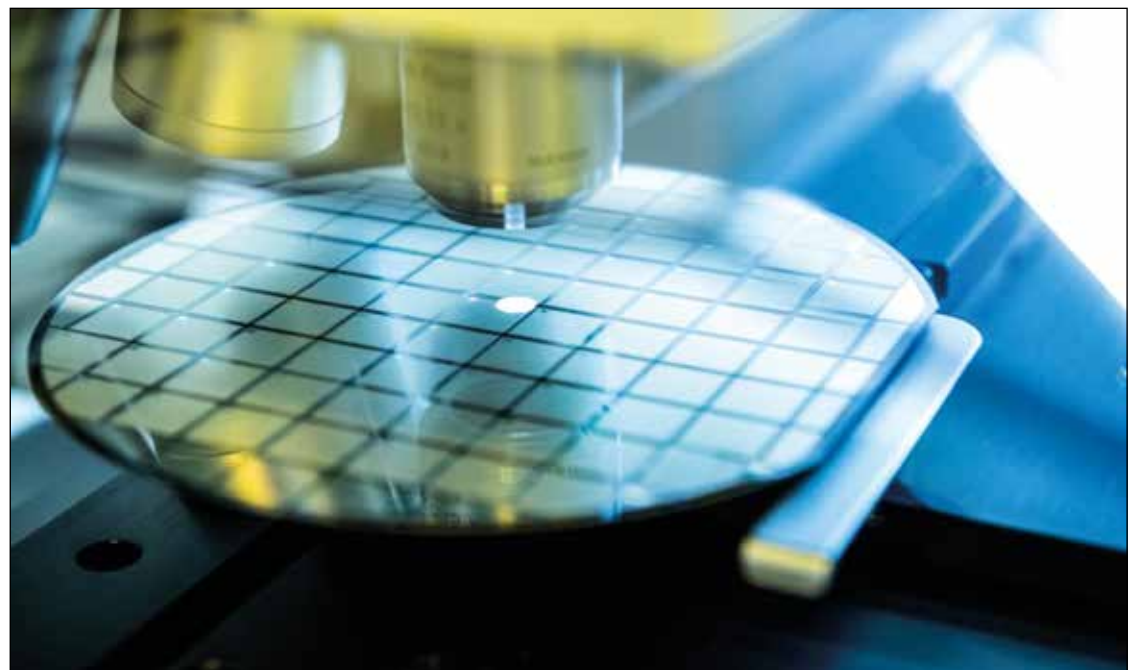
With such projects involving cooperation between different vendors and countries, there could be concerns over intellectual property (IP) being an obstacle to an affordable future energy system. But Persson does not see this as a problem.

"Looking at DC grids, if you connect the various systems on the right level, we don't believe there is a huge need for protecting IP. We have been able to connect at the system level in the past already. But we don't see IP being a barrier," he said.

Looking forward, Hitachi Energy is confident that countries can cooperate to achieve an affordable transition.

"Many countries across Europe have realised the global demand for energy solutions and power products, and our collaboration with many customers is excellent. This means we can plan, invest and build the capacity needed."

He added: "We will continue to invest in digitalisation to support grid operators. Digitalisation in applications and processes is key in our strategy to support the energy transition. Also, the way we use digitalisation in the future to improve projects and make them more affordable is



Manufacturing its own semiconductors helps Hitachi Energy control the supply chain

Hitachi Energy has been very successful in 'onboarding' and developing people, so they understand the industry



way in the US, India, Asia, and Latin America. We are expanding in every region in order to support the local markets," Persson noted. "It's a global programme, where we mostly expand on our existing footprint."

At the same time, the company realises that innovation is crucial to delivering an energy transition that is

are at the forefront of technology development. Meanwhile, at the European level, initiatives such as PROMOTioN and InterOPERA are looking to ensure compatibility and coordination.

PROMOTioN is a precursor project (Progress on Meshed HVDC Offshore Transmission Networks) that laid the groundwork for offshore energy grids by researching technical, financial, and regulatory requirements for a meshed European offshore network. In preparation for the technology, in 2023, the EU launched Phase 1 of the project 'Enabling interoperability of multi-vendor HVDC grids' (InterOPERA), funded by Horizon Europe. InterOPERA unites 21 European partners, with the main objective of making future HVDC systems mutually compatible and interoperable by design. This will improve the grid forming capabilities of offshore and onshore converters and pave the way for the first HVDC multi-terminal, multi-vendor, multi-purpose real-life projects in Europe.

"The Shetland multi-terminal project is a very strong demonstrator of how multi-terminal technology already works. And if you add a DC breaker, you can connect more terminals and therefore reduce the number of terminals while still transmitting

very interesting. If you look at AI and other tools, we can use them to improve our performance in every area.

"Like many companies, we are only at the beginning of understanding exactly where and how we can implement it. We already apply AI in areas where we can improve safety and quality, and gain cost reduction and efficiency." These areas, he said, include engineering and operations to help identify and diagnose system issues and enhance productivity while facilitating access to information.

This, as part of the broader strategy, will help Hitachi Energy achieve its main goal: to apply a holistic approach to plan, build and operate the future grid, keeping up commitments to customers and stakeholders and delivering projects to inspire the next era of sustainable energy.

Persson concluded: "This market is a lot about lead-time; it's a lot about growth. But what is important for us, is to deliver. You can book a lot of orders and have a huge backlog, but the key is to deliver projects. It's about keeping customer promises – delivering projects on time and on quality. This is where Hitachi Energy can contribute to the energy transition – keeping the promises we make to customers and society."

2025 takeaways: Asia's energy flywheel, from rule-taker to rule-shaper

As 2026 begins, the energy transition in Asia is no longer a series of isolated experiments. It is a massive industrial flywheel that has finally overcome initial friction, with innovation in finance and financing tools seeing the region become a rule-shaper instead of a rule-taker. Joseph Jacobelli explains.

Three major themes and trends came out of the 20 or so conversations from the 'Asia Climate Finance' podcast in 2025. The global energy transition continued to shift from a policy-driven ambition to an economic inevitability during the year. The three themes and trends include the shift to climate tech, the development of Asia as a rule-shaper and not a rule-taker, and further innovation in finance and financing tools.

The first of the key dynamics shaping the discussion is an inevitable shift to low carbon climate tech being increasingly driven by economics, and not only by policy. The energy transition has historically been seen as a moral or political choice. In 2025, that narrative giving way to the cold reality of physics and economics became more apparent. The world is witnessing a fundamental 'ratchet effect': while geopolitical shifts or trade tariffs may cause temporary plateaus, the underlying momentum is now irreversible, chiefly because of the downward trending cost curves of many clean technologies.

The Conversation with Ember's Kingsmill Bond highlighted that the core of this shift lies in efficiency. Fossil fuel systems are remarkably wasteful: roughly two-thirds of their energy is lost as heat. The application of electricity and advanced electrical technologies, commonly referred to as "electrotech", is by contrast about three times more efficient. This efficiency gap is the primary engine of the transition. Investors are voting with their capital: in 2025, 90 per cent of all power-sector investment went to electrotech solutions, mainly solar and wind. Moreover, two-thirds of global energy system investment now targets the electrical "flow" rather than fossil "stocks".

This redefines energy security. Importing thermal coal or natural gas is a 'rental' model, a country must buy

fuel daily. If a supplier cuts it off, the lights go out. Buying a solar panel is 'buying' energy for several decades. Once built, the marginal cost of the energy is near zero, and becomes almost entirely predictable.

Mike Thomas of the Lantau Group emphasised, the world has now entered "Wave Two" of this transition. If "Wave One" focused on solar and wind, "Wave Two" is about system-level integration. For example, hyper-scale solar hybrid projects are surging in markets like the Philippines, projects such as Terra Solar Philippines combine massive solar arrays with battery storage, creating "packaged" power that competes directly with imported liquefied natural gas as semi-baseload energy. In cities like Hyderabad, solar and batteries could supply 65 per cent of firm power by 2030 at a competitive \$60/MWh. The "ceiling of the possible" is rising faster than deployment.

The second central force driving the 2025 narrative is about energy transition standards. The Global South was expected to follow standards set in Brussels or Washington for the past several decades. Now that era is ending. Asia is no longer a "rule-taker". It has become a "rule-shaper". The region accounts for half the world's population, half its energy consumption, and more than half of global emissions. Because Asia hosts the world's largest pipeline of transition projects, its standards are gradually becoming the global architecture for climate finance.

Pragmatism defines this Asian leadership. The ASEAN Taxonomy is a prime example: rather than copying the EU's framework, ASEAN members created a system that includes a credible "coal phase-out" pathway so as to reflect the reality of emerging markets still reliant on thermal coal but needing a rigorous path to net zero. Similarly, Singapore and Japan

are adopting International Sustainability Standards Board (ISSB) climate disclosures with local adaptations. Singapore has emerged as one of the world's earliest adopters of mandatory ISSB-aligned reporting. China's climate reporting standards, officially released in late 2025, adopted a methodology which is structurally aligned with that of ISSB (ISSB S2) as well. The standards are intended to be functionally equivalent, although they do add country specific double materiality and some extra materiality.

Asia is now the centre of gravity for scaling many clean energy technologies. The region's manufacturing might sets the global cost curve. In solar, for example, a company like JinkoSolar Holding ships over 100 GW of panels every year. This output from this single company dwarves top manufacturers from two decades ago by over 40 times. Manufacturers in China now play a pivotal role in setting the marginal cost of solar equipment and, by extension, the price at which new solar energy comes onto the grid.

Regional collaboration is moving from technical planning to active power trading. The ASEAN power grid is evolving from a technical dream debated for decades, into a reality of cross-border electricity flows. This is visible in the Greater Mekong Subregion and Article 6 carbon market pilots, such as the agreement between Thailand and Switzerland. As global capital allocators seek to diversify portfolios and avoid policy uncertainty in North America, Asia is becoming the primary beneficiary of these "diversification flows".

The third dominant pattern from 2025 influencing the future landscape is financing and financial tools. The most significant barrier to the transition has always been the "financing gap". Asia requires hundreds of bil-

lions of dollars in annual infrastructure investment to meet its climate goals.

Public budgets and traditional bank loans cannot meet this alone. One of the many solutions emerging is the Public-Private-Philanthropic Partnership. In this model, philanthropic capital acts as the "tugboat" for the "tankers" of Multilateral Development Banks (MDBs) and private institutional investors – an excellent metaphor from Woonchong Um, the new Chief Executive Officer of the Global Energy Alliance for People and Planet. Philanthropic funds are agile and can tolerate "first-loss" positions. By absorbing initial project risk, they "crowd in" commercial lenders who would otherwise stay on the sidelines.

In these structures, a public or philanthropic investor agrees to take a capped return. Any profit above that cap, flows to other private investors lifting their upside without increasing their downside risk. That kind of design can turn marginally bankable projects in markets such as Vietnam, Indonesia, and the Philippines into serious opportunities for global institutional capital. It is exactly the sort of approach platforms managed by firms like Brookfield are increasingly using across emerging markets.

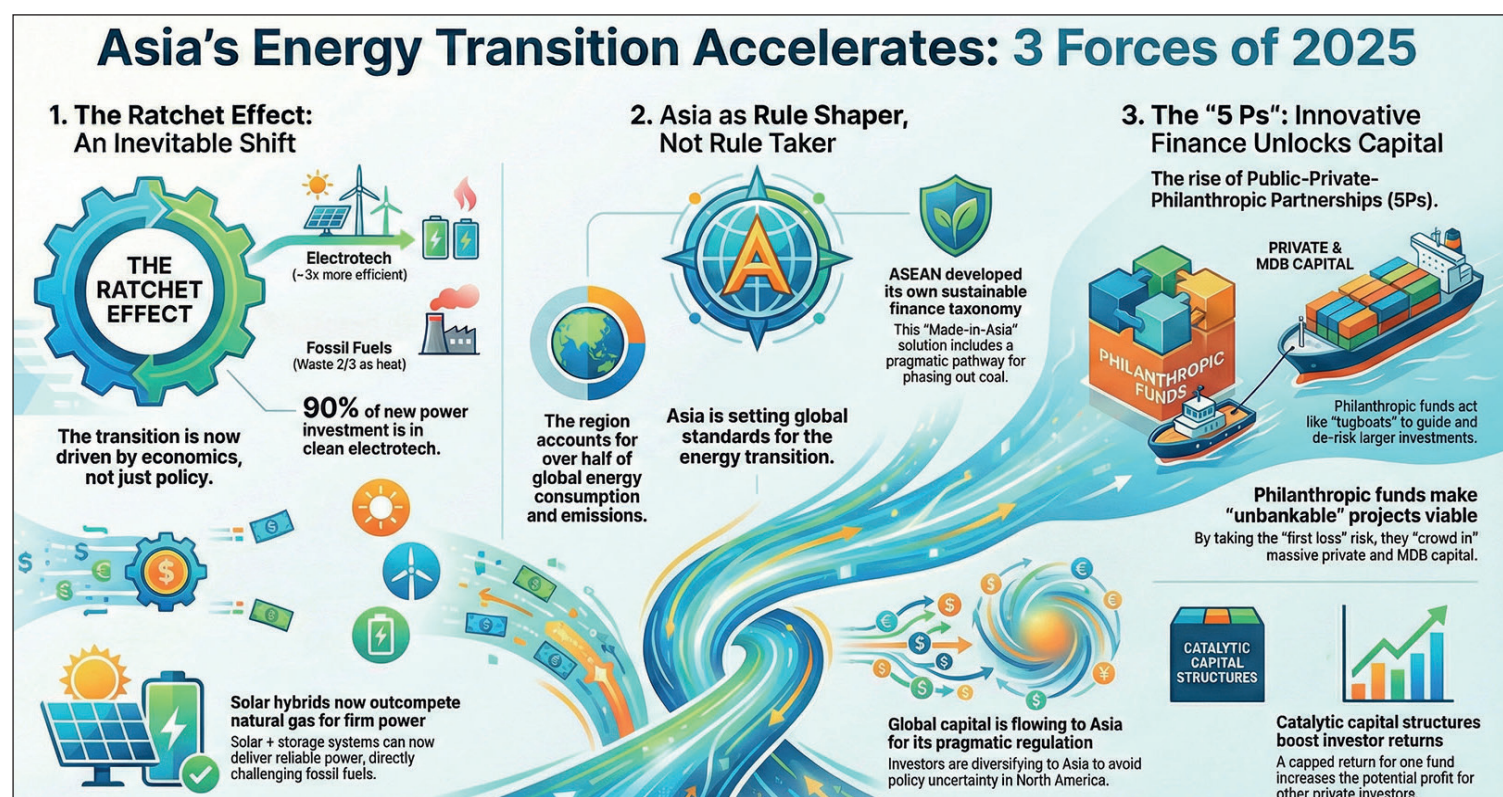
This is not about charity. It is about what people in the industry call additionality, an Asia Climate Finance podcast guest from Brookfield stressed. Additionality means leaving the system you invest in clearly better than when you found it, which in practice means actually building new assets. It is about adding new capacity, not just buying existing plants for someone else.

Development Finance Institutions (DFIs) like British International Investment are also using mezzanine debt and guarantees to bridge the gap. Mezzanine debt is particularly important for Southeast Asian sponsors, as it provides capital without diluting ownership.

Many of the experts in the Asia Climate Finance conversations concluded that there is no shortage of capital in the Asia Pacific region. The challenge has been creating a "linear, predictable deal flow" of bankable projects. Through sophisticated blended finance structures, we are finally seeing the "linearisation" of these opportunities.

As 2026 begins, the energy transition in Asia is no longer a series of isolated experiments. It is a massive industrial flywheel that has finally overcome initial friction. The combined momentum of physics-based efficiency, Asian rule-shaping, and catalytic blended finance has created a trajectory that is impossible to halt. The "train has truly left the station". Those who recognise the efficiency of the new system will prosper; those who cling to the old fossil "rental" model will become laggards in the new global economy.

Joseph Jacobelli, Head of single-family office Bourne Impact Capital, brings 30+ years in energy markets. He champions sustainable finance through his 'Asia Climate Finance Podcast' and writings like his second book, 'Powering the Unstoppable Green Shift'.



Asia's energy transition accelerates: the three forces of 2025. Source: Joseph Jacobelli, 'Asia's Three Forces for Energy Transition' (Infographic, Google NotebookLM, January 7, 2026).



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Pouring cold water in the wrong direction

It has been a difficult 12 months in the battle against climate change. Since the change of government in the US all things renewable have come under fire under President Trump's administration, yet the real fires continue to burn.

Last year kicked off with Trump issuing a flurry of executive orders reversing the Biden administration's policies on climate change and withdrawing from the Paris Climate Agreement. He soon followed up with an attack on offshore wind in particular, halting projects that had already been permitted, and even those that were already under construction. The year ended with lawsuits being filed by the project owners challenging the stop-work orders. Meanwhile, the Trump administration continues to push fossil fuels.

This year has started in similar fashion. Just one week in, the Trump administration announced that it was withdrawing from the UN Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC). These two pre-eminent climate bodies are just two of 66 international agreements and bodies from which the US exited.

The US' withdrawal from the international climate change movement has been met with disappointment and dismay.

"At a time when the world is facing record warming and the United States is facing billions of dollars of costs every year due to climate-fuelled disasters, the Trump administration is stepping away from the fight to mitigate those harms," said Brad Adams, Executive Director at Climate Rights International. "Denying

the problem, turning its back on science, and abdicating its responsibility as the world's largest per capita emitter will not make the dangers of climate disappear.

"The US is turning its back on the fact that the world is burning, but looking away will not douse the flames," said Adams. "The Trump administration's wholesale disengagement from international cooperation on climate, energy policy, and environmental issues is an own goal that will reduce America's influence and reputation in the world. It is critical that state and local governments in the US and the rest of the world stand firm to ensure that Trump's latest move is not allowed to weaken the global system at precisely the moment when coordinated action to fight climate change and protect human rights is most urgently needed."

The US' change of direction already seems to be having a slowing effect on global ambition. At COP30 in Brazil, countries failed to reach any agreement on dialling down the use of fossil fuels and there was no language on a roadmap for the energy transition.

The US stance has also translated into lower forecasts for renewables. In its 'Renewables 2025' report, published in October last year, the International Energy Agency cut in half its forecast for renewable energy growth in the US this decade. In 2024 the global energy agency had said it expected the US to add 500 GW of new capacity – almost all solar and wind power – by 2030. But it now expects it to add only 250 GW.

A report from McKinsey & Company also noted a slowdown in the

pace of the global energy transition. Its tenth annual 'Global Energy Perspective' said the world may be moving towards a slower energy transition across all scenarios, as governments and policymakers increasingly emphasize energy affordability and security amid geopolitical uncertainty.

In its latest 'Energy Transition Outlook', DNV said the US reversal would slow worldwide progress but stressed that the effect would be marginal, as momentum continues to build elsewhere. DNV forecasts a slightly slower transition with the energy mix to be split 51:49 per cent between fossil and non-fossil fuels in 2050. Likewise, 2050 global carbon dioxide emissions are now forecast to be 4 per cent higher compared to its 2024 Outlook.

Following 2025's predictions and policy changes, this year will be an interesting test of global governments' appetite to tackle climate change, especially as the US attempts to undermine those efforts.

Jules Kortenhorst, co-chair of the Energy Transitions Commission, said: "The energy transition is at a tipping point – not of possibility, but of policy and implementation."

The EU's landmark carbon border tax, which came into force on January 1, despite opposition from trading partners, will be a litmus test.

The carbon border adjustment mechanism (CBAM), which covers six sectors including steel, cement, aluminium and electricity, is intended to prevent EU companies that have to pay for their emissions being undercut by cheaper, more heavily polluting competition.

The mechanism has been strongly

opposed by the likes of China, India and Brazil, which argue that it is a unilateral trade measure in an environmental disguise. Yet the EU remains stalwart. Its decision to push ahead with the scheme marks a major commitment to climate policy, even as it rolls back plans for electric cars. Some experts argue that the new tax is also starting to pull other countries in a similar direction despite a US shift away from climate goals.

Speaking to the *FT* Marcus Ferdinand, Chief Analytics Officer at consultancy Veyt, said: "Despite all the macroeconomic and geopolitical headwinds that we've seen, I think carbon pricing is going strong. CBAM is quite unpopular among major exporters to the EU, but it has already proven to be quite effective in pushing reticent countries towards building or expanding carbon pricing efforts."

Meanwhile, Brussels also plans to review its emissions trading scheme (ETS) in June this year. In April 2025, the Commission launched a 12-week public consultation to gather stakeholders' views ahead of the review on certain aspects of the ETS. The aim of the review is to ensure that the EU ETS "continues to contribute in a cost-efficient manner to the overall goal of reaching economy-wide climate neutrality by 2050, taking into account the need for all sectors to contribute to the EU climate efforts."

As carbon pricing takes hold, the case for continued expansion of renewables will strengthen. In any case, the growth of wind and solar still remains robust. According to a recent report by think-tank Ember, solar and wind more than kept pace with global electricity demand growth in the first three quarters of 2025, surpassing it across a sustained period for the first time.

In 2025, solar strengthened in markets that had long trailed behind the global leaders, as the technology demonstrated its potential to leapfrog fossil generation in emerging markets. Several countries outside the traditional frontrunners like China and Europe, are now recording sharper growth thanks to falling costs, easing supply bottlenecks and clearer policy signals.

Ember also noted that as clean power reaches higher shares, it begins to set the price, weaken the influence of expensive fossil fuel-based generation and reduce imports. "What once looked like just growth is now transforming market dynamics, affordability and energy security all at once," said Nicolas Fulghum, Senior Data Analyst Ember.

As the economics of clean energy plays out, those driving the energy transition would best serve climate change advocates by perhaps transitioning the narrative to focus more on affordability and energy security. By continuing to slow the growth of renewables, the current US government will do little to lower electricity prices, improve energy security or support burgeoning demand for growing electricity demand in sectors like data centres, transport and industry. Neither will it help reduce the frequency of forest fires.

And pouring cold water on wind turbines will certainly not put out the fires raging at all our backs.

