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US clean energy future at risk

With domestic politics and economics clouded by volatility, the US risks losing its status as a leading destination for clean energy finance. *Page 14*

Easing congestion flexibly

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US hits renewable energy industry

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India renewables additions hit new heights but offshore wind struggles

India has added a record amount of renewable energy capacity this year, even as its nascent offshore wind sector continues to struggle. *Page 6*

Offshore wind projects hit barriers

Germany's most recent offshore wind auction has failed. Two offshore wind sites in the North Sea with a total capacity of 2.5 GW were on offer, but not a single offshore wind project bid in. *Page 7*

High tariffs risk stalling renewables and raising energy costs

Rising trade tensions could hamper clean technologies and increase costs across the US and Europe through to 2035, according to a scenario-based analysis by McKinsey & Company. *Page 8*

Siemens Energy reports record order backlog

Siemens Energy has reported a record order backlog of almost €136 billion ($158.6 billion), thanks to massive electricity demand driven by new data centres in the US. *Page 9*

Fuel Watch

Oman, through its state-owned green hydrogen company, Hydrom, is actively pursuing the creation of a hydrogen industry that will establish the Sultanate as a global hydrogen production, transport and export centre. *Page 11*

Trump halts US wind revolution

Photo courtesy of Boston University

As the Trump administration doubles down on its opposition to renewables, the recent stop-order for work on the Revolution offshore wind farm has sent a chill wind through the US wind power sector. **Junior Isles**

US President Donald Trump has thrown the US offshore wind sector into disarray with a stop-work order on the near complete Rhode Island wind farm.

The $1.5 billion project, which is 80 per cent complete with 45 of the 65 planned turbines already installed, was due to start operating next year. The 704 MW wind farm, known as Revolution Wind was planned to deliver enough electricity under 20-year contracts to customers in Connecticut and Rhode Island.

The news was met with dismay by the wind power sector. "This is the kind of stuff that happens in third-world countries and instead it's happening in what is supposed to be the bastion of the free market. It's just not serious," said a spokesperson for the Global Wind Energy Council. "It has an extremely chilling effect in the sense that the US is not a safe place for investment."

Construction on Revolution Wind started last year, following the final federal approval from The Bureau of Ocean Energy Management Offshore (BOEM). But late last month BOEM issued the stop-work order, citing the need "to address concerns related to the protection of national security interests".

It is the second time the Trump administration has halted a big US offshore wind project that is already in the construction phase. In April, it paused and then later approved Equinor's $5 billion Empire Wind project, which was at an earlier stage of development than Revolution Wind.

Within days of ordering the stop on Revolution, the White House continued its assault on the sector with the announcement that it is working to revoke permits for US Wind's $6 billion, 114-turbine project off Ocean City, Maryland. BOEM is in the process of reconsidering its prior approval of the project's Construction and Operations Plan (COP). September 12 is given as the deadline for legal filing, and this is the date by which Federal Defendants intend to remand and, separately, to vacate BOEM's COP approval.

Opponents to the Ocean City project have cited concerns about its ecological impacts and potential harm to the local economy.

Following the legal filing Ocean City Mayor Rick Meehan said in a statement: "For the past eight years, Ocean City has voiced strong opposition to the proposed US Wind project. Unfortunately, we believe this project was fast-tracked and that our serious concerns have been largely ignored throughout the review process.

"President Trump's decision to move toward revoking US Wind's federal permit is a very positive development for Ocean City. This action acknowledges the validity of our objections and represents a major step in protecting our community, our coastal environment, our commercial and recreational fishing industries and the future of Ocean City."

The Trump administration's policy position for new wind power projects in the country was made clear at the start of August in a press release titled: 'Department of the Interior Curbs Preferential Treatment for Wind Energy'.

US Secretary of the Interior Doug Burgum announced four policy measures to advance President Trump's "commonsense approach to affordable, reliable energy development in America".

In alignment with President Trump's

Continued on Page 2

Some renewables players could still gain from US tax bill

US President Donald Trump's "one big, beautiful" tax bill was predicted to decimate the renewables industry and is already having a significant impact, but some of the sector's major corporate players believe they still stand to gain.

Some corporations have reported that Trump's flagship bill, aimed at removing the Biden-era incentives that have seen the industry thrive, has prompted them to source US-made gear and lock-in tax credits ahead of looming deadlines.

At its second-quarter earnings meeting at the end of July, First Solar, the largest manufacturer of solar panels in the US, said Trump's tax bill put it "in a greater position of strength" due to a crackdown on Chinese companies.

"In our view, the recent policy and trade developments have, on balance, strengthened First Solar's relative position in the solar manufacturing industry," said Mark Widmar, Chief Executive Officer. "In addition, we believe that on a fundamental basis, with its cost-competitive energy and faster time to power profile, the case for utility-scale solar generation is compelling regardless of the policy environment, which places First Solar, a utility-scale leader, in a position of strength."

Under Biden's Inflation Reduction Act (IRA), Chinese solar companies could claim manufacturing tax credits, to the annoyance of their American rivals that accused them of unfair trade practices. This was addressed in Trump's bill, which introduced "foreign entities of concern" rules blocking adversarial countries' companies from claiming credits.

Widmar told the *Financial Times:* "These restrictions address one of the biggest loopholes under the IRA. It is not unreasonable to expect there will be limited Chinese solar manufacturing in the US in the foreseeable future."

Meanwhile, NextEra Energy, which owns the world's largest operator of wind and solar projects, said in late July that it expected to gain market share from companies that have projects that are no longer viable.

"We compete against a lot of really small developers who don't have the balance sheet," said Chief Executive John Ketchum. "There might be less competition from folks that have not safe harboured."

Under Trump's bill, bigger companies can "safe harbour", or lock-in tax credits for planned projects, as long as they are completed by 2030.

While companies can do so by spending 5 per cent of the project's costs, or starting substantial work by July 4, 2026, a recent executive order instructed Treasury secretary Scott Bessent to tighten these rules to prevent "artificial acceleration or manipulation of eligibility".

Industry observers say this is likely to raise costs and competition for materials, and drive consolidation in the sector.

Continued from Page 1

directives, the Department of the Interior is ending special treatment for "unreliable" energy sources, such as wind. This includes evaluating whether to stop onshore wind development on some federal lands and halting future offshore wind lease sales. The Department will also study how constructing and operating wind turbines might affect migratory bird populations.

These changes are part of a broader 'America First' energy strategy focused on affordability, reliability, and accountability for the American people. As part of efforts to "support a stable power grid and elevate local voices", the Department says it will improve consultation with tribes, local communities, and the fishing industry regarding offshore wind projects. The latest reforms aim to ensure that energy development reflects local land-use priorities and community values.

The policy measures include:

- *Stopping Preferential Treatment for Wind Projects:* Secretary's Order No. 3437, "Ending Preferential Treatment for Unreliable, Foreign-Controlled Energy Sources in Department Decision-Making," directs the Department of the Interior to end preferential treatment for unreliable energy sources like wind. The Order calls for identifying policies biased in favour of wind and solar energy and halting support for energy supply chains controlled by foreign rivals.
- *Restoring Congress's Mandate to Consider All Uses of Public Lands and Waters Equally:* The Department will consider withdrawing areas onshore with high potential for wind energy development to ensure compliance with legal requirements for multiple use and sustained yield of public lands. Additionally, at the end of the last administration, over 3.5 million acres offshore were designated as Wind Energy Areas, which are pre-approved zones where the federal government could auction leases for offshore wind development. "By terminating these Wind Energy Areas, we are safeguarding our coastal environments and local economies from unchecked development, while ensuring our power grids are not underpinned by unreliable, subsidised energy sources," said the statement.
- *Enhancing Stakeholder Engagement for Offshore Wind Development:* The Department will strengthen its guidance to ensure more meaningful consultation regarding offshore wind development, especially with tribes, the fishing industry, and coastal towns.
- *Reviewing the Consequences of Developing Wind Turbines on Migratory Birds:* The Department will conduct a careful review of avian mortality rates associated with the development of wind energy projects located in migratory flight paths and determine whether such impacts qualify as "incidental" takings of birds under the Migratory Bird Treaty Act and related laws.

Burgum's department is "ending special treatment for unreliable energy sources"

EU-US oil and gas deal dismissed as "pie in the sky"

- EU agrees to buy $750 billion of US energy over three years
- Venture Global to move ahead with $15 billion LNG project

Photo by www.pexels.com

Junior Isles

A deal under which the EU will buy $750 billion of US energy has been deemed unrealistic by industry experts.

The agreement, announced by US President Donald Trump and European Commission President Ursula von der Leyen in late July, requires EU companies to buy $250 billion worth of US oil, natural gas and nuclear technologies for each of the next three years.

Matt Smith at energy consultancy Kpler, however, said the numbers would be impossible to meet. He told the *Financial Times*: "Even if Europe did want to increase its imports, I don't know the mechanism by which the EU goes to these companies and tells them to buy more US energy."

The numbers were "pie in the sky", he added. "Companies are beholden to their shareholders and have a duty to buy the cheapest feedstock."

Last year, the EU imported more than $435.7 billion worth of energy – but US fossil fuel supplies to the bloc accounted for just $75 billion.

Brussels still plans to end purchases of Russian gas by the end of 2028, including LNG, which would open another gap for US exporters. But analysts say the $250 billion target would be impossible to meet while ensuring both the US and Europe's desire for cheap, secure energy supplies.

Anne-Sophie Corbeau, an energy analyst at Columbia University's Center on Global Energy Policy, told the *FT*: "This [deal] would require Europe to import a lot more volumes of gas and oil from the US, diverting away from other suppliers, while assuming oil and gas prices would remain high or even increase to reach the $250 billion target."

She added: "We want to reduce energy bills and President Trump wants to reduce oil prices – so this agreement makes no sense."

According to the EU, current import volumes of US LNG, oil, nuclear fuel and fuel services in the EU, already amount to around $90-100 billion per year. The US is already one of the EU's top energy partners and, by far, the EU's number one supplier of LNG, with 55 per cent of the bloc's LNG supply coming from the US so far in 2025. The US is also the EU's main oil supplier (17 per cent of all EU imports in 2024), and a key supplier of nuclear fuel and fuel services, with US exports to the EU worth around €700 million in 2024.

Following the announcement of the deal, Venture Global, an US-based liquefied natural gas (LNG) exporter with multiple European contracts, said it was moving ahead with a $15 billion project to produce 28 million tonnes of LNG a year – equivalent to almost half of Germany's current gas demand.

Meanwhile, Bill Farren-Price, Head of gas research at the Oxford Institute for Energy Studies, said it was hard to see how the EU could mount a five-fold increase in the value of energy imports from the US while it transitioned to renewables.

"European gas demand is soft and energy prices are falling. In any case, it is private companies not states that contract for energy imports," he said. "Like it or not, in Europe the windmills are winning."

The EU said the trade deal does not undermine its determination to decarbonise within a clear timeframe and "remains fully committed to achieving climate-neutrality by 2050 – the core objective of the European Green Deal".

Electricity demand will grow robustly through 2026, says IEA

Global electricity demand is expected to expand at one of the fastest sustained paces in over a decade despite ongoing economic pressures, according to a new International Energy Agency (IEA) report, with renewables, natural gas and nuclear all contributing to meet the additional demand.

Electricity demand is set to rise by 3.3 per cent in 2025 and 3.7 per cent in 2026 – more than twice as fast as total energy demand growth over the same period, the IEA's 'Electricity Mid-Year Update' finds.

The new report underscores the increasing demand for electricity to power factories and appliances, keep buildings cool, operate growing fleets of data centres, run electric vehicles and more.

While the latest forecasts for global electricity demand growth this year and next are a deceleration from the 4.4 per cent surge recorded in 2024, they remain well above the 2015-2023 average of 2.6 per cent.

Renewables are expected to overtake coal as the world's largest source of electricity as early as 2025 or by 2026 at the latest, depending on weather and fuel price trends. At the same time, nuclear power output is expected to reach record highs, driven by reactor restarts in Japan, robust output in the United States and France, and new additions, mostly in Asia. The steady increase in gas fired power generation is set to continue displacing coal and oil in the power sector in many regions.

As a result of these developments, carbon dioxide emissions from electricity generation are currently forecast to plateau in 2025 and record a slight decline in 2026, although weather and economic conditions could affect that trajectory.

"The growth in global electricity demand is set to remain robust through 2026, despite an uncertain economic backdrop," said Keisuke Sadamori, IEA Director of Energy Markets and Security. "The strong expansion of renewables and nuclear is steadily reshaping electricity markets in many regions. But this must be matched by greater investment in grids, storage and other sources of flexibility to ensure power systems can meet the growing demand securely and affordably."

Helion Energy begins site work on US fusion power plant, with promise to produce electricity in 2028

Helion Energy, a startup with $1 billion in private funding, said it has commenced construction of its first planned power production reactor. The Washington state-based company said the site work keeps it on track to deliver electricity within three years to Microsoft under a 2023 purchase agreement, and "one step closer" to realising the vision behind its unique fusion energy technology, said David Kirtley, Helion co-founder and CEO, in a statement.

Microsoft Chief Sustainability Officer Melanie Nakagawa, noting that "the path to commercial fusion is still unfolding," said the company was proud to support Helion's pioneering development.

Helion has not disclosed the full cost of the project and still needs to obtain permits from Washington state, according to the company. The plant is expected to produce at least 50 MW of power.

The announcement highlights the quickening pace in the race towards a commercialisation of a technology that has always been seen as decades away.

In recent months, governments have accelerated their programmes to support the global effort.

The Department of Energy under former President Joe Biden chose eight fusion developers to receive multi-year DOE grants based on their successful completion of a series of technology milestones on their way to commercialisation.

At the end of July, the German government detailed how it intends to build the world's first nuclear fusion reactor in its "High-Tech Agenda", which also sets ambitious targets for other technologies it considers key for the energy transition, such as batteries, synthetic fuels, and industrial carbon capture.

"We intend to establish a hub for networking activities on magnetic and laser fusion to set up and expand research infrastructures and technology demonstrators for a fusion power plant," said the agenda.

At the start of August, China announced that it has entered the final assembly phase of a next-generation fusion reactor called the Burning Plasma Experiment Superconducting Tokamak (BEST), which is expected to be operational by 2027. BEST is an intermediary step between China's earlier tokamak project and a much larger demonstrator called the Chinese Fusion Engineering Test Reactor.

In mid-July, meanwhile, the UK government published its response to the consultation on National Policy Statement (NPS) EN-8, which was launched in May 2024 to streamline the process and provide clarity on the planning of fusion power plants. In its response, the government focuses on enabling the delivery of fusion power plants, highlighting near-term economic opportunity and explicitly recognising that private companies plan to deliver commercial fusion plants within the 2030s.

Canada aims to boost supply across North America

■ Pushes into US nuclear sector ■ Plans for offshore wind bidding round with Nova Scotia

Janet Wood

Canada's AtkinsRéalis Group has announced plans to deploy its nuclear reactor technology in the US to compete against Westinghouse. The company is planning to apply for a reactor licence from the US Nuclear Regulatory Commission (NRC). It has also begun talks with US utilities.

Joe St-Julian, global President of Nuclear at AtkinsRéalis said there was huge potential in the US market, where the Trump administration is laying the groundwork for a major build-out of nuclear power plants to meet rising demand for electricity. The White House issued four executive orders in May, aiming to quadruple nuclear energy capacity in the country by 2050, start work on 10 large reactors by 2030, and accelerate regulatory approvals. Billions of dollars of government incentives are expected to be provided by the Trump administration.

Westinghouse, the only US-based company with a large reactor design approved by the NRC and active in the US industry, has told US officials it can deploy 10 of its AP1000 reactor designs to meet the administration's goals.

St-Julian said Westinghouse would have "home field advantage" when bidding for contracts in the US but AtkinsRéalis's Candu reactor could be a strong competitor. He said: "Could Westinghouse build 10 AP1000s simultaneously? I don't think so. So I think that there is an opportunity for Candu in the US."

Korea's Kepco, which has an US approved reactor design but has never built a large reactor in the country, confirmed it was also considering entering the US. "US nuclear projects are different from the Korean environment in terms of winning regulatory approval, labour and environmental conditions so we need to review and analyse this before entering the market," said Kepco.

Meanwhile the government of Canada and the Province of Nova Scotia have allotted four offshore wind energy areas in Canada in preparation for the first call for bids later this year.

The areas are French Bank, Middle Bank, and Sable Island Bank off mainland Nova Scotia and Sydney Bight off Cape Breton. The next step is identifying the parcels within the designated areas that will be up for bids in a process managed by the Canada-Nova Scotia Offshore Energy Regulator.

The aim is to license 5 GW of offshore wind by 2030. Once the initial round of licenses are awarded, four other areas identified in regional assessment of offshore wind development, completed in January 2025, will be revisited.

Colombia prepares for offshore wind bids

Colombia's Ministry of Mines and Energy has issued new information as it launches the country's first offshore wind bidding round, which will operate under a contract for difference (CfD) scheme.

In March, the Colombian government announced it had received nominations for 69 sites from the companies that pre-qualified last year to participate in the country's first offshore wind tender. The government will award a maximum of two sites per developer.

The Ministry said the offshore wind investment round is designed to promote strategic technologies that strengthen the resilience and sustainability of the National Interconnected System, which covers one-third of the country's territory and around 96 per cent of the population.

The CfD will offer guaranteed prices for 15 years, which the ministry said would provide stability for investors and improve the financial viability of offshore wind as a new technology. It will also reduce energy price volatility for end users.

"This first round is much more than a call for proposals: it's a strategic commitment to the country's energy future. We are committed to technologies that increase reliability, achieve zero emissions, and reactivate the economy with new productive chains," said Edwin Palma Egea, Minister of Mines and Energy.

New York power plan doubles down on clean energy proposals

The New York Power Authority (NYPA) has published a new draft of its Updated Strategic Plan that includes 20 new renewable generation projects and 156 energy storage projects.

NYPA President and CEO Justin E. Driscoll said: "The draft update to our Renewables Strategic Plan includes more than 200 projects representing nearly 7 GW – doubling the total energy capacity opportunities outlined in our inaugural plan published only six months ago. The new plan includes 17 solar arrays, three wind projects and 156 energy storage projects located in every region of the state.

"Despite federal uncertainties surrounding renewable energy, the Power Authority remains laser-focused on building a diverse portfolio of emission-free power generation that will support the increasing power demands on New York's electric grid," said Driscoll. He added: "NYPA is committed to building a diverse portfolio of clean energy projects."

Governor Kathy Hochul approved expanded authority for the NYPA in May 2023. Since then NYPA has made progress toward new renewable energy projects, formed new business structures, filled key personnel roles, held two conferral processes to engage with stakeholders throughout the state, and established a new renewable energy subsidiary (the New York Renewable Energy Development Holdings Corporation).

US hits renewable energy industry

■ Bankruptcies increase
■ Concern over supplies for data centres

Janet Wood

US President Donald Trump's attacks on renewable energy have raised industry concerns that the US will struggle to meet surging electricity demand to power the artificial intelligence revolution.

The US President has axed renewable energy tax credits, grants and loans provided by the Biden administration, placing developers in a race to break ground on projects that depend on tax credits to be economically viable before the subsidies wind down. He has also made it harder to obtain authorisations for wind and solar projects and placed restrictions on companies whose supply chains are dominated by China.

Clean energy projects worth $18.6 billion have been cancelled this year alone, compared with just $827 million in 2024, according to Atlas Public Policy's Clean Economy Tracker. Investment announcements fell by nearly 20 per cent to $15.8 billion this year, compared to $20.9 billion in the same period in 2024.

There has been a wave of renewable energy company bankruptcies amid the cuts. Eleven groups have filed for bankruptcy since the start of the year, according to BankruptcyData, a data aggregator. That included wind turbine blade manufacturer TPI Composites.

Demand for energy to power the AI boom is expected to grow, but there are fears that the US risks damaging renewables, which offer the cheapest energy and are the fastest to deploy.

A spokesperson from the Department of Energy said that it was "leveraging all forms of energy that are affordable, reliable and secure to ensure the United States is able to win the AI race and reindustrialise".

In recent weeks Interior Secretary Doug Burgum announced that wind and solar projects would "undergo elevated review" by his office, while Trump paused offshore wind and solar leasing on federal lands.

"Without the certainty of permits, it's really hard to get financing and build a project," said Avantus Chief Executive Cliff Graham. "A lot of banks are concerned because they have a lot of money at risk on these projects."

"Renewables can be built and connected in a matter of a year or two, in a way that meets data centre developers' timelines," said Advait Arun, an energy policy analyst at the Center for Public Enterprise.

At the state level, more than a third of bills discussed this year on renewable technologies sought to make deployment more difficult. However, only 5 per cent of the restrictive bills were enacted, due to partisan deadlock and local support for renewables.

Texas could see hydrogen-fuelled power units

CPS Energy and Modern Hydrogen have signed an agreement that would see natural gas converted to hydrogen so it can be used to generate power without emitting carbon.

Modern Hydrogen is developing methane pyrolysis reactors that take fossil or bio gas and strip off the carbon to make hydrogen. The carbon is produced not as carbon dioxide gas but as solid carbon, which has various industrial uses.

CPS Energy said the project could increase grid resilience and enable cleaner power generation from natural gas.

CPS Energy said the pilot "represents the first step in a long-term strategic investment in producing reliable, cleaner power at scale," saying CPS Energy's Vision 2027 includes a commitment to a diverse power portfolio with new technologies.

Rudy D. Garza, President and CEO of CPS Energy, said: "We are committed to San Antonio's Climate Action and Adaptation Plan (CAAP). By exploring this innovative opportunity to produce clean hydrogen using our existing natural gas system, we are moving forward on our commitment to deliver reliable, affordable, and cleaner energy for our community."

If successful, future deployments of the technology may be at regional power hubs, fleet depots or transit systems, to reduce grid strain. "Creating new markets for Texas natural gas is both a good energy policy and a long-term investment in the regional economy," said Jim Wright, Chairman of the Railroad Commission of Texas.


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Session 5 - Emerging Sectors
Session 6 - Energy 4.0 and the Shifting Power Dynamics
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India renewables additions hit new heights but offshore wind struggles

Photo by Sreekanth

- Record 22 GW of renewable capacity in the first half of 2025
- Offshore wind projects fail to attract interest

Syed Ali

India has added a record amount of renewable energy capacity this year, even as its nascent offshore wind sector continues to struggle.

The country added a record 22 GW of renewable capacity in the first half of 2025 – a 57 per cent jump from the 14.2 GW installed during the same period last year. The new capacity includes 18.4 GW of solar, 3.5 GW of wind and 250 MW of bioenergy, which is generated from plant and animal waste.

This marks the country's highest ever addition in any six-month period. The surge was largely driven by developers moving quickly to take advantage of the government's Interstate Transmission System (ISTS) charge waiver, which begins at 25 per cent and increases annually until full implementation by June 2028, significantly lowering project costs and incentivising developers to act now.

India is now inching closer to its goal of sourcing 50 per cent of its installed power capacity from clean energy sources, with a total of 234 GW in place, including large hydropower projects. While this growth is positive from a strict emissions reduction perspective, fossil fuels continue to dominate actual energy consumption in the country, accounting for around 75 per cent of electricity generated in the first half of the year from coal, oil and gas fired plants.

"India installed 22 GW of renewable energy capacity in the first half of 2025, a new record. However, the country is still banking heavily on coal to meet growing power demand, with plans to install an additional 80 GW of new thermal projects," said Sushma Jagannath, Vice President of Renewables and Power Research at Rystad Energy.

"India is not yet undergoing a true energy transition; instead, it is focusing on building up installed capacity from both conventional and renewable energy sources to ensure energy security. Without urgent action to improve affordability and sustainability, particularly through grid upgrades and energy storage, coal will remain central to electrification efforts, jeopardising progress toward India's net zero goals."

Net zero ambitions were also not helped by a lack of interest in offshore wind. Last month the Solar Energy Corporation of India (SECI) cancelled two offshore wind energy tenders with a combined capacity of 4.5 GW due to a lack of developer participation.

The first tender was for sea-bed lease rights to develop 4 GW of projects off the coast of Tamil Nadu, while the second was for a 500 MW offshore wind project to be built off the coast of Gujarat in India under the viability gap funding (VGF) scheme. The two tenders were issued earlier in 2024, and deadlines for both were extended multiple times.

India's offshore wind sector has been struggling despite having policies and strategies for development in place. The costs for offshore wind projects continue to be very high compared to onshore wind. The offshore wind industry has been hoping for financial incentives in addition to the VGF.

Fossil subsidies cast doubt on Indonesia clean energy pledge

Despite pledges of a swift transition to renewable sources of energy, Indonesia's planned 2026 budget provides more support for fossil fuels than clean energy, casting doubt on the government's commitment.

In his state budget address at the Senayan legislative complex in Jakarta last month, President Prabowo Subianto said Indonesia had to achieve 100 per cent renewable energy within 10 years or sooner, reiterating a commitment first announced at the Asia Pacific Economic Cooperation (APEC) Summit last year.

The 2026 draft budget earmarks more than half of its Rp 402.4 trillion ($24.9 billion) energy security allocation, some Rp 210.1 trillion ($13 billion), for fossil fuel subsidies, including gasoline, liquefied petroleum gas (LPG) and coal-based electricity.

Mutya Yustika, an energy economist at the Institute for Energy Economics and Financial Analysis (IEEFA), said Indonesia's pledge risks being undermined by the country's continued reliance on fossil fuel subsidies.

The government has yet to publish a clear road map for gradually shifting subsidies toward renewable investments, she explained, and plans like the electricity procurement business plan (RUPTL) contain ambitious targets but their implementation remains inconsistent.

In July the government said it was looking to make more use of solar to support energy independence. It plans to accelerate the adoption of solar power at the local level through more than 80 000 newly launched village-level cooperatives to generate clean energy and cut long-term reliance on electric subsidies.

The initiative, which could cost around $100 billion, would involve building solar farms of 1 - 1.5 hectares in villages of every subdistrict across the archipelago.

"We're looking into the President's directive… The goal is energy independence," said Coordinating Food Minister Zulkifli Hasan.

The minister, who also leads the task force behind the cooperatives initiative, said the project's $100 billion cost was roughly equal to four years of the country's electricity subsidies, noting that they cost the state about $25 billion annually.

"If it's $100 billion, that's just four years. So, by the fifth or sixth year, this investment pays for itself […] we will not need subsidies anymore," Hasan noted.

Pakistan government looks to deter rooftop solar

Photo by Jamshaid Anwar

In a move to slow the rapid growth of rooftop solar, Pakistan's government has imposed a new 10 per cent tax on all imported solar, while the energy ministry has proposed slashing the rate at which it buys excess solar energy from consumers.

A government report in March said the solar power increase has created a "disproportionate financial burden onto grid consumers, contributing to higher electricity tariffs and undermining the sustainability of the energy sector".

Pakistanis are increasingly ditching the national grid in favour of solar power, prompting a boom in rooftop panels and spooking a government weighed down by billions of dollars of power sector debt.

Electricity sales dropped 2.8 per cent year-on-year in June, marking a second consecutive year of decline, but the fall in national grid consumers has crept up on an unprepared government burdened by $8 billion of power sector debt, analysts say.

Making up less than two per cent of the energy mix in 2020, solar power reached 10.3 per cent in 2024, according to the global energy think-tank Ember. But in a remarkable acceleration, it more than doubled to 24 per cent in the first five months of 2025, becoming the largest source of energy production for the first time.

Taiwan maintains no-nuclear position after referendum

A referendum to push for the reopening of the Maanshan reactor, Taiwan's last nuclear plant, has failed to reach the legal threshold to be valid.

The small Taiwan People's party proposed the referendum earlier this year, and with the backing of the much larger Kuomintang (KMT) passed the legislation for the vote, saying Taiwan needs reliable power supplies and not to be so reliant on imports.

About 4.3 million people voted in favour of the plant's reopening in the referendum, a clear majority over the 1.5 million who voted against, figures from the Central Election Commission showed. But the motion needed the backing of one quarter of all registered electors – about 5 million people – to get through under electoral law, meaning the plant located on Taiwan's southern tip will not be reopened.

President Lai Ching-te said, however, the island could return to the technology in the future if safety standards improved.

"If, in the future, the technology becomes safer, nuclear waste is reduced and societal acceptance increases, we will not rule out advanced nuclear energy," he said.

The plant was closed in May as the government shifts to renewables and liquefied natural gas.

Malaysia expected to attract $150 billion in clean tech investment by 2050

Malaysia is expected to attract direct investments of about RM637 billion ($150 billion) in renewable energy (RE) and green technology, in addition to creating 310 000 job opportunities by 2050, according to the Ministry of Energy Transition and Water Transformation (PETRA).

Deputy Prime Minister and Minister of Energy Transition and Water Transformation Datuk Seri Fadillah Yusof said the government has also set the local ownership equity in all RE projects introduced and implemented to be at least 51 per cent. He said this is to ensure that highly skilled job opportunities and technology transfer to local workers are carried out.

"This includes the implementation of the Large-Scale Solar Programme, Feed-in Tariff Programme, Corporate Renewable Energy Supply Scheme (CRESS) Programme and the Community Renewable Energy Aggregation Mechanism (CREAM) Programme," he said.

Renewable energy sources have become increasingly pivotal in driving the transformation of Malaysia's power sector. The nation is striving to diminish its reliance on fossil fuels and transition to a more sustainable energy mix. The Malaysian government has established ambitious objectives, aiming to augment the proportion of renewable energy to 40 per cent of the total installed capacity by 2035 and to achieve net zero emissions by 2050. Against this backdrop, the country's cumulative renewable capacity is forecast to reach 30 GW in 2035, registering a compound annual growth rate (CAGR) of 16.8 per cent during 2024-30, according to analytics company GlobalData.

- SD Guthrie Bhd and Gamuda Energy Sdn Bhd (Gamuda) have entered into a collaboration agreement to develop, own and operate solar power assets, including energy storage systems, with a combined target capacity of 1.2 GW. In a joint statement last month, the companies said the partnership aims to capitalise on the rising demand for renewable energy (RE) from high-quality off-takers, offering fast-tracked and scalable RE supply that will be critical to meet the sustainability goals of industrial players and data centres in Malaysia.

UK attention turns to grid expansion to use renewables

- Renewables met more than half of demand last year
- Curtailments mean grid expansion is urgent


Photo by Pexels

Janet Wood

New statistics from the UK government show that renewable energy accounted for over half of the UK's total electricity generation for the first time last year.

Commenting on the data, RenewableUK's Deputy Chief Executive Jane Cooper said: "As today's record-breaking figures show, renewables now account for the majority of our electricity generation and stand firmly as the backbone of the UK's energy system.

The UK government's push for clean power saw a record amount of renewable energy granted planning permission in the second quarter of this year. More than 16 GW of new renewable energy capacity spread across 323 projects was given permission to start building during the quarter, according to the *Financial Times* – up 195 per cent on the same quarter last year. In addition, more than 100 planning applications for battery storage were filed between April and June totalling 8.4 GW – more than twice as much as in the same quarter last year.

Energy minister Michael Shanks told the *FT* that "electricity storage is vital for us to be able to utilise cheap renewable energy when we need it most".

The figures will be welcomed by the government, which wants 95 per cent of Britain's power generation to be carbon-free by 2030.

Since taking office, ministers have tried to make planning processes faster and less complicated. New projects include the Sanquhar II Community Wind Farm in the south of Scotland, which was paused in 2023 due to decisions by the previous government but now has the green light to go ahead.

Rod Wood, Director of CWP Energy, said: "Onshore wind is one of the cheapest forms of home-grown electricity, delivering consumers and businesses excellent value for money. We're delighted that after nearly 10 years of careful planning, ground has been broken and the construction of Sanquhar II is now underway."

The government has also promised to speed up planning permits for new transmission lines. The expansion is needed to use power from Scottish wind farms, which were paid to curtail 37 per cent of their planned output during the first half of this year, as the electricity could not be used locally or moved to where it was needed.

Meanwhile, in the UK *FT* has reported that the real cost of the new Sizewell C nuclear power plant, recently given the go-ahead, would be higher than the government's estimate of £38 billion ($51.3 billion) in 2024 prices. It said financial modelling suggested a figure of £80-100 billion over the period of construction, once debt interest and payments to shareholders are factored in.

Europe's ports need investment to serve offshore wind goals, says WindEurope

To reach its offshore wind energy goals Europe must invest an extra €6.4 billion in port facilities and new vessels, according to WindEurope, in addition to the €4.4 billion that has been invested in port infrastructure over the past three years.

Currently, Europe has capacity to install and maintain about 10 GW of offshore wind annually, enough to meet its 2030 energy security targets, but after 2030, this capacity must rise to at least 15 GW per year, the organisation says.

The European offshore wind sector uses around 80 different vessels, which include specialised vessels for installation of turbines, foundations, substations and cables. Other vessels are used for crew transfers. Over the past three years, Europe has invested €2.3 billion in new vessels, but a new generation of vessels is needed for turbines rated at 15 MW and above.

Given the strategic importance of ports for energy security and competitive renewable electricity more investment is needed to keep Europe on track with post-2030 offshore deployment, WindEurope said.

The intervention comes as the European Commission is working on an EU-wide Ports Strategy, which should mobilise additional funding, streamline permitting and establish EU-level planning for capacity and deployment. It should complement the EU's Maritime Industrial Strategy in providing a clear investment roadmap and streamlined processes.

Iberdrola to invest in new data centres in Spain

Utility Iberdrola and data centre operator Echelon have created a joint venture for the development of data centres in Spain.

Iberdrola will have a 20 per cent stake in the joint venture through its data-centre subsidiary CPD4Green, and will be responsible for identifying and securing land with connectivity to the electricity grid where the centres can be developed. In addition, it will supply electricity to the centres. Echelon will hold the remaining 80 per cent and will manage the joint venture's permitting, design, marketing and day-to-day management.

The joint venture's first project will be Madrid Sur, a 160 000 m^2 complex that will offer a processing capacity of 144 MW, which has a 230 MW electricity connection. Madrid Sur, which is expected to be operational before 2030, will meet up to 1 TWh of its demand from on-site solar PV.

David Mesonero Molina, Corporate Development Director of Iberdrola, said: "This agreement reinforces Iberdrola's strategy of facilitating the development of data centres, which have already become a key vector for the growth in electricity demand." Iberdrola said it already sells more than 11 TWh to data centres worldwide. CPD4Green has a portfolio of sites totalling 700 MW in Spain and it has potential for another 5 GW.

Photo by Jem Sanchez

- German auction fails to attract bidders
- Joint wind, solar, hydrogen project delayed in the Netherlands

Janet Wood

Germany's most recent offshore wind auction has failed. Two offshore wind sites in the North Sea with a total capacity of 2.5 GW were on offer, but not a single offshore wind project bid in. WindEurope said this was "a clear signal from the industry: Germany's offshore wind auction design is not fit for purpose".

The sites in the German North Sea were centrally predeveloped and had a combined capacity of 2.5 GW. But the wind energy organisation said Germany's current offshore wind auction relies on negative bidding and does not offer any revenue stabilisation and exposes bidders to risks that go beyond their control.

In contrast, most countries in Europe have introduced Contracts for Difference (CfDs) as a revenue stabilisation mechanism, which means lower financing costs and more visibility on future revenues. Denmark switched its auction framework to CfDs last year, after a 3 GW wind tender did not attract any bids.

"The auction result must be a wake-up call for the German government. Negative bidding adds costs that make offshore wind more expensive and reduces the number of companies willing and able to participate in auctions. It's time to amend the auction model so Germany can deliver on its offshore wind targets and industrial competitiveness", said Viktoriya Kerelska, Director of Advocacy & Messaging at WindEurope.

Meanwhile, the completion date for Vattenfall and Copenhagen Infrastructure Partners' offshore wind farm at IJmuiden Ver Beta site in the Netherlands has been pushed from late 2029 to 2032. In addition, the 2 GW offshore wind project will now be built in two phases.

Vattenfall and CIP revealed plans for the project through their Zeevonk joint venture in June 2024. It was planned to comprise a 2 GW offshore wind farm, a 50 MW floating offshore solar farm and a 1GW electrolyser plant.

The joint venture has indicated that it is no longer financially and economically feasible to realise the project in line with the current permit. The problem is delays in completion of the Delta Rhine Corridor, which will be used to transport hydrogen.

Vattenfall and CIP will now complete the first 1 GW wind farm in 2029, and the second in 2032. The offshore solar farm will become an innovation project, by which Zeevonk will complete a 6 MW offshore solar farm by 2028 and will scale it up to 50 MW if financially and technically feasible.

The Minister for Climate and Green Growth, Sophie Hermans, said: "If these changes had not been made, Zeevonk would likely no longer have been able to realise the wind farm".

Home PV slowdown checks solar growth

Germany's Federal Network Agency has announced that an auction for solar PV arrays has been oversubscribed. The auction was for ground-mounted PV projects and solar installations other than on buildings. Bids totalling 2820 MW were received for tendered capacity of 2266 MW.

The announcement comes as industry organisation SolarPower Europe reported that solar PV growth had slowed in 2025. On current predictions, the EU is set to install 64.2 GW in 2025, slightly lower than the 65.1 GW installed in 2024. This follows the exceptional annual market expansions in 2022 (up 47 per cent) and 2023 (up 51 per cent), and flattened growth in 2024 (up 3.3 per cent).

SolarPower Europe said that to meet the 2030 target PV installation must speed up again, so that Europe installs nearly 70 GW per year through the rest of the decade.

Dries Acke, Deputy Chief Executive of SolarPower Europe said: "The number may seem small, but the symbolism is big. Market decline, right when solar is meant to be accelerating, deserves EU leaders' attention."

The projected downturn of solar installations is driven primarily by a declining rooftop segment, particularly home solar. In traditionally strong residential rooftop solar markets, like Italy, the Netherlands, Austria, Belgium, Czechia and Hungary, households are postponing installations as the impact of the 2022 energy crisis wanes.

High tariffs risk stalling renewables and raising energy costs

Photo by Clean Energy Ministerial

- Momentum for renewables threatened by high tariffs
- Energy costs set to rise if cheaper renewables stall

Nadia Weekes

Rising trade tensions around the world could hamper clean technologies and increase costs across the US and Europe through to 2035, according to a scenario-based analysis by McKinsey & Company.

The analysis also suggests that higher tariffs would increase the share of gas in the 2035 energy mix, displacing renewables.

The study examines three tariff scenarios, ranging from a continuation of current trade policies to a 'Global Tensions Escalate' highest-tariff scenario. "While clean technologies are still projected to grow through 2050 and beyond, our scenario analysis shows that higher tariffs could impact the pace and cost of that transition, especially if they persist," said Christian Therkelsen, Partner at McKinsey.

The analysis sees the growth trajectory for solar capacity and battery storage slow by up to 10 per cent under the highest-tariff scenario. Wind deployment appears better insulated from tariffs, with onshore wind unaffected in the US and offshore installations down 6 per cent in the EU by 2035.

At the energy system level, McKinsey projects total costs 2 per cent higher in the US and 3 per cent higher in Europe by 2050, compared with lower or *status quo* tariff scenarios.

"Tariffs introduce new layers of cost and complexity to an already precarious clean energy landscape," said Humayun Tai, Senior Partner at McKinsey, warning of two-year delays to deployment timelines. "These shifts carry real implications for how companies plan and invest," he said.

Meanwhile, a new report by the International Renewable Energy Agency (IRENA) finds that the vast majority of newly commissioned renewable energy is more cost-effective for electricity generation than fossil fuels.

Last year, 582 GW of new renewable energy capacity was added globally – nearly 20 per cent more than in 2023. Around 91 per cent of the utility-scale projects commissioned were more cost-effective than fossil fuel alternatives, according to the report.

Solar photovoltaic was 41 per cent cheaper on average than the lowest-cost fossil fuel alternatives, such as gas, while onshore wind projects were 53 per cent cheaper. The cost of battery energy storage systems has declined by 93 per cent since 2010.

Despite headwinds deriving from policy choices and regulatory hurdles, global offshore wind capacity has reached 83 GW, according to the Global Wind Energy Council (GWEC). New installations in 2024 totalled 8 GW, with an additional 56.3 GW of auctioned projects, of which 17.4 GW are in China.

A further 100 GW of capacity is expected in the next two years across diverse markets.

"With its unique position in the marine space, and ability to produce large amounts of reliable, homegrown power, nations around the world are pushing forward the technology to enhance their energy independence and autonomy," said GWEC's Deputy CEO Rebecca Williams.

Omani-China firms seal green hydrogen manufacturing deal

Omani tech specialist United Engineering Services (UES) has signed a memorandum of understanding with China's Sungrow Hydrogen to establish a manufacturing facility for green hydrogen equipment in the Sultanate of Oman.

The facility will produce and assemble electrolysers, gas separation and purification systems and related infrastructure for local use and regional export.

"This partnership is a strategic step in expanding our renewable energy footprint and positioning Oman as a regional hub for advanced hydrogen technologies," said UES CEO Dr Salim al Harthy.

Muscat-based UES is a provider of high-tech engineering services to the oil & gas, marine and defence industries.

Xiaowei Duan, Head of the AMEA Region and Key Account Director at Sungrow Hydrogen, commented: "We are proud to join forces with a respected Omani industrial leader. Together, we aim to bring cutting-edge hydrogen solutions to Oman."

Sungrow Hydrogen manufactures key hardware for the global green hydrogen and clean energy industries.

In a separate development, Nama Power and Water Procurement Company (Nama PWP) has launched a Request for Qualification (RFQ) process for the country's first utility-scale Waste-to-Energy (WTE) project in Barka.

With a projected capacity of 95 - 100 MW and a scheduled commercial operation date in mid-2031, the project is expected to contribute 760 GWh of renewable energy annually.

"The Waste-to-Energy Project is a landmark initiative in Oman's transition towards a more diversified and sustainable energy mix," said Abdullah Rashid al Sawafi, Chief Energy Transition Officer at Nama PWP.

"From a grid operations standpoint, introducing a stable and dispatchable energy source will enhance system reliability and support the broader integration of variable renewable resources such as solar and wind," Sawafi added.

Africa passes symbolic milestone of 20 GW solar capacity

Solar power capacity continues to grow at a steady rate in Africa, with more than 20 GW of installed capacity across all segments – from utility-scale to solar home systems – and another 10 GW under construction across the continent.

In its latest solar projects database update for H1 2025, the Africa Solar Industry Association (AFSIA) identifies nearly 40 000 projects at various stages of development.

South Africa remains the engine of the African solar industry, accounting for approximately half of all the capacity installed on the continent. North Africa makes a significant contribution, with Egypt, Morocco and Tunisia completing the list of top-four African countries in terms of operational solar capacity.

This domination by the southern and northern parts of the continent is likely to continue going forward. In 2025, most of the new capacity to be commissioned was located in Southern Africa, with Zambia, Botswana and Zimbabwe joining South Africa in the lead. Senegal was the outlier with only 54 MW installed to date.

In the northern part of the continent, the main push is expected to come from Algeria. After several years of inaction, the country has signalled its intention to move forward with 3 GW across 20 projects, some of which are expected to be commissioned before the end of 2025.

Afghani government seals $10 billion deal for 10 GW of electricity

The Afghani Ministry of Water and Energy has signed a $10 billion deal for the generation, transmission and distribution of 10 GW of electricity.

Under a Memorandum of Understanding signed with Azizi Energy, within a decade "Afghanistan will achieve complete self-sufficiency in electricity production and will even begin exporting it abroad", according to a social media post by the Ministry for Economic Affairs.

The deal will create millions of jobs at gas, coal, hydro, wind and solar energy facilities across the country, according to Azizi Energy CEO, Mirwais Azizi. The project design is expected to be completed in the next six months.

It is one of the biggest deals since the Taliban returned to power in 2021.

Kuwait signs contracts for power and desalination plant

- KWD1 billion deal to deliver 2.7 GW of generation capacity
- Al-Zour North project to enter commercial operation by 2029

Nadia Weekes

The Kuwait Authority for Partnership Projects (KAPP) has signed contracts with Saudi's ACWA Power and the Gulf Investment Corporation for phases two and three of the Al-Zour North power plant.

The value of these phases exceeds KWD1 billion ($3.27 billion), the Kuwaiti authority's director general told *Reuters*. Asmaa Al-Mousa said that the investors, not the government, will bear the cost.

Once completed, the project will have a power generation capacity of 2.7 GW and a desalination capacity of 120 million gallons of water daily. Construction is set to take three years.

Under a 25-year agreement, the Acwa Power-led consortium will design, finance, build, operate, maintain and transfer the plant and its associated facilities.

The project company's share capital will be held by the Acwa Power-led consortium (40 per cent) and KAPP (60 per cent). KAPP will then allocate 50 per cent of the company's capital for public subscription by Kuwaiti citizens after the project becomes fully operational by 2029.

Kuwait suffers severe electricity shortages due to insufficient and outdated infrastructure. Another key challenge is the country's tariff model. The government provides heavily subsidised electricity to residents, leading to high use as customers have little financial incentive to reduce their consumption.

It is expected that electricity services will improve once several major projects including a large-scale venture with China come online, Adel Al-Zamel, the Undersecretary of the Ministry of Electricity, Water and Renewable Energy said during the signing event.

"If (the projects) go according to plan, by 2028 our situation will be much better," Al-Zamel told reporters. Kuwait hopes to sign an implementation agreement with China in the first quarter of 2026 for phases three and four of the Shagaya renewable energy project, with a combined capacity of 3.2 GW, he added.

Kuwait has set a target of generating 15 per cent of its electricity from renewable sources by 2030.

Siemens Energy reports record order backlog

Photo courtesy of Siemens Energy

- Record overall backlog of €136 billion
- Strong gas turbine growth driven by US data centre demand

Junior Isles

Siemens Energy has reported a record order backlog of almost €136 billion ($158.6 billion), largely thanks to massive electricity demand driven by new data centres in the US.

The German power equipment manufacturer predicted that it would hit the upper end of its full-year guidance range, having raised its outlook for growth to between 13-15 per cent in April.

"Our businesses delivered another strong quarter, continuing the solid performance of this fiscal year. This puts us on track to meet the upgraded guidance issued in the second quarter, and we are currently trending towards the upper end of the range," said Chief Executive Christian Bruch. "With the decision to lift the dividend ban following our early exit from the federal Bund Back Guarantee, we are now able to pay a dividend to our shareholders earlier than expected."

Its gas turbine business saw particularly strong growth, driven by demand from data centre operators in the US.

"Enormous demand for electricity for data centres in particular are now driving very high demand for our products in the US," said Bruch. He noted that 60 per cent of its 14 GW of gas turbine orders in the year to date were for data centres.

The strong figures will come as a relief to the company, which is recovering from a difficult period in 2023 when it had to turn to the German government for financial guarantees after facing technical problems with part of its wind turbine portfolio.

The company reported a 13.5 per cent rise in revenues year on year, to €9.7 billion, and a net income of €697 million, up from a €102 million loss in the same quarter of 2024 largely due to the problems encountered by its wind turbine division, Siemens Gamesa.

At €16.6 billion, Siemens Energy further improved on the record order intake of both last year and the previous quarters. Bruch said robust orders were helping the company to offset the impact of US tariffs, which added an extra €100 million in levies in the three months to the end of June. On a comparable basis (excluding currency translation and portfolio effects), orders exceeded the prior year's figure by 64.6 per cent.

All business segments contributed to this growth, especially Siemens Gamesa with two large offshore orders in the Baltic Sea worth a combined value of €3.3 billion.

Orders at Grid Technologies also increased substantially due to the sharp growth in the solutions business, complemented by a significant increase in the product business. Geographically, the growth benefitted primarily from strong demand in the US.

■ To address the growing global demand for equipment in electricity transmission and distribution, Končar – Power Transformers (KPT), a joint venture between Končar and Siemens Energy, is investing in the expansion of its large power transformer factory in Jankomir, Zagreb. Construction is scheduled to begin in 2026.

Ørsted shares sink as US expansion backfires

Ørsted shares tumbled last month after the world's largest offshore wind developer announced plans to raise DKr60 billion ($9.4 billion) in a rights issue, as it blamed Donald Trump's administration for derailing its business model.

The Danish group said it had opted to raise new funds after "recent material developments in the US" scuppered efforts to sell a stake in its Sunrise Wind project off the New York coast.

Ørsted relies on selling stakes in projects to share the financial burden of them and to help fund the rest of its portfolio. The White House's opposition towards the offshore wind industry has hit the valuation of projects.

Rasmus Errboe, Chief Executive, said plans to sell a stake in Sunrise Wind and raise debt financing for the project had been proceeding well until mid-April, when the Trump administration halted work on the Empire Wind project being developed by Norwegian company Equinor off the coast of New York. The company has now also suffered a further blow with the Trump administration's recent cancellation of its 80 per cent complete Revolution project.

While the administration has since allowed Empire Wind to go ahead, Errboe said the move increased the "perceived risk" of other projects among investors and banks, making it impossible to sell or finance Sunrise Wind on favourable terms.

The company is still aiming to raise about DKr35 billion from selling assets in 2025-26 and has launched a sales process for its European onshore wind business.

Errboe told the *Financial Times*: "Ørsted and our industry are in an extraordinary situation with the adverse market development in the US on top of the past years' macroeconomic and supply chain challenges."

In the face of strong headwinds in the sector and Trump's anti-wind power stance, earlier this year the company cut its investment plans for the period to 2030 by 25 per cent and dropped a target to have 35-38 GW of renewable energy installed by then.

Hitachi Energy acquires remaining stake of eks Energy

Photo by nexels

Hitachi Energy has completed the acquisition of the remaining stake in power electronics and control solutions company eks Energy, to enable it to deliver a scalable, flexible, and complete approach for energy storage customers. Hitachi Energy acquired a majority stake in eks Energy in 2023.

The integration of eks Energy's technology, talent and enterprising spirit provides Hitachi Energy with greater strategic and operational flexibility. It allows the company to streamline solution integration, further expand its power conversion and energy storage business, and respond rapidly to evolving customer needs, said a Hitachi Energy press release.

"As the worldwide market leader in grid automation solutions, the acquisition of eks Energy strengthens our leadership position, enabling one of the industry's most comprehensive solution portfolios that combines proven converter and control technology with Hitachi Energy's global scale, unparalleled grid expertise, and digital capabilities," said Massimo Danieli, Managing Director of Hitachi Energy's Business Unit Grid Automation. "The acquisition furthers our global strategy ensuring continuity for existing customers while unlocking new opportunities for innovation and growth."

As energy storage emerges as a cornerstone of grid stability, reliability and energy security, the International Energy Agency has called for a sixfold increase in global storage capacity to 1500 GW by 2030.

Rolls-Royce Power Systems sees double-digit growth

Rolls-Royce's Power Systems division, with its mtu product and solutions brand, continued its rapid profitable growth in the first half of this year. Adjusted for the sale of the lower power engine business last year, revenue rose by 20 per cent to £2 billion, while adjusted operating profit increased by 89 per cent to £313 million.

Growth drivers for all key figures were energy supply for data centres and governmental business in military and civil applications.

In addition to significant orders from data centre operators, the company said the economic successes of the first half of the year included the largest order to date for the delivery of a battery energy storage system (BESS) for a Lithuanian energy supplier.

Dr Joerg Stratmann, CEO Rolls-Royce Power Systems, said: "Our strong performance in the first half of the year shows that we are on the right track.

"With a clear strategic focus, high-quality products and strong innovative capabilities, we are growing profitably and faster than the market – in a challenging global environment."

Nordex Group pushes ahead in Q2/2025

The Nordex Group has reported a solid business performance for the second quarter of 2025.

Sales reached around €1.9 billion in Q2/2025, in line with the previous year quarter. Gross revenue, including changes in inventories, rose by 3.1 per cent to €1.9 billion (Q2/2024: €1.8 billion).

Earnings before interest, taxes, depreciation, and amortisation (EBITDA) for the second quarter of 2025 substantially increased by around 64.3 per cent to €108.2 million (Q2/2024: €65.8 million) with an improved EBITDA margin of 5.8 per cent (Q2/2024: 3.5 per cent).

"We delivered a strong second quarter, continuing our positive momentum from the beginning of the year. Our profitability levels further improved, and we closed the quarter with a strong free cash flow, significantly up from last year, said José Luis Blanco, Chief Executive Officer (CEO) of the Nordex Group.

"Looking ahead, I am confident for the remainder of the year. So far, our order intake momentum remains strong, reflecting consistent customer demand and confirming our solid competitive position in our markets." He added: "We are well prepared for the future, and our sustained performance we have achieved so far reinforces my confidence that we will maintain this positive trajectory and continue progressing toward our mid-term margin target."

In the second quarter of 2025, the Nordex Group secured 2310 MW of order intake in the Projects segment (excluding service business), growing by 81.7 per cent compared to the previous year's figure of 1271 MW. The total value of new orders reached €2.2 billion (Q2/2024: €1.2 billion) it said. These were received from nine countries and span various turbine variants.

Americas

Major new solar power projects in Brazil

Casas dos Ventos, one of Brazil's largest renewable energy developers, mostly known for wind power projects, is adding over 1.5 GW of new solar capacity across four projects to its portfolio. It will use equipment supplied by the US-based Nextracker.

The four projects are Babilônia Sul (117 MW), Babilônia Centro (226 MW), Seriemas (540 MW), and Rio Brilhante (680 MW). These sites are located in the municipalities of Morro do Chapéu and Várzea Nova in Bahia, and Rio Brilhante and Seriemas in Mato Grosso do Sul.

Three of the four new projects – Babilônia Sul, Babilônia Centro, and Seriemas – are deploying NX Horizon-XTR all-terrain tracker systems, intended for use in hilly and undulating landscapes, providing savings on earthworks and grading. All sites will incorporate Nextracker's TrueCapture yield management and control system.

Wärtsilä dual-fuel power plant for Kentucky

Wärtsilä has announced it will supply the engineering and equipment for a 217 MW power plant in Kentucky, USA. The contract was awarded by East Kentucky Power Cooperative (EKPC).

The plant will be constructed in Liberty, Kentucky, and will use 12 Wärtsilä 50DF dual-fuel engines. The engines will operate primarily on natural gas fuel but are able to switch to alternative fuels should there be interruptions to the supply of natural gas.

The equipment is scheduled for delivery in mid-2027, and the plant is expected to be commissioned in early 2028. It will operate for approximately 5000 hours per year, providing grid balancing power as needed.

Bruce Power renews 10-year MSA

Candu Energy, an AtkinsRéalis subsidiary, has renewed a 10-year master services agreement (MSA) with Bruce Power. The MSA runs until 2035 and covers possible future scopes of work expected to be worth up to C$1 billion ($730 million).

The renewed MSA spans Candu Energy's entire scope of capabilities, for future packages of work not covered by its existing life extension contracts through the Shoreline Power Group joint venture. This includes all original equipment manufacturer services and innovation scopes that support the ongoing health and maintenance of the Bruce Power station, such as reactor core engineering, tooling and robotics, parts supply, nuclear safety and licensing, project management and controls, outages, reactor programmes, and lifecycle management.

Asia-Pacific

Adani Power wins supply contract in Bihar

Adani Power has received a Letter of Intent from the Bihar State Power Generation Company Limited (BSPGCL) to supply 2274 MW, to be sourced from a new 2400 MW coal fired power plant to be built in Pirpainti, in the Bhagalpur district of Bihar, India.

Electricity from the plant will be supplied to the North Bihar Power Distribution Company Limited and the South Bihar Power Distribution Company Limited.

The new power plant will consist of a greenfield 3 x 800 MW ultra-supercritical plant developed under the design, build, finance, own and operate model. The first unit is scheduled to be operational within 48 months, and the final unit is due for completion within 60 months.

DNV to act as owner's engineer for Jangbogo

DNV has signed a two-year contract with Kolon Global Corporation to provide owner's engineering services for the 400 MW Wando Jangbogo Offshore Wind Power Project in Jeollanam-do, South Korea. The Wando Jangbogo project is one of the largest offshore wind initiatives in South Korea to date.

DNV's scope as owner's engineer includes technical advisory services focused on turbine selection. It includes project management support, tender preparation, bid evaluation, and contract negotiation.

The project is being jointly developed by Korea Western Power Corporation and Jeonnam Development Corporation, both public sector developers, in partnership with Kolon Global, a private EPC firm.

Young Hee Moon, Korea Manager for Renewables, Energy Systems at DNV, said: "This project is a landmark for Korea's offshore wind ambitions – not just in scale, but in the way it brings public and private actors together with active community participation."

1.5 GW of solar and BESS for Malaysia

The Malaysian firms Gentari, a renewable energy supplier and construction firm Gamuda have formed a partnership to develop 1.5 GW of renewable energy capacity in Malaysia.

Through their respective subsidiaries – Gentari Renewables and Gamuda Energy – the companies plan to build solar PV power plants integrated with battery energy storage systems (BESS). These projects are being implemented under Malaysia's Corporate Renewable Energy Supply Scheme (CRESS).

As of the end of 2024, Malaysia had an installed solar capacity of around 2 GW, accounting for approximately 5 per cent of total electricity generation capacity. Malaysia has set a target to reach 40 per cent renewable capacity in its power mix by 2035 and to reach 17 per cent share of renewables in the total energy mix by 2040.

Europe

E.On signs transformer framework agreement

Hitachi Energy has won a €600 million deal with E.On to deliver transformers across the German energy grid to bolster energy security, resilience, and affordability in the country.

This is part of a new procurement initiative by E.On for core grid expansion components. As part of the agreement, Hitachi Energy will use its capabilities to lead industry efforts to address the global shortage in transformers. Hitachi Energy is investing €8 billion to scale up transformer manufacturing capability across the world, including the expansion of the German transformer factory in Bad Honnef.

As part of the framework agreement with E.On, Hitachi Energy will deliver a considerable part of the transformers by reserving manufacturing capacity to support the accelerated expansion and modernisation of the German power grid.

SMRs for Sweden's nuclear expansion

Sweden has announced that it will use SMRs from either Rolls-Royce or GE Vernova for its first nuclear expansion in 50 years.

The Swedish government said that it would build three or five SMRs at the Ringhals plant, providing around 1500 MW. Ulf Kristersson, Sweden's Prime Minister, said: "For the first time in 50 years, new nuclear power will be built in Sweden."

Sweden's state energy utility Vattenfall said either Rolls-Royce or GE Vernova would be selected as the supplier. Anna Borg, Chief Executive of Vattenfall, said that the new reactors were scheduled to be built by 2035. She added that the company was also looking to build additional reactors where Ringhals 1 and 2 are currently located.

Hitachi Energy preferred bidder for EGL3

The Eastern Green Link 3 (EGL3) project – a joint venture between National Grid Electricity Transmission and SSEN Transmission – has named Hitachi Energy as the preferred bidder for converter stations at either end of the link. EGL3 will deliver 2 GW through subsea and underground cables, helping to strengthen energy security in the UK and deliver on clean power targets.

EGL3 is a new subsea electricity link designed to carry clean power between the north of Scotland and England, with the ability to transmit electricity in both directions depending on demand. The proposed 2 GW, 525 kV HVDC link will run between Longside in Aberdeenshire and Walpole in Norfolk, using a 680 km subsea and underground cable route to connect the two locations. Hitachi Energy is the preferred bidder to deliver the project's HVDC converter stations at these end locations.

Nordex receives 52 MW wind order from TEUT

Nordex has received an order for 51.7 MW from TEUT Energieprojekte GmbH in Brandenburg, Germany for the Mürow-Neukünkendorf wind farm project. Nordex is scheduled to deliver and install nine turbines in the 4-6 MW capacity range. The order also includes two service contracts for the turbines for a period of 20 years.

Installation of the turbines – seven N149/5.X, one N163/6.X, and one N133/4.8, each with a hub height of 164 m – will begin in autumn 2026. Commissioning is scheduled for spring 2027.

RES wins Staythorpe BESS O&M contract

RES has won an O&M contract from Elements Green for the Staythorpe Battery Energy Storage System (BESS) in Nottinghamshire, UK. The Staythorpe BESS will be 360 MW / 720 MWh when operational.

The five-year O&M contract will start in 2026.

Manuel Sánchez, Global Head of O&M Services at RES, said: "We're proud to be supporting Elements Green on such a transformative project. Staythorpe is a strategically significant project and a strong vote of confidence in RES' ability to deliver best-in-class performance on battery storage assets."

Romanian wind turbine order for Vestas

OX2 Construction has awarded a contract to Vestas for the 96 MW Ansthall wind farm, consisting of 15 V162-6.4 MW turbines, along with a long-term AOM 5000 service agreement.

Turbine delivery is expected by Q2 2026 and commissioning by Q1 2027.

International

Afghanistan signs MoU with Sadaf Energy

Da Afghanistan Breshna Sherkat (DABS) has signed an investment Memomorandum of Understanding (MoU) with Sadaf Energy Company – a joint investment firm from Kyrgyzstan and Uzbekistan – to develop generating capacity in Afghanistan.

Dr Abdul Bari Omar, CEO of DABS, said that the conditions for investing in power generation projects in Afghanistan have now been facilitated in every possible way and investments can be made with complete confidence.

Construction starts on 1 GW Iraqi power plant

The first phase of construction of the 1014 MW Beiji Gas Power Plant 2 in Iraq has been started by a consortium consisting of Siemens Energy and China State Construction Engineering Corporation (CSCEC).

The project involves the rehabilitation of six 169 MW Siemens gas turbines. The project also includes development of seven 400 kV transmission lines and a new 132 kV network to serve Salah al-Din Province. The first two units are scheduled to become operational within 27 months, with the remaining units being commissioned at a rate of one every two months thereafter.

The Iraqi Ministry of Electricity signed an agreement with Siemens Energy in May 2025 to develop 14 GW of new gas fired generation capacity in Iraq, and to renovate and upgrade the 340 MW Dibis power plant and the Al-Musayyib power plant involving rehabilitation of the existing 750 MW and the addition of 150 MW.

ACWA Power wins Kuwait contract

The Kuwait Authority for Partnership Projects (KAPP) has signed contracts worth around €2.8 billion with Saudi's ACWA Power and the Gulf Investment Corporation for phases two and three of the Al-Zour North power plant in Kuwait.

The Al-Zour North project, once completed, will generate 2.7 GW and produce 120 million gallons of water daily using combined cycle technology. The construction is expected to take three years.

The Kuwaiti authority's director general stated that the investors, not the government, will bear the cost of the project.

Iraq to use floating power plants

Iraq plans to add 1500 MW of electricity through floating power generation vessels to help stabilise its grid and reduce reliance on imported gas.

Turkey's Kapowership said that its Iraqi affiliate BKPS signed a 71-day contract with Iraq's Ministry of Electricity to supply up to 590 MW through two floating vessels. The Powerships have been deployed to the ports of Khor Al Zubair and Umm Qasr in Basra in southern Iraq and are expected to begin operations in August 2025.

One Powership, the Orhan Ali Khan, docked at Umm Qasr Port on August 21st, while the Powership Orka Sultan docked at Khor Al Zubair port on August 23rd.

Iraq's Minister of Electricity, said that the first phase of the programme will deliver up to 600 MW, with future expansions targeting 1500 MW.

Hydrogen

Oman courts foreign investment as it moves steadily towards hydrogen industry

Oman, through its state-owned green hydrogen company, Hydrom, is actively pursuing the creation of a hydrogen industry that will establish the Sultanate as a global hydrogen production, transport and export centre. Hydrom has recently concluded a promotional roadshow in South Korea and will later this year host the Green Hydrogen Summit.

Gary Lakes

The Sultanate of Oman is keen to attract foreign investment into its hydrogen industry development. Recently, representatives from the Sultanate were in South Korea where they met officials and toured hydrogen facilities while promoting the incentives that Oman is making available to foreign firms interested to invest. The visit is a follow-up to an agreement signed by the two countries in 2023 that emphasized more cooperation in clean energy technologies, policies and capacity building.

Oman's presentations highlighted its integrated national hydrogen ecosystem, which includes regulatory frameworks, land allocation and shared infrastructure. Hydrom has also announced financial incentives to encourage the viability of projects and attract major investors. All of the factors for expanding Oman's hydrogen industry will be presented later this year when the Sultanate opens its Green Hydrogen Summit. Direct Foreign Investment (DFI), bankability of projects, and international partnerships will be the focus of the summit. Partnerships will concentrate on innovation and supply chain development. A successful outcome will move Oman well into its planned energy transition.

The Sultanate has set a net zero goal for 2050. It has already awarded through two bidding rounds nine projects with investments that exceed $50 million. Those projects will produce 1.5 million tons of hydrogen by 2030. A third bidding round was launched this past April. It is allowing a nine-month preparation period, more site flexibility with the offer of 300 km^2, and more new incentives. The country has designated 50 000 km^2 for hydrogen projects to support renewable energy and green hydrogen projects.

According to a report in the *Oman Daily Observer*, quoting the Director General of Renewable Energy and Hydrogen at the Ministry of Energy and Minerals, Dr Firas al Abduwani, Oman wants to ensure investor confidence in its new industry. "We are prioritising the fundamentals," he said, "bankability, clear regulations for foreign investors, predictable taxation and transparent land allocation. These are the reassurances international financiers look for and Oman is working to provide them." The financial viability of projects will ultimately dictate the pace and scale of development, he added.

Oman is capitalising on its success as an LNG, oil and petrochemical centre to put the case forward that it is a good place for hydrogen investment. There exists a number of large oil and gas projects in the country as well as the petrochemical complex at Duqm, and a significant amount of foreign investment has gone into those projects through global banks, export credit agencies and institutional investors. Oman's hydrogen projects are expected to secure the support of financial firms and institutions that support renewable and green investments.

The nine green-hydrogen and green-ammonia projects awarded by Hydrom include the following, most of which will see final investment decisions (FIDs) in the next few years:

- ACME Duqm Phase 1. Run by the ACME Group (India) and Hydrom consortium, it is located in the Special Economic Zone (SEZ) at Duqm in the Al Wusta Governorate. The plant will have a capacity to produce 100 kt per year of green ammonia, which will hold about 57 kt of hydrogen. Phase 1 construction is underway.
- ACME Duqm Phase 2 & 3. To be developed by ACME Group and Hydrom, and located at Duqm on 80 km^2 over two phases. The first phase will produce 71 kt of green hydrogen, while the second phase will produce 400 kt of green ammonia. A FID is planned for 2026-27.
- HyDuqm (Block Z1-02). Backed by POSCO Holdings, Samsung Engineering, Korea East-West Power, Korea Southern Power, MESCAT ME (ENGIE), FutureTech Energy Ventures (part of Thailand's PTTEP). The project will be developed in Al Wusta Governate with the capacity to produce 1.2 million tons annually of green ammonia of which 690 kilotons (kt) will be hydrogen.
- Mitsui-Marubeni EDF (Block Z2-01). Located at Block Z2-01, near Duqm. This will have a capacity to produce 1 million tons per year of green ammonia with about 575 kt of hydrogen.
- BP-Led Consortium (Block Z2-02). Also located near Duqm and designed to produce 1 million t per year of green ammonia, with some 575 kt of hydrogen.
- Shell-Backed Project (Block Z3-01). Oman's downstream arm OQ and Sembcorp are members of the consortium. It will be located at Duqm and produce 900 kt annually of green ammonia with some 517 kt of hydrogen.
- OQ-SWPC (Block Z3-02). Like the other projects, it is located in Al Wusta near Duqm. It is a partnership between OQ and the Saudi Water Partnership Company. It will produce 600 kt of green ammonia per year with some 345 kt of hydrogen.
- Diacore-UAE JV (Block Z4-01). This project is backed by Dubai Investment Group (Diacore), TAQA, and Hydrom and will be developed in Block Z4-01 in the Dhofar Governorate. It will produce 500 kt annually of green hydrogen with 288 kt of hydrogen.
- Oman Hydrogen Co.-ENGIE (Block Z4-02). This project will also be developed in Dhofar province. It will have a capacity to produce 400 kt of green ammonia per year and 230 kt of hydrogen.

The combined output of the projects will be around 7.5 million t annually of ammonia from which 4.3 million t of hydrogen can be derived. When complete and producing, they will make Oman one of the top ten global hydrogen exporters by 2030, and make Duqm a multi-polar export hub with links to Japan, Europe and South Korea.

Gas

Rhoude Nousse gas field project marks new chapter in Algeria-China energy cooperation

Algeria has taken a decisive step in modernising its energy infrastructure with the award of an $855 million contract to China's Jereh Group for the development of the Rhoude Nousse gas field. The deal, announced in July 2025, underscores the growing strategic partnership between Algeria and China in the energy sector and highlights the North African nation's ambitions to reinforce its role as a key gas supplier to Europe and beyond.

Gary Lakes

The Rhoude Nousse gas field, located in southeastern Algeria's Illizi Basin, is one of the country's most productive natural gas reserves. Under the contract, Jereh Oil & Gas Engineering – a subsidiary of the Yantai-based Jereh Group – will construct a state-of-the-art gas compression station and upgrade the existing pipeline infrastructure that connects the field to Algeria's national and regional gas grid.

The project aims to centralise and enhance the boosting of natural gas not only from Rhoude Nousse but also from the adjacent Gassi Touil field. This integration is expected to significantly improve production efficiency and processing capacity, aligning with Algeria's broader goals of energy sustainability and export reliability.

Sonatrach, Algeria's state-owned oil and gas giant and Africa's largest gas producer, is spearheading the initiative. The company will invest $629.1 million and an additional 29.4 billion Algerian dinars (approximately $226 million) to fund the construction and infrastructure upgrades.

This move is part of Sonatrach's long-term strategy to modernise its facilities, reduce carbon emissions, and meet rising global energy demands. The company has increasingly turned to international partners to bring in technical expertise and accelerate project timelines.

For Jereh Group, the contract represents one of the largest international energy infrastructure deals involving a Chinese firm in North Africa this year. The company has been steadily expanding its global portfolio, securing engineering, procurement, and construction (EPC) contracts across Asia, the Middle East, and Latin America.

Jereh's previous engagements in Algeria include a 2021 contract for a gas de-bottlenecking project in the Bir Rebaa Nord and Rhourde Ouled Djemma fields. The firm's growing presence in the region reflects China's broader investment strategy in Africa's energy sector, which includes partnerships with major oil producers and infrastructure developers.

The timing of this deal is particularly significant. As Europe continues to diversify its energy sources in response to geopolitical tensions and supply chain disruptions, Algeria has emerged as a reliable alternative to traditional suppliers. The Rhoude Nousse project is expected to bolster Algeria's export capacity, especially to European markets seeking stable and sustainable gas imports.

By partnering with Chinese firms, Algeria is not only securing technical expertise but also deepening economic ties with one of the world's largest energy consumers and investors. This collaboration could pave the way for future joint ventures in renewable energy, petrochemicals, and infrastructure development.

Construction on the Rhoude Nousse project is expected to begin later this year, with completion projected within a multi-year timeline. Once operational, the upgraded facilities will play a pivotal role in Algeria's energy landscape, enhancing output, efficiency, and environmental compliance.

For Jereh, the project is a testament to its engineering capabilities and its commitment to supporting global energy transitions. For Algeria, it's a bold step toward securing its place as a cornerstone of regional energy stability.

As global energy dynamics continue to shift, partnerships like this one between Sonatrach and Jereh may well define the next era of resource development and international cooperation.

The Rhoude Nousse field has shown remarkable longevity, making it a key factor in Algeria's gas industry. The field is fully owned and operated by Sonatrach. It was discovered in 1962 and production began in 1978. The field has an estimated total gas reserve of 13 trillion ft^3, or around 370 billion m^3 of natural gas. As of 2019, its proven and probable (2P) reserves were estimated at 135 900 million m^3, while as 2021, its remaining reserves were calculated at 130 681 million m^3.

Rhoude Nousse accounts for around 6 per cent of Algeria's daily natural gas output, with production averaging 11.172 billion m^3 in 2022 and 11.162 billion m^3 in 2023. The field hit peak production in 2014, and it has since begun a gradual decline. But it is expected to continue as an active producer field until around 2055.

Meanwhile, as further evidence that Algeria is working to garner more foreign investment, the country has announced that it is coming near to agreements with US energy giants ExxonMobil and Chevron Corporation regarding the first-time access for the country's enormous shale gas resources.

According to a recent report in *Energy News Africa*, technical terms have already been agreed, and commercial negotiations are coming to a conclusion. The report quoted Samir Bekhti, Chairman of Energy regulator Alnaft, as saying: "The commercial alignment is still under negotiation and will soon be finalised, but the technical aspects have more or less been agreed upon."

Bekhti said security commitments from the two companies "sends a strong signal" to the international market about Algeria's appeal as an investment destination. Research shows that Algeria has some of the largest shale oil and gas reserves in the world. As the further development of Rhoude Nousse shows, Algeria is keen to show that an unconventional reserves development project will be of huge benefit to energy demand in Europe.

Snapshot of Electricity Mid-Year Update 2025

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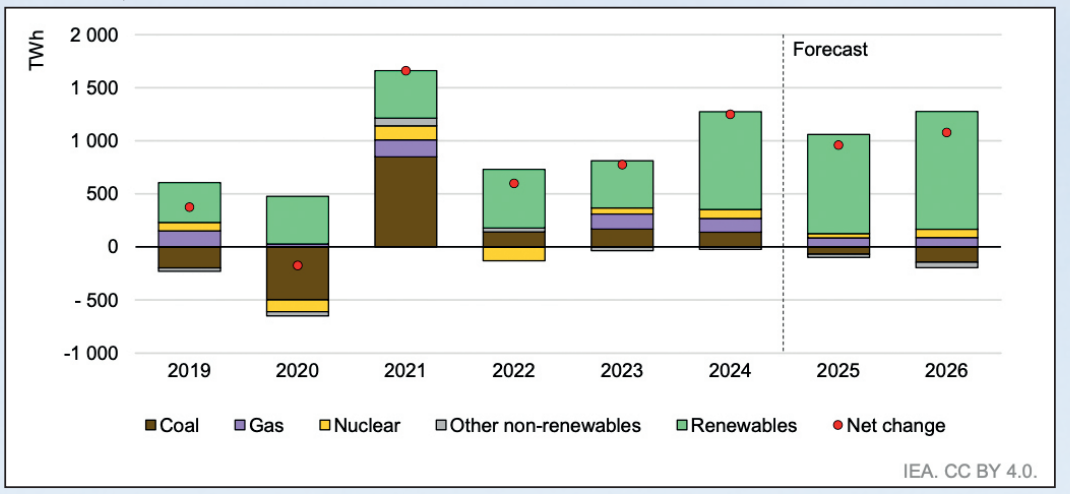
Year-on-year global change in electricity generation by source, 2019-2026



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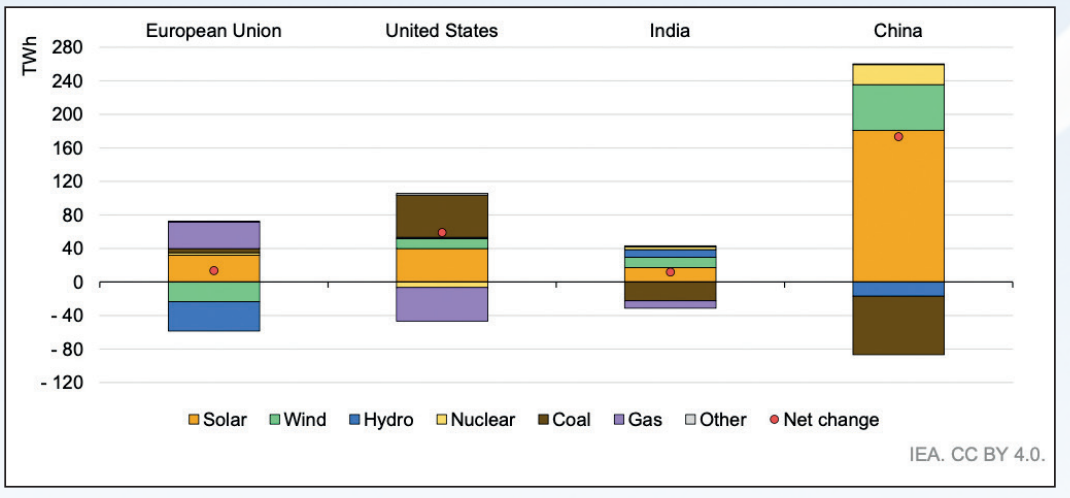
Year-on-year change in electricity generation by source in selected regions, H1 2025



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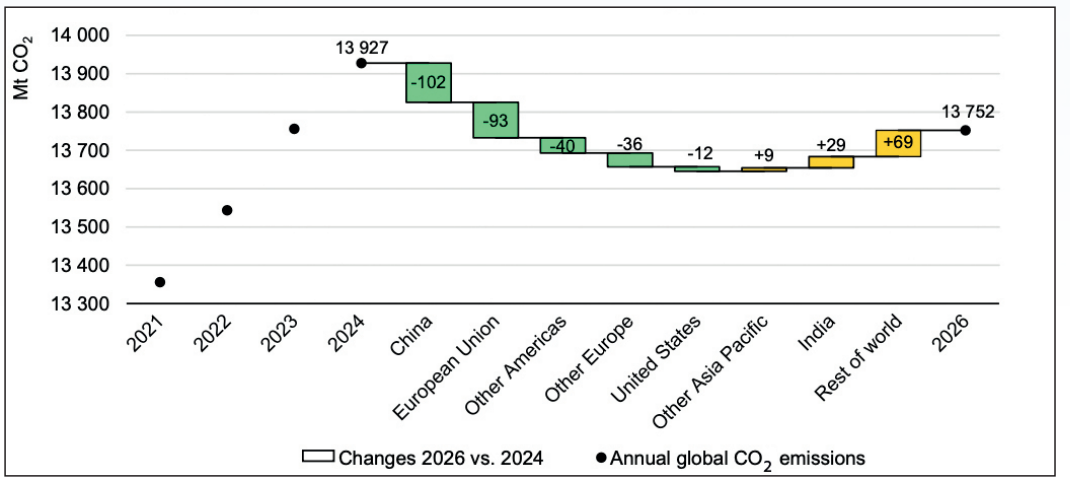
Forecast changes in global CO_2 emissions from electricity generation, 2026 vs. 2024



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Source: *International Energy Agency, Electricity Mid-Year Update 2025. IEA CC BY 4.0*

Trump 2.0 puts US clean energy future at risk

The Trump administration's second-term policy shift has placed US clean energy investment under severe strain, with incentives rolled back, projects halted, and regulatory uncertainty deterring capital. Billions in projects have already been cancelled, and billions in investment are at risk. By contrast, Europe and Asia present increasingly attractive alternatives, offering policy stability, growing markets and stronger incentives. With domestic politics and economics clouded by volatility, the US risks losing its status as a leading destination for clean energy finance. **Joseph Jacobelli**

The article 'US opposition to clean energy could drive investment elsewhere' by Joseph Jacobelli, published in the April 2025 edition of *The Energy Industry Times*, evaluated how US policy changes in the first months of the Trump 2.0 administration were undermining the country's clean energy investment prospects. It found that the newly created federal policies had generated high uncertainty, weakened renewable support, and favoured fossil fuel growth.

The article argued that the developments made investors uneasy and had prompted some capital outflows as well as project delays and cancellations. Also, it highlighted that the macroeconomic environment, with high interest rates and new tariff regime, further increased risk. The article concluded that while it was still early to pass final judgement, policy instability in the US may divert clean energy investment towards Europe and Asia, where policy frameworks remain favourable. Also, it contended that the US would now face risk of long-term reputational damage as a destination for clean energy capital.

Since the publication of that article, much evidence has built up that the landscape is worse than expected for clean energy and climate tech investments in the US. This can be measured by policy announcements and the ensuing effect on investments.

The Trump administration's second-term policies completely shifted to fossil fuel prioritisation from clean energy development, rolling back incentives and imposing regulatory barriers. Exiting global climate agreements and halting international climate finance commitments are two of the major policy U-turns on the global scene.

The Administration together with Congressional Republicans have taken over 200 actions "to unleash" the US' "energy potential", according to the conservative leaning Institute of Energy Research. These actions are strongly in favour of fossil fuels and against pro-climate policies and clean energy and climate tech investments. Importantly, renewable energy incentives have been rolled back, funding for solar programmes frozen, environmental protection deregulated, and hurdles for wind and solar projects have been imposed, notes US law-firm Spencer Fane. Significant budget cuts were proposed for renewable energy research while more federal lands were opened for development, remarks Spencer Fane.

The Trump administration-led changes have had dire effects on the development of clean energy and climate tech in the US.

There have been several high profile cases. Two examples are the Empire and the Revolution offshore wind projects. The administration issued a stop order to the Empire Wind project, located off the coast of New York, last April. The stop-work order on the 810 MW, $5 billion Empire Wind project, including related infrastructure, at the time 30 per cent complete, lasted a month and cost Norwegian developer Equinor roughly $50 million per week. Revolution Wind, developed by the world's biggest offshore wind farm developer Ørsted, received its stoppage order in August 2025. The $1.5 billion 704 MW project located off Rhode Island, at the time of the order had all of its permits approved, and was 80 per cent complete, with 45 out its 65 turbines already installed.

About $18.6 billion in clean energy projects had been cancelled as of August 17th, according to the Atlas Public Policy's Clean Economy Tracker compared to just $0.8 billion in cancellation for the whole of 2024. Investment announcements fell to $15.8 billion versus $20.9 billion the previous year. The Clean Economy Tracker and E2O uses a different calculation methodology and puts the cancellation amount at over $22 billion for the first six months of the year for 'clean energy projects, including installations, manufacturing facilities, and more'. The withdrawals also meant 16 500 job losses. Some of the tax-credit phase-out related policies came through the energy provisions of the One Big Beautiful Bill Act of July 2025. FTI consulting estimated that over 320 proposed solar and wind projects, with a capacity of over 100 GW, would be economically unviable with the passing of the Act. This implies at least $110 billion of potential lost investment, assuming a cost of $1 billion per GW for solar and $1.4 billion for onshore wind – and even more for offshore.

The impact of the actions in the first 220 days or so of Trump 2.0 generates a clearly bleak outlook for clean energy and climate tech investments in the country in the medium-term (3 to 5 years). Many of the policies will create substantial harm for the development of the industry as a whole, including the various supply chains. The reputational damage may not be everlasting but is significant, nonetheless. In addition to the punitive policies, investors may also feel nervous about political and economic uncertainty.

On the political front there is uncertainty over the electoral volatility impact. This includes which party will have the majority in the House of Representatives after the mid-term elections in November 2026. Also, there is even less clarity with the presidential election two years later given that, as of now, Trump is not allowed to run again.

On the economic front, the mid-term picture is even more opaque. The full effect of the new sweeping tariff regime is uncertain but unlikely to be positive for the US economy. There is a growing fear that the country will soon see stagflation: high inflation, sluggish or negative growth economic growth, and rising unemployment. In early August, BofA Global Research, a US bank, surveyed global investors and found 70 per cent expected stagflation over the coming 12 months.

Global clean energy developers and financial investors, even those headquartered in the US, will have to look for growth in other markets. Two of the possibilities are Asia and Europe which broadly offer strong policy frameworks, investment incentives and predictable growth.

Asia may be seen by some investors as a challenging region for investments in clean energy projects given it is fragmented due to the large number of countries, each with different regulatory frameworks and growth drivers. At the same time, the region is a highly attractive destination given its size and regulatory frameworks. The Asia region accounts for almost half of the world population and over 80 per cent of energy usage is in developing economies, offering investors a high growth upside. In some jurisdictions the regulatory frameworks are quite mature, while in others they are at different stages of development.

The regulatory landscape has already vastly improved relative to that just five years ago. Some of the focus markets among investors include Australia, Japan and South Korea in terms of developed markets, as well as the developing markets of India in South Asia, and Indonesia, the Philippines, and Vietnam in Southeast Asia. Research group Zero Carbon Analytics highlighted that Southeast Asia's fast economic growth, rising energy demand and abundant renewable resources can attract significant clean energy investments. The key investors in these markets have been from Australia, China, Japan, and South Korea, and have played critical roles in financing clean energy projects.

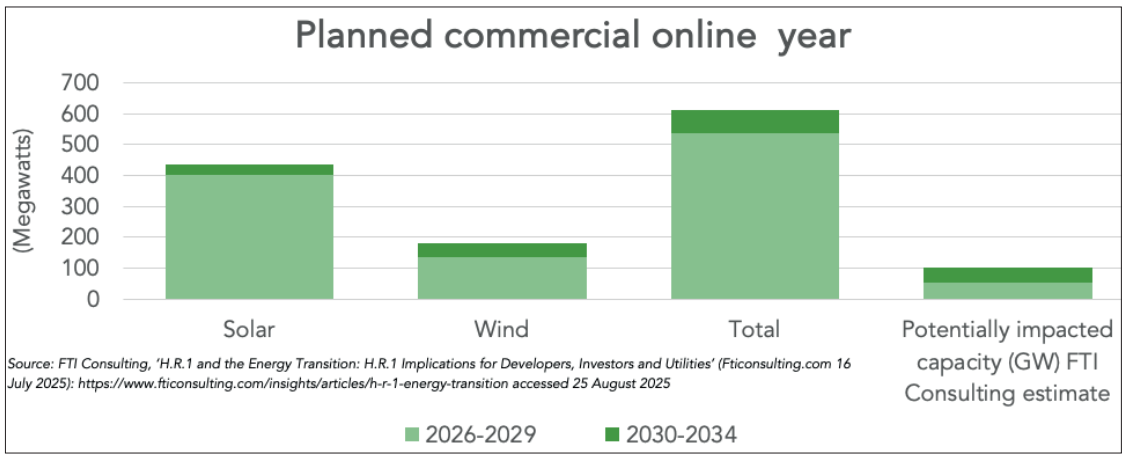
Europe has also proven to be an attractive destination for capital focused on clean energy investing. Some of the region's attributes include policy stability, market growth, as well as demand and incentives. It is adding substantial amounts of renewable energy capacity, possibly as much as 90 GW in 2025, and the major utilities in the region, such as EDF, Enel, Engie and Iberdrola, have committed large amounts of capital, possibly as much as €160 billion in 2025, a 9 per cent year-over-year increase, expects ING, a bank.

Of note, a survey of about 1400 energy transition investors conducted by KPMG in 2024 asked respondents to choose one or two regions they found most attractive for investments in the following two years (2025-2026). At the time (i.e., pre-Trump 2.0), the top three were East Asia, selected by 43 per cent, North America chosen by 35 per cent and 20 per cent selecting Southeast Asia.

Giuseppe '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 upcoming book, 'Powering the Unstoppable Green Shift'.

Jacobelli: Global clean energy developers and financial investors, even those headquartered in the US, will have to look for growth elsewhere

FTI Consulting estimates over 100 GW of planned utility-scale solar and wind projects could be jeopardised by the accelerated phase-out of US government incentives



Source: FTI Consulting, 'H.R.1 and the Energy Transition: H.R.1 Implications for Developers, Investors and Utilities' (Fticonsulting.com 16 July 2025): https://www.fticonsulting.com/insights/articles/h-r-1-energy-transition accessed 25 August 2025

Easing congestion flexibly in Trieste

The port city of Trieste in Italy is showing how flexibility through digitalisation can help ease network congestion and cut carbon emissions. **Junior Isles** reports.

Constrained grid capacity is a global issue, with a clear demand for new power transmission and distribution grids. But the challenge of building much needed network kilometres at the necessary pace to facilitate the energy transition means that grid operators must seek other solutions. Here, digitalisation has an important role to play.

The launch of a recent project between Italian distribution system operator (DSO) AcegasApsAmga (Acegas) and Siemens Smart Infrastructure is a good example of how digitalisation can help.

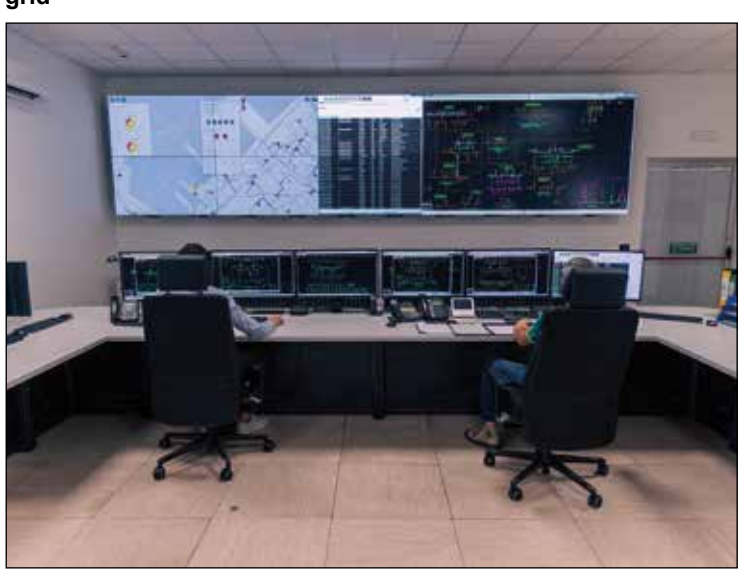
In June the two companies announced that Acegas will leverage Siemens' Gridscale X to build a digital twin of Trieste's energy grid. Acegas will use Siemens' software to develop a digital twin of its medium- and low-voltage grid to proactively manage congestion challenges arising from the growing integration of distributed energy resources (DERs), and the substantial energy demands of the city's port operations.

Acegas, part of the Hera Group, is the leading multi-utility in the Northeast where it operates in environmental and water services, and the distribution of gas and electricity. Its electrical grid in Trieste is characterised by many different voltage levels: 2, 6, 10, 20, 27.5 kV.

While some might view these various voltage levels as "a problem, in terms of standardisation", Paolo Manià, Head of Operations at Acegas, noted: "These have turned out to be a great opportunity now that we have a lot of requests in power because the 27.5 kV voltage level is going to be very interesting."

The city of Trieste – a port city that currently handles over 70 million tons of cargo annually – recently expressed a need for more than 150 MW to electrify its many piers and quays.

These requests for what is known as cold ironing – enabling electrical power to be supplied from the shore to a ship while it is berthed in port – will allow ships to shut down auxiliary engines and reduce emissions. There were also various requests for electric bus charging stations as well as for all-electric housing, i.e. houses that no longer use gas.



AcegasApsAmga is leveraging Siemens' digital twin technology to simulate, monitor, and manage energy flows in real-time. Through Gridscale X, it will essentially gain critical visibility over the grid

This prompted Acegas, with the help of several universities, to undertake a study of the load flows in its grids.

The first port examined was Molo Bersaglieri pier. The pier initially requested 8 MW to accommodate cruise ships.

"It would allow cruise ships to switch off their diesel engines and use our energy – this has a great benefit in relation to pollution levels; so we were enthusiastic to study this case. There were 10 others, but this was the first," said Manià.

While studying how to upgrade its 27.5 kV grid, Acegas examined whether it could provide the requested 8 MW.

"The answer was yes," said Manià. "But immediately after, the pier decided it wanted 10 MW [instead]. So, we carried out other studies; and again the answer was yes. But when they then asked for 12 MW, because there are two big ships, we said this wasn't possible; and the additional 2 MW was not available in the city."

It was at this point that Acegas decided to explore the possibilities that flexibility within the system could offer. Flexibility is considered a good solution in this case, as it delays the need for immediate grid reconstruction. By grouping low-voltage flexible sources, Acegas can essentially address medium-voltage on the grid.

"It could work very well in this case because we had a bus charging station that we could ask to reduce their consumption for a limited number of hours during the year," said Manià. "But when you start to look at flexibility, the first thing you need is to know your network very well. You need to make real-time calculations in the grid."

Siemens secured the contract to carry out these real-time calculations and eventually used the opportunity to introduce its Gridscale X technology to Acegas.

Launched in early 2024, following about three years of development, Gridscale X is a modular software that allows easier, faster digital transformation for grid operators, and at scale. The platform offers powerful capabilities designed to bring transparency into the low-voltage network. By utilising data from smart meters, the solution proactively detects outages, visualises grid congestion, and delivers actionable insights through advanced analytics.

The first two software modules to be included were Gridscale X DER Insights and Gridscale X Network Model Manager to enable power utilities to gain visibility over their grid and create a centralised network model. DER Insights enables utilities to protect critical infrastructure by gaining better insights into what is happening behind the meter, and how these resources impact grid equipment. Meanwhile, the Network Model Manager enables supervision and control in real-time. The module is a network model management app and data repository that supports operators with more efficient grid planning, development, and operations.

Now the flexibility manager module has been released. Maurizio Bigoloni, Head of Solutions, Grid Software in Siemens Italy, said: "The complexity of grid operation is growing; the vision of Gridscale X is towards autonomous grids. A grid operator has to manage much more information today compared to 20 years ago; this makes the grid much more difficult to manage. In the future we see a system that will be able to provide the way to autonomous grid management. The system has already compiled the functionality so we can guide the operator in a conventional scenario, and in the future we will move step-by-step towards completely autonomous grid management."

By simulating grid conditions, the software can proactively identify congestion points and calculate the energy required to address them, ensuring a stable and reliable grid while accelerating the Trieste Municipality's electrification and decarbonisation programmes.

The system for Trieste presents a digital view of the grid and the first functionality to be included is real-time calculations. Every 24 hours the system will forecast potential current and voltages violations, taking into account historical data as well as weather forecasts.

This calls for a combination of the needs of the port – the electrical loads caused by the ship – with other factors that can have an impact, for example production from PV installations or charging of EV buses in the bus station.

"The system will display potential problems that could occur in the next 24 hours, so that the operator can define the problem and the area," said Bigoloni. The system can zoom into a specific substation, showing for example the curve for the current over the coming 24-hour period. "You can see the current go over the expected limit during certain hours of the day, highlighting potential problems for the grid," noted Bigoloni.

The system can also suggest possible solutions to the operator – a type of "co-pilot functionality" – where it can identify available flexible resources and a range of flexibility responses to compensate for the current or voltage violations.

"In this phase, the flexibility options will be presented to the operator, who has the option to either accept it or modify. But the plan for the future is that all these processes can be automated," said Bigoloni. "

That future may not be far away. In January 2026 the EU is planning to realise a legal framework for flexibility.

Manià explained: "Today, there are pilot projects; [but] there is no consolidated or uniform legal framework."

Bigoloni added: "From a technical point of view, we are ready; there is no impediment to technically implementing complete automation. But we need to understand the regulatory framework. We also need experience, so that's the idea of this project."

He also noted that informing owners of the flexible resources when those resources will be needed, will enable them to plan accordingly.

"The bus station owner, for example can plan to charge vehicles when flexibility is not requested," said Bigoloni. "It's the same with buildings, they can see for example, when they can shut down certain systems such as hot water heating. We have to see things as an integrated environment."

Acegas' considerations are based on load flows that simulate ships docked on the pier. As ships dock and connect to the Acegas electrical grid, the DSO will be able to see how accurate its simulations are. The company believes they will be very accurate since it has simulated two years [of load flows] with the Polytechnic of Milan.

Carlo Andriolo, CEO of Acegas concluded: "Working together with Siemens, we aim to gain critical visibility over the grid to proactively identify potential congestion points and calculate the energy needed to mitigate issues. Using Gridscale X, we can do this in an efficient and reliable manner, ensuring there are no disruptions to Trieste's port operations."

Junior Isles

Maybe we will live long enough…

Nuclear fusion; seen by many as the "Holy Grail" of our future electricity supply, the technology is finally reaching a point that warrants some serious sit-up and listen time.

At the end of July Helion Energy, a startup with $1 billion in private funding, announced it has started construction of its first planned power production reactor, with the goal of delivering electricity to Microsoft within three years. The timeframe may well turn out to be ridiculous – especially when considering the challenges that remain – but as new and significant developments mount up, perhaps for the first time there is a genuine feeling that things are finally going somewhere.

Nuclear fusion is a process that releases an immense amount of energy from fusing deuterium and tritium – isotopes of hydrogen found in seawater and lithium – to offer a virtually limitless supply of clean energy.

In the fifth edition of its Global Fusion Industry report, the Fusion Industry Alliance (FIA) states that that 35 of 45 companies that responded in its annual survey hope to be operating a commercially viable pilot plant between 2030 and 2035. Notably, five companies are targeting commercial readiness before 2030 while another five expect to reach that stage later, between 2036 and 2040.

"These pilot plant timelines mark a significant step toward commercial plants that will deliver power to customers, with 28 companies expecting to connect to the grid between 2030 and 2035, and only a handful projecting delivery beyond 2040," said the report.

But talk is cheap, even if the money needed is not. In its report, for the first time the FIA asked the 53 companies that took part, how much more investment each of them would need to bring their first pilot plants online. Noting that "the answers varied widely, as would be expected from an industry with diverse technological approaches and progression along pathways", the median respondent reported needing $700 million more to bring their first plants online.

When answers were combined, the total capital required to bring every surveyed company to commercialisation is above $77 billion – eight times more than has been committed to the industry to date.

The FIA is also under no illusions regarding the perhaps more significant technical challenges that remain.

"Although timing projections are clear, the survey also highlights that there is a great deal of work to come," it stated in the report. "While the obvious challenge of achieving sufficient fusion power gain is at the top, other technical concerns include fuel cycle sufficiency and developing neutron-resilient materials, along with resolving engineering questions unique to fusion."

Mimicking the energy generation of stars, the most common fusion reactor technology requires extreme pressure and temperatures of 100 million degrees Celsius or more to fuse isotopes of hydrogen together within a plasma contained by powerful magnetic fields.

Another strategy is ignition fusion, achieved by striking tiny fuel pellets with ultra high-energy laser beams. The technique was demonstrated by the Lawrence Livermore National Laboratory in 2022. Helion plans to use superheated fuel to produce fast-pulsed reactions that rhythmically change the surrounding magnetic field, directly generating electricity. This would eliminate the need to contain and convert fusion heat into the much lower temperatures needed to heat steam to drive turbines in the conventional power plant island.

Helion completed construction of its Polaris reactor prototype at the end of 2024 and hopes to demonstrate electricity from fusion from that reactor as soon as this year. The next phase is the Orion reactor, which is under construction along the Columbia River in Washington state. It plans to deliver power into the Pacific Northwest grid at its location in 2028.

Professor Mike Campbell at the University of California, San Diego, is hopeful but sceptical of the timeline. "They have done nice work. They have good people," he said. "I wish them well, but I'll be happily surprised if they are able to do it by then."

As the FIA stresses, achieving net fusion power gain remains a huge challenge – a point echoed by experts following the Helion announcement. While noting that he is also sceptical of the ambitious timeline, Brian Wirth, a Professor at University of Tennessee, Knoxville, said it is unclear that Helion has consistently demonstrated greater energy output than input.

Others noted that although these are exciting developments, companies are still decades away from being able to economically scale and produce the same amount of power as a conventional nuclear or natural gas plant at a reasonable competitive price without government support.

Nevertheless, this is an exciting time for fusion. And the last few months show that we may indeed be at an inflection point.

Although most of the news has come out of the US where there is most corporate activity, governments elsewhere have also recently made significant announcements.

At the end of July, the German government fleshed out how it intends to build the world's first nuclear fusion reactor. Under its "High-Tech Agenda". The government said that this year it will present a strategic, long-term 'Fusion Action Plan' for the path to a fusion power plant in the country. The action plan is to be followed by a "Fusion Energy Research and Innovation Roadmap (FIRE)" by the end of 2026, which will identify the required technologies for the plant.

The European Commission is also currently working on an EU fusion strategy in consultation with leading fusion experts, industry, and other fusion stakeholders, which aims to pave the way for "economically viable fusion power plants connected to a grid". Publication is planned for the fourth quarter of the year.

Meanwhile at the start of last month China said it has entered the final assembly phase of a next-generation fusion reactor called the Burning Plasma Experiment Superconducting Tokamak (BEST), which is expected to be operational by 2027.

According to state media and the *South China Morning Post*, BEST is an intermediary step between China's earlier tokamak project and a much larger demonstrator called the Chinese Fusion Engineering Test Reactor.

"We have fully mastered the core technologies, both scientifically and technically", chief engineer Song Yuntao told the *Post*.

These recent developments demonstrate that the possibility of a commercial fusion power plant in the medium term is increasingly being taken seriously.

Looking at the last five years of its surveys, the FIA says a few trends stand out: capital is increasing, with funding growing even in years where the global economy tightened; and public-private partnerships are expanding, especially in the US, UK, Germany, Japan, and China, where governments are engaging with industry to share risk and accelerate commercialisation.

Importantly, the FIA also said that companies are maturing, moving from prototypes and small teams to addressing engineering and manufacturing challenges, integrating system development, and starting to site first plants and strike deals with early power customers.

As the report noted, fusion energy development is now making that transition from the laboratory into a serious race to be among the first with a commercially valid technology.

This would explain the inrush of private investor support from very high-wealth individuals and funds. Some $9.77 billion has been raised to date, almost $9 billion of which has come from the private sector. And with more than $2.6 billion of the total being raised in this year alone, it is clear that investors are becoming increasingly convinced that commercialisation can be achieved in the not too distant future.

Fusion has always been one technology where commercialisation has always been 50 years away. I have been covering the power sector for more than 35 years and never thought I would hear talk of commercialisation within a 3-10 year timeframe – let alone be half convinced by it. Maybe we will live long enough to see the fusion dream become reality after all.

Cartoon by Jem Soar