

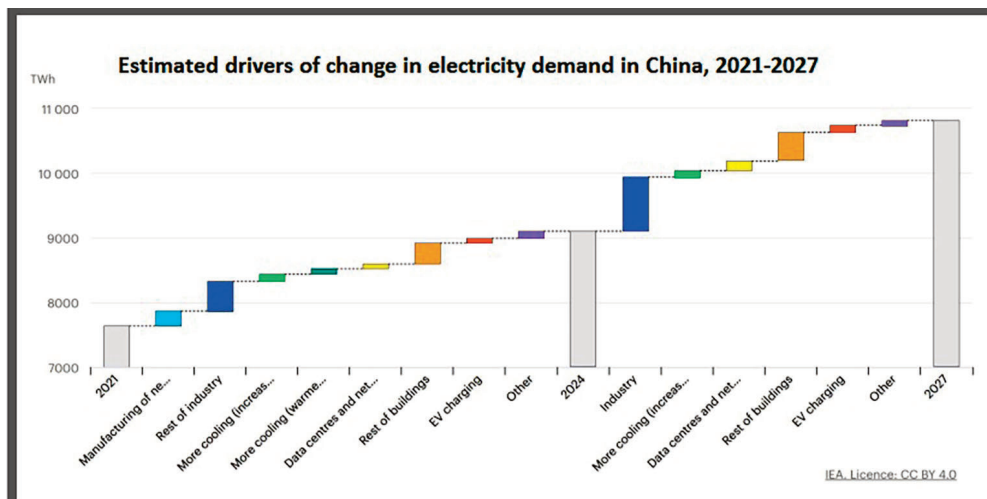


## Electrification makes world's power hunger rise 4% through 2027

The world's electricity consumption is forecast to rise at its fastest pace in recent years, growing at close to 4% annually through 2027. The surge is driven by electrification of transport and industrial production as well as rapid expansion of data centres, the International Energy Agency (IEA) finds, noting this trend is most pronounced in China.

China's demand for electricity has been growing faster than the overall economy since 2020, the IEA 'Electricity 2025' sector analysis reads. More than half of global electricity demand growth in 2024 came from China, where it grew by 7% in 2024, and the Peoples Republic's power demand is forecast to rise by around 6% annually out to 2027.

Scale and scope of China's electricity demand growth exemplifies how fast electrification is transforming the country's economy. With a 28% share of electricity in final energy use, China is taken the lead



before the United States (22%) and the European Union (21%).

Industry accounted for nearly 50% of China's incremental electricity demand, with one-third of the growth in demand coming from the manufacturing of solar PV modules, batteries and electric vehicles. In 2024, these sectors consumed more than 300 TWh of electricity annually – as much as Italy uses in a year. At the same time,

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## German energy policy re-focuses on cost cuts after CDU wins election

With the election win of Germany's Conservative CDU/CSU alliance, the energy policy in Europe's largest economy is poised to shift tack: Climate concerns lose momentum and give way to the pressing need to lower energy costs to counteract the risk of de-industrialization.

Security of supply risks had dominated energy policies of the outgoing government, after Russian pipeline gas deliveries dropped to near-zero in retaliation of the Kremlin to Western sanctions. Squeezed supply propelled up traded front-month gas prices at the Dutch TTF to nearly €250 per MWh in August 2022. Though prices eased substantially since then to just below €48/MWh for the March 2025 contract, the damage caused by years of high energy prices will be difficult to reverse.

Many energy-intensive industries have scaled back production in Germany or are considering



Bundestag, Germany's lower house of Parliament

moving abroad. A survey by the German Chamber of Commerce and Industry (DIHK) revealed that four out of ten industrial companies are

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growing electric vehicle charging demand and the expansion of data centres and 5G networks, and a rising stock of air conditioners will also spur in China's increasing electricity consumption over the next three years.

In most advanced economies, electrifica-

tion drives strong growth in power demand – after broadly stagnating for the past 15 years. India's electricity demand is forecast to grow at an average 6.3% annually over the next three years, stronger than the 2015-2024 average growth rate of 5%.

New nuclear and renewables build-out is

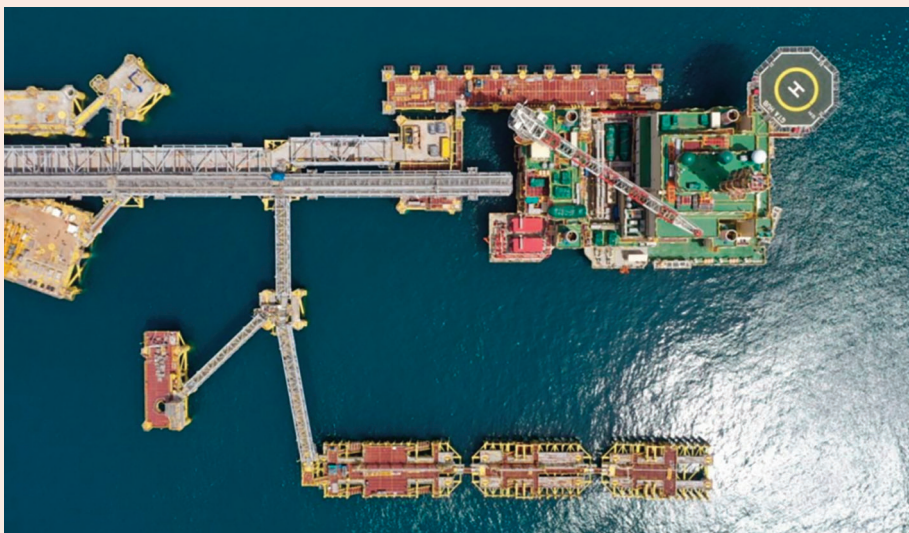
deemed "sufficient, in aggregate," to cover all the growth in global electricity demand over the next three years. Power generation from solar PV alone can cover all incremental electricity demand growth over the next three years, underpinned by continuously falling capital costs. ■

## Kosmos seeks to cash in on GTA project

Kosmos Energy has halved its forecast 2025 capex budget to \$400 million after posting \$7 million net loss in the fourth quarter. The independent oil and gas producer now prioritises on generating free cash flow, notably from the Greater Tortue Ahmeyim (GTA) project where a first LNG

cargo is lined up.

Situated at the maritime border between Mauritania and Senagal, the GTA asset is developed in a partnership consisting of bp, Petrosen, Société Mauritanienne des Hydrocarbures (SMH) and Kosmos Energy. First LNG production was



Birds eye view of GTA project, offshore Mauretania

achieved in February and Kosmos CEO Andrew G. Inglis announced "first cargo is currently being prepared for loading."

The fresh focus on capital discipline comes after massive investments in recent years: Net capital expenditure for in the fourth quarter was \$117 million, slightly higher than Kosmos' own guidance due to higher start-up costs associated with the GTA project, where first gas production was achieved in December.

"With the end of this highly capital-intensive period, we will now prioritize on the generation of free cash flow from our increased production base together with disciplined capital investment," CEO Inglis said when presenting quarterly and full-year results.

In the fourth quarter of 2024, Kosmos reached \$176 million in net cash flow from operating activities and approximately \$14 million in free cash flow. The company exited the third quarter of last year with \$2.7 billion of net debt and an available liquidity of \$535 million. ■

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considering reducing or relocating their production outside Germany due to the "energy situation."

"The trust of the German economy in energy policy is severely damaged," summarises DIHK deputy managing director Achim Dercks. "While many companies saw opportunities in the energy transition for their own operations in the years before 2023, risks have clearly predominated in their view recently."

The Conservatives, led by Friedrich

Merz, pledged to re-focus on how to rekindle the ailing German economy. This could include a separation of the ministries responsible for economic policy and for climate, which had been put under a single administration in the outgoing coalition government.

Internal CDU/CSU negotiations reportedly put forward plans for a new "infrastructure ministry", which would be responsible for construction, transport, and energy grids. ■

“

While many companies saw opportunities in the energy transition for their own operations in the years before 2023, risks have clearly predominated in their view recently

”

– Achim Dercks, deputy managing director, DIHK



## Russia offers gas swap to pay for construction of Turkish nuclear plant

Russian and Turkey are exploring a novel payment mechanism to circumvent sanctions-related financial obstacles in building the Akkuyu nuclear power plant in Turkey's southern Mersin province. The proposed swap deal would use natural gas transactions to pay for construction of the \$20 billion nuclear project, thereby avoiding cross-border monetary transfers that are obstructed by international sanctions.

**U**nder the proposed deal, Turkey would take responsibility for part of the construction expenses initially covered by Russia's state-owned Rosatom. In return, Rosatom would transfer an equivalent amount in Rubles to the Gazprom, Russia's state-owned gas exporter, who would then deduct this sum from Turkey's monthly natural gas import bill. This would effectively create a barter system that sidesteps conventional capital streams.

Such a strategy comes in response to delayed payments between Turkey and Russia due to sanctions imposed in the wake of the Kremlin's 2022 invasion of Ukraine. Striving to avoid delay in payments both parties now seek alternatives to uphold momentum of the Akkuyu project.

Situated in Mersin province, Akkuyu is set to become Turkey's first nuclear power plant – designed to reduce reliance on imported

fossil fuels and to decarbonise the energy sector. The plan is designed to house four 1,200 MW VVER units, and once fully operational, Akkuyu is expected to cover approximately 10% of Turkey's electricity needs.

But the project has not been without controversy: In 2024, reports surfaced alleging that Russia and Turkey used the Akkuyu project as a conduit to bypass Western sanctions. Over \$5 billion was reportedly transferred from Russia's central bank to Turkey's state-run Ziraat Bank via unsanctioned entities, raising concerns about sanctions evasion and money laundering.

Critics also draw attention to the risk that



Works to install inner containment dome of Akkuyu reactor

Russia's ownership and operational control over a critical infrastructure asset like Akkuyu could compromise Turkey's energy independence. The plant's proximity to key NATO installations, including the Incirlik Air Base and a missile defense radar facility, amplifies these concerns. ■

## Expectation of quick return of Russian gas flows make TTF prices ease

Prices at the TTF, Europe's most liquid gas trading hub, have eased amid expectations of a "swift comeback of Russian gas deliveries" as a Ukraine peace deal is in the making. Analysts reckon the "Ukraine gas transit remains the most viable option for increasing pipeline flows from Russia to Europe," while TTF front-month prices shed 14.6% week-on-week.

**T**TF front-month future contract for March was last seen trading \$14.468 per MMBtu, down nearly 15% compared to a week earlier. The steep drop was caused by hopes among market participants for additional Russian pipeline gas following a phone call between US President Donald Trump and Russian President

Vladimir Putin.

Despite narrowing summer-winter backwardation in the forward curve, Rystad's senior analysts Christoph Halser urges caution, as a swift return of Russian supply remains uncertain. Taking a precautionary stance, the EU Commission is rumoured to publish revised, and likely more flexible,

storage targets on 26 February which added to this week's bearish momentum on gas markets.

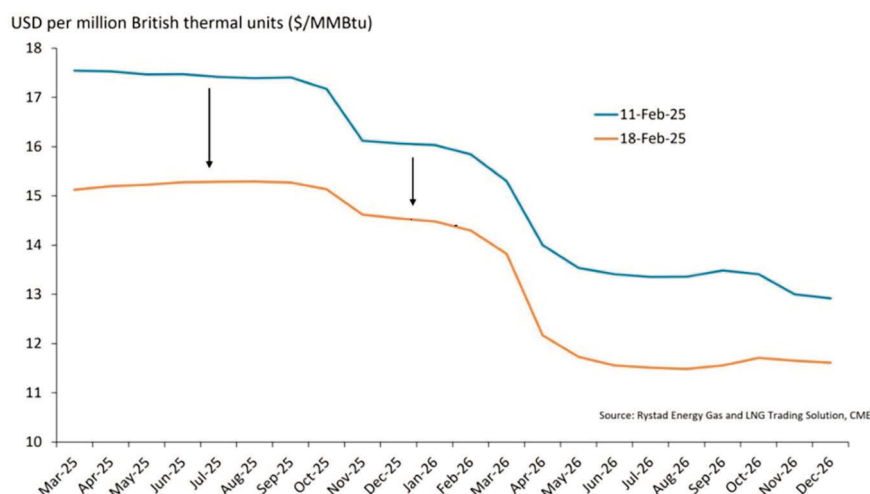
### Cold freeze pushes up Henry Hub price

Across the Atlantic, freezing temperatures in North America pushed Henry Hub prices to their highest level since late December 2022. The return of winter saw Henry Hub front-month prices reaching \$4.37 per MMBtu on 19 February, up 22.6% from the previous week.

Extreme cold across large parts of the US East, Midwest and Mountain regions had pushed up gas demand for heating and electricity generation. The cold weather poses a risk of reducing production as regional well freeze-offs loom large. Dry gas production fell to 103.6 billion cubic feet per day (Bcf/d).

On the demand side, a 3.7% week-on-week uptick in feedgas further added to bullish momentum. This was primarily driven by the ramp-up of the Plaquemines LNG project and higher nominations at Sabine Pass. ■

Speculation on Russian gas comeback narrows TTF forward curve backwardation



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# Role of gas power declines in Europe and the Americas

Natural gas-fired power generation will grow “moderate-but-steady” at a rate of 1% through 2027, following a 2.6% surge in 2024. According to the International Energy Agency (IEA), the rise in clean energy sources in Europe and the Americas more than offsets the increasing gas-burn in the Middle East and Asia.

In the Middle East, robust electricity demand growth and oil-to-gas switching in the power sector will continue to drive growth. Over in Asia, accelerating electricity demand will lead to higher use of gas-fired generation – though solar PV increasingly outcompetes gas-fuelled power sources on cost.

Flexibility services is bound to be the main role of new-build gas power stations – be it in Asia or elsewhere.

“Even in regions where we expect gas-

fired generation to decline, its role in providing flexibility to the system and acting as backup capacity will be essential for maintaining security of supply,” IEA analysts pointed out in their latest ‘Electricity 2025’ sector analysis.

## High price volatility signals need for flexibility

Wholesale electricity prices in the European Union, India, the United Kingdom and the United States fell by around 20% on average

year-on-year in 2024 – in line with falling commodity prices. But prices in all these regions – except for the US – are still significantly above pre-Covid levels.

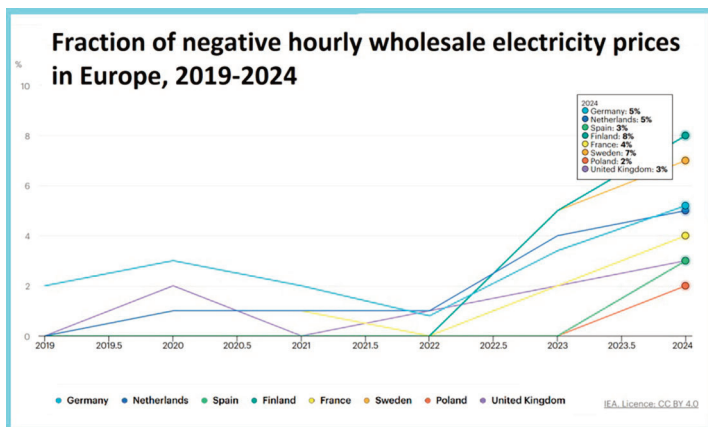
Negative power prices have become common in some markets, as well as rising volatility and a

broadening amplitude of price swings which signals there is insufficient flexibility in power systems.

“Negative prices can, in some cases, serve as an incentive for more flexible supply and demand, as well as the use of storage solutions. However, the price signals alone may not suffice for investing in increased system flexibility,” IEA analysts noted.

‘Dunkelflaute’ events – when adverse weather conditions make electricity output from wind and solar fall to very low levels – are important signals to incentivise flexible generators. At these times, gas peaking plants get ramped up and flexible consumers are incentivised to reduce their electricity usage.

“Such events can act as potential stress tests for the system, and the recent occurrences were managed successfully without any impact on the supply of electricity,” analysts stressed, noting these incidents highlights the resilience of the power systems and underlying short-term market structures. ■



## Sector coupling and progressive electrification helps decarbonise industry

Global electricity demand is forecast to more than double from 26 Petawatt-hour per year currently to 56 PWh/yr in 2050 and intelligent sector coupling can help reduce demand. According to DNV GL, progressive electrification will make industrial, transport and power gen sectors, that previously used various energy carriers, compete for the same sources of energy.

Progressive electrification will link load profiles of heavy industry, transport, services and households. Provided taxation per energy unit will be harmonised, such sector coupling would allow the heavy industry to procure green energy at favourable costs. However, re-

searchers from DNV GL strongly believe that with sector coupling and the changing nature of electricity, taxation should be harmonized per energy unit for the different energy carriers or even better per CO2 footprint.

### Urges to harmonise taxes

“Energy taxes have as a purpose to stimulate energy efficiency and reduce the use of primary energy sources. However, the

use of renewable wind and solar electricity during times of oversupply need to be encouraged instead of being punished. This would be a win-win situation, helping to decarbonise heavy industry while remaining competitive and benefit consumer pockets,” said DNV GL chief executive Ditlev Engel.

“Leading this so far is Denmark,” analysts noted. Recognized for its high contribution of wind energy, the country has also a very strong history of coupling electricity and heat: 65% of its population is connected to district heating, fed by combined heat and power generation. The Danish government is now removing tax barriers for integrating electricity and heat demand. According to DNV GL analysis, “this will benefit both the heat and wind sectors in Denmark, as the opportunity cost of avoiding using natural gas in district heating can set a bottom price for wind energy during surplus production.” ■



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## Rhodesia: UK flexible gas power with CCR project nears

VH Global Energy Infrastructure is advancing with 'Rhodesia' – an innovative carbon capture and re-use (CCR) project in Nottinghamshire, UK. With the first stream of CO<sub>2</sub> commissioned, developers expect the 10 MW integrated gas-fired power plant to start full operations by the end of March.

The Rhodesia site is located near Work-sop, North Nottinghamshire, and has an electrical capacity of 10 MW. By incorporating carbon capture technology into the gas combustion and power gen process, the project captures and purifies CO<sub>2</sub> exhaust to a food-grade standard.

In mid-February, Climeon commissioned four HeatPower 150 units at the Rhodesia project. The HeatPower units capture low-temperature waste heat from the engines via an Organic Rankine Cycle (ORC), converting it into electricity and improving overall plant efficiency.

### Dispatchable, net zero power

The first-of-its-kind project is being developed under Landmark Power Holdings' FLEXPOWER PLUS concept. Not only supplies the plant net zero flexible electricity to the grid, it also gives operators an additional revenue stream by facilitating the commercial sale of purified CO<sub>2</sub> to offtakers in food and beverage industries.

"This unique combination is one of the first of its kind and paves the way for further low carbon flexible power generation assets to support the evolving UK electricity

grid," developers pointed out.

A sharp rise in UK power prices – reaching £1,778/MWh earlier this month – exemplifies the challenges of rising intermittent electricity supply. The recent spike was driven by low wind resource, lower availability of electricity to be imported through the existing interconnectors and unseasonably cold weather.

### Grid balancing capability

Flexible power gen capabilities of the gas power project, combined with its carbon capture, allows it to respond to such market dynamics. More balancing capacity is vital for the UK's National Grid to cope with the build out of large-scale renewables which gives rise to intermittency issues as well as the withdrawal of inertia from the grid.

"Rhodesia is a unique low carbon solution to providing firming power capacity in the UK, that also meets a corresponding demand for sustain-

ably sourced food grade CO<sub>2</sub>, without the need for subsidy to underpin its operations," said Richard Lum, co-chief information officer of Victory Hill Capital Partners.

Developers said they were "confident" of the need for the build out of further flexible power and CCR schemes as the demand for firm power – not least because "demand for firm power supply, created by the increasing predominance of energy-intensive, AI-driven digital infrastructure in the UK will allow investors generate robust returns." ■



Site view of Rhodesia project in Nottinghamshire

## Siemens Energy supplies turbines to 1.2 GW power plant in Taiwan

The Kuo Kuang 2 power plant in Taiwan will be driven by two gas turbines and components supplied by Siemens Energy. The 1,200 MW gas-fuelled facility will support Taiwan's policy to phase out coal and nuclear power and meet a forecast 13% rise in electricity demand, largely driven by AI.

Taiwan is home to a robust industrial base in electronics, engineering and particularly semiconductors. About 60% of all microchips worldwide are made in Taiwan, making stable electricity supply essential. Striving to meet rising electricity demand, the Taiwanese government is supporting plans to expand low-carbon energy sources and grid upgrades.

Kuo Kuang 2 is being built together with CTCI Corp of China as the consortium partner responsible for the engineering, procurement and construction of the plant. Siemens Energy will supply a power island consisting of including two SGT6-9000HL gas turbines, one SST6-5000 steam turbine, three SGEN6-2000P generators and the Omnivise T3000 control system.



Kuo Kuang power plant in Taoyuan City, Taiwan

Situated in Taoyuan City, Taiwan, the gas-fired Kuo Kuang 1 units has 480 MW and is operated by a company owned by China National Petroleum Corp (45%), CTCI Taiwan (20%) and Meiya Power Company (35%).

Commissioning of the Kuo Kuang 2 power plant will allow for older, CO<sub>2</sub>-intensive plants to be taken off the grid. Modern natural gas power plants tend to

emit up to two-thirds less greenhouse gases than coal or oil-fired plants.

### Follow-up project

As a long-term partner with Kuo Kuang Power, Siemens Energy is already responsible for smooth operation and maintenance of the Kuo Kuang gas power unit 1, commissioned in 2003 under an O&M contract. Kuo Kuang 2 is the next combined cycle power project for Siemens Energy in Taiwan after the recent completion of the Sun Ba 2 project, a 1,100 MW plant.

HL gas turbines, used at the project will enhance power generation efficiency and reduce CO<sub>2</sub> emissions. "This technology, when paired with renewable energies, enables rapid power plant start-up, ensuring a reliable energy supply for Taiwan," said Karim Amin, responsible for Siemens Energy's Gas Services business. ■

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