



US-Japan investment deal to bring 10 GW new capacity to Ohio

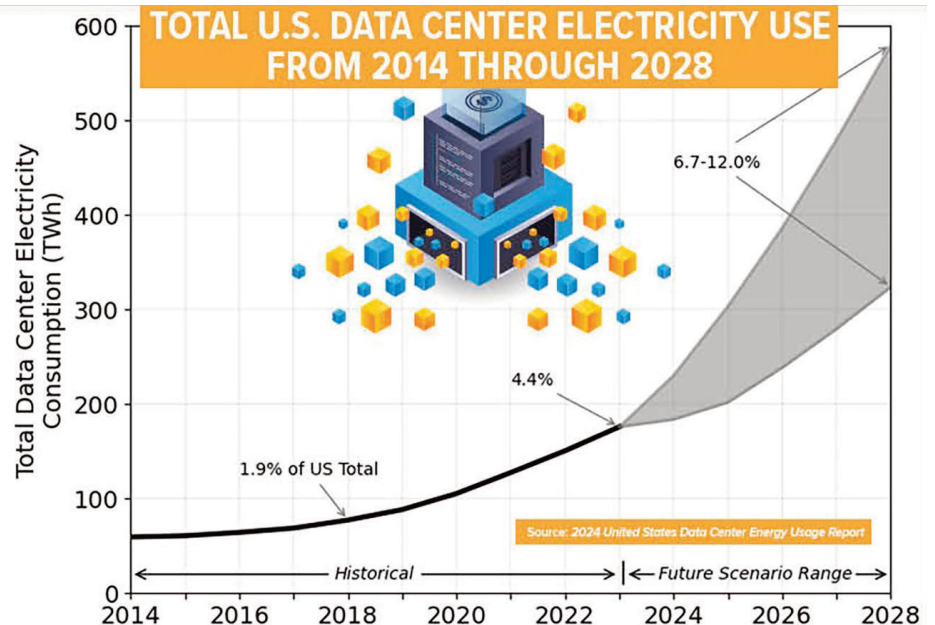
US data centers – many exceeding 100 MW in capacity – are adding an estimated \$6.5 billion to the annual cost of operating the U.S. power grid, according to new regulatory filings. The electricity hunger of data centers has risen to 4% of total US electricity consumption, up from 2.5% five years ago.

Grid operators – especially PJM Interconnection and the Electric Reliability Council of Texas (ERCOT) – are hard pressed to cater to the rapidly growing electricity demand from data centers.

PJM's latest 2026 outlook projects that data center load could triple by 2030 if current development trends persist, given that the fast-growing AI industry accounts for 49% of the total \$47.2 billion costs across three consecutive PJM auctions since the middle of 2024.

Grid balance in jeopardy

Rapid load additions near Dallas, Northern Virginia, and Ohio are distorting the balance on the grid. In a December auction, held by



PJM Interconnection, data centers tied to the biggest US grid just added another \$6.5 billion to the cost of procuring power supplies, the independent watchdog Monitoring Analytics said in a report.

Eager to minimise blackout risks, US states such as Virginia, Georgia, and Texas are reviewing permitting rules and interconnection timelines as new AI data center projects queue for grid-

continued on page 2

Data Centers add \$6.5 billion to US grid costs

US data centers – many exceeding 100 MW in capacity – are adding an estimated \$6.5 billion to the annual cost of operating the U.S. power grid, according to new regulatory filings. The electricity hunger of data centers has risen to 4% of total US electricity consumption, up from 2.5% five years ago.

Parts of this accord were previously announced as part of President Trump's U.S.-Japan Strategic Trade and Investment Agreement. This includes the \$33.3 billion in Japanese funding for 9.2 GW of new gas-fired generation.

The generation and grid investments are structured in a way that no costs are passed to ratepayers, the U.S. Department of Energy (DOE) promised, citing a condition the Trump administration has termed its 'Ratepayer Protection Pledge.'



continued on page 2

AGENDA

INVESTMENT

EU energy transition investment reaches \$583 trillion

2

MARKETS

EU countries urged to begin gas storage refill early

3

Italian PM visits Algeria to more secure pipeline gas supplies

3

TECHNOLOGY

EPRI tool reduces 'time-to-power' large data centers

4

IHI demonstrates 100% NH3 combustion at F-Class turbine

4

Continued from page 1, top story

connection. Analysts warn that without coordinated planning, rapid data center build-out could undermine regional grid reliability.

Trend towards renewable PPAs

The US Federal Energy Regulatory Commission (FERC) is increasingly wary about the market-distorting impact of rampant AI-driven load growth on the grid. The regulator is trying to establish mechanisms that balance digital infrastructure growth with the government's clean energy goals.

Developers are incentivised to enter renewable power purchase agreements (PPA), but most large-scale data centers require

24/7 electricity supply and hence favour nuclear baseload power or dispatchable fossil power.

Build-out slows as grid logjams bite

Grid bottlenecks, speculative mega-campuses and escalating fossil fuel and electricity prices have substantially slowed the speed of data center additions in the United States. Addition halved from Q3 to Q4 2025 as load-queue challenges persisted.

CAPEX growth from the largest developers, including the established hyperscalers, have slowed in 2026 for the first time since

2023, down to US\$94 billion or merely 58% of last year's growth.

According to Wood Mackenzie figures, capital expenditure remains skewed towards large, speculative projects, with around 2% of planned projects are worth over US\$17 billion. Per-Megawatt costs declined in the fourth quarter from earlier highs.

"Economies of scale continue to hold, with smaller developers disclosing higher per-MW costs than larger developers," analysts explained, but cautioned: "Even as costs per MW declined, however, rack power densification caused the cost per square foot to rise."

EU energy transition investment reaches \$583 trillion

Energy transition investment in the EU has risen by 19% to reach a record \$583 billion last year, driven by electrification of transport, as well as investment in offshore wind and power grid, according to Bloomberg NEF findings.

Spending on electricity transmission networks increased 23% year-on-year to \$105 billion, as grid operators sought to accommodate a fivefold surge in offshore wind financing. "For every dollar invested in renewables, around \$0.6 was invested in European grids from 2020 through 2025," analysts said in a recent report on Energy Transition Investment.

Technologies such as heat pumps, hydrogen and carbon capture centre on the deployment of solutions that mitigate emissions, rather than producing zero carbon electricity outright. Investment in this kind of energy transmission totalled

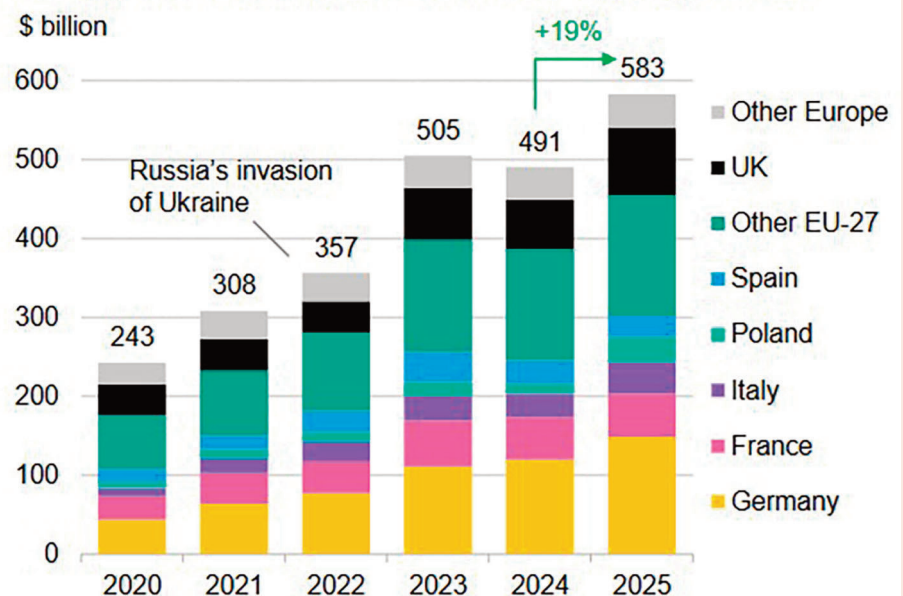
\$2.31 trillion globally, with Europe accounting for \$583 billion of this total.

Clean-tech factories also needed substantial funding, though these monies were primarily raised by companies, or research & development institutions. In 2024, clean tech factory investment totalled \$81 billion global while just a fraction of this total, or \$4.8 billion was spent

in Europe.

Debt, issued by companies or project developers, to fund energy transition activities – either through bonds or loans – totalled \$1.23 trillion globally. The most capital-intensive projects were realised in Asia, North America and the Middle East while Europe made up \$367 billion of this total, a comparatively tiny fraction.

Energy transition investment in Europe, by market



Gas to Power Journal

Publisher
Stuart Fryer

Editor
Anja Karl
anja@gastopowerjournal.com

Advertising
Narges Jodeyri
narges@lngjournal.com

New Business & Databases
Stephan Venter
Tel: +44 (0) 207 017 3407
venter@lngjournal.com

Subscriptions Renewals and
Customer Care
Gabi Weck
gabi@lngjournal.com

Layout & Production
Vivian Chee
vivian@lngjournal.com

Continued from page 1

US Energy Secretary Chris Wright said he was pleased to work SoftBank and AEP Ohio on this important project.

"By bringing new power online and upgrading our existing infrastructure, this investment supports the AI boom and

cutting-edge technologies while strengthening our energy system and helping keep costs down for the American people," he said.

Construction on the project is expected to begin this year.

EU countries urged to begin gas storage refill early

European Energy Commissioner Dan Jørgensen has called on EU countries to begin refilling gas reserves earlier than usual to avoid last-minute pressure on the bloc's energy security ahead of the 2026/27 heating season.

Critics find the Commissioner's appeal seems far-fetched, and may prove difficult to execute as global market struggle to come to grips with the loss of Qatari LNG supply.

Spot LNG prices have surged in recent weeks as European buyers compete with high Asian demand, and available cargoes remain limited.

Italy, Belgium and Poland are, in fact, the EU countries most exposed to supply disruptions from the Middle East, QatarEnergy CEO Saad Sherida al-Kaabi said when he confirmed on March 19 that Ras Laffan Train 4 & 6 were severely damaged by Iranian strikes and QatarEnergy can hence no longer fulfil its contractual LNG production

and export obligations in full.

Jørgensen nevertheless insisted that the EU's energy security is "relatively protected," citing the bloc's diversified supply portfolio and reduced dependence on Qatari LNG compared with countries in Asia. According to the European Commission, less than 10% of EU LNG imports came from Qatar in 2025.

Energy analysts say several EU states remain exposed to disruptions from the Middle East. Italy, Belgium, and Poland rely on Qatari LNG for a notable share of their gas supply, leaving them vulnerable if the pro-

duction issues persist into the summer.

Traders are now having a keen eye on whether European storages, currently around 45% full, can be refilled on schedule before next winter. ■



Europe's largest gas storage in Rehden, northern Germany

Italian PM visits Algeria to more secure pipeline gas supplies

Italy's Prime Minister Giorgia Meloni is meeting Sonatrach executives in Algeria today to discuss additional pipeline gas supplies, after QatarEnergy informed the Italian utility Edison it cannot deliver five contracted cargoes scheduled for early April.

More than 44% of Italy's electricity is generated by gas-fired power stations – substantially more than the EU average at 17% – making the country's economy vulnerable to a sudden spike in gas prices.

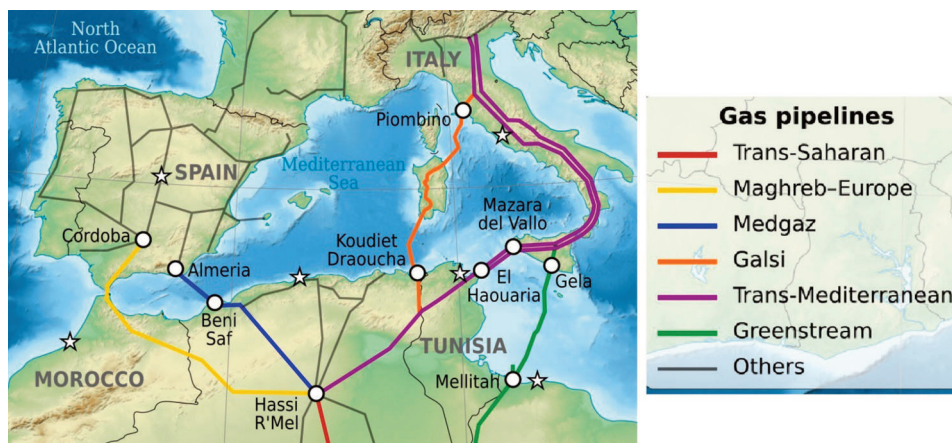
Qatar used to supply 33% of Italy's LNG imports, but had to invoke force majeure on its long-term contracts after Iran's air strikes damages its main liquefaction and export complex at Ras Laffan. Repairs are expected to extend well into the second quarter of 2026.

Italy now needs to replace lost Qatari LNG shipments, which used to cater for 10 percent of Italy's annual gas needs under a 6.4 bcm/y long-term offtake agreement.

Algeria – already Italy's top gas supplier

– is hoped to ramp up deliveries. State-owned Sonatrach is currently covering up to 36 percent of Italy's gas imports via the TransMed pipeline, with a capacity of 33.5 bcm/y built back in the 1980s. In addition, Algeria also supplies some 10% of Italy's LNG imports.

Market observer noted there is potential for a 9 bcm/y increase of Algerian pipeline gas deliveries, as negotiated in prior meetings between Meloni and her Algerian counterpart, President Abdelmadjid Tebboune. This accord builds on 2022 Draghi-era deals that helped displace Russian supplies post-Ukraine invasion, with Eni-Sonatrach expanding gas production at fields like Berkine and South Hassi R'Mel. ■



Supply squeeze sends NBP soaring

"Europe is approaching the time of year where it seeks to refill gas storage ahead of the winter. In parallel, it seems likely there will be further attacks in the gulf region. It's likely that wholesale gas prices in Europe could roughly double with risk that there will be competition for LNG cargoes between Asia and Europe in the coming months," said Tobias Federico, Chief Analyst at Montel Analytics.

Seasonal demand, combined with geopolitical risk and supply shortages, are key drivers behind the projected spike. Europe is entering the critical period when countries begin refilling gas storage ahead of winter, a process that typically boosts demand across the continent. At the same time, the risk of further attacks in the Persian Gulf region threatens to disrupt global energy supplies.

"The question now is not if the 17% of the Qatari exports can be compensated for or not. The US can easily compensate for that lost supply in the next few years," he said, warning the real worry is what future damage will happen as the war goes on. ■

EPRI tool reduces 'time-to-power' large data centers

The Electric Power Research Institute (EPRI) has launched Flex MOSAIC – a flexibility classification framework for large electric loads – with a view to accelerate the grid-connection of large data centers in the U.S.

The voluntary framework – developed together with more than 65 utilities, TSO, regulators, hyperscalers, and technology providers – establishes a shared, credible way to define flexibility from large loads — particularly data centers — based on the magnitude, timing, duration, and frequency of their response.

"As demand from AI and data centers grows at unprecedented speed, flexibility is becoming the third leg of the speed-to-power stool, alongside generation and transmission," EPRI President and CEO Arshad Mansoor said, suggesting the new framework would allow stakeholders to have a common language about flexibility by defining practical performance

characteristics.

MOSAIC defines and measures how fast a load can respond, how long adjustments can last and how much electricity can be reduced or shifted. These metrics are classified for utilities, TSOs and data centers to be applied consistently across regions.

"Technically grounded definitions of flexibility are critical for reliability – especially since large, flexible loads play a growing role in the power system," said North American Electric Reliability Corporation President Jim Robb. A common framework, in his view, fosters better understanding between grid operators and planners which is vital for maintaining a reliable grid.

Initial framework participants include

Alliant Energy, Arizona Public Service, California ISO, El Centro Nacional de Control de Energía (CENACE), Compass Datacenters, Constellation Energy, DTE Energy, Entergy, Exelon, Georgia Transmission Corporation, Google, Honeywell, Independent Electricity System Operator (IESO), ING, Jenbacher,

Korea Power Exchange (KPX), are also on board, along with KPMG, LG Pado, Lincoln Electric System, Lower Colorado River Authority, Meta, Midcontinent Independent System Operator (MISO), Nebraska Public Power District, NERC, NVIDIA, Portland General Electric, PSEG, Rayburn Electric, Salt River Project, Siemens, Southern Company, Southwest Power Pool and United Power. ■

IHI demonstrates 100% NH3 combustion at F-Class turbine

Japan's IHI Corp has successfully demonstrated 100% ammonia combustion for GE Vernova's F-Class gas turbines. Test runs used full-scale components at pressures, temperatures and flows matching full-load conditions with the aim of commercial deployment by 2030.

The demonstration was conducted at IHI's purpose-built test facility in Japan, engineered to replicate GE Vernova's F-class gas turbine operating conditions.

"An essential piece of the ammonia value chain is now coming into place," said Noriaki Ozawa, IHI Managing Executive Officer and President of Resource, Energy & Environment Business Area.

Since the signing of the joint develop-

ment agreement in 2024, GE and IHI have intensified their cooperation which culminated in 100% ammonia combustion in a full-scale F-class gas turbine. This achievement helps reinforce the decarbonization roadmap envisioned by our IHI's customers in the Japanese power sector and beyond.

GE Vernova's Carbon Solution leader, Jereme Wetherby said the US manufacturers sees "significant potential for ammonia as a carbon free combustion fuel." ■



Test stand demonstrating ammonia combustion at GE turbine

NEWS NUDGES

GE, Hitachi invest \$33bn in gas power projects

GE Vernova and Hitachi Group have decided to invest a \$33 billion investment in gas power projects, with \$17 billion set to fund the 4.3 GW South Mon project in Pennsylvania and a further \$16 billion for the 5.2 GW gas-fired plant in Anderson County, Texas. The first of investment included a separate \$33 billion, 9.2 GW gas-fired power project near Portsmouth, Ohio, led by SB Energy, a subsidiary of Soft-Bank.

Siemens expands US manufacturing capacity

Siemens is investing more than \$165 million to expand US manufacturing capacity of power grids and other electrical infrastructure in the face of the rapid build-out of data centres. The latest investment builds on nearly \$700 million Siemens committed over the past several years to expand electrical products facilities in Pomona, California, and Fort Worth, Texas.

LNG Journal Subscription Package

Your LNG Journal subscription includes broad coverage of LNG across the globe – from trade and shipments through to LNG prices, plus in-depth technical coverage. With over 20 years of LNG reporting experience, we remain the market leading source of information for decision makers in the LNG industry.

LNG Daily News

Delivered to your inbox and online



LNG Journal

The flagship LNG monthly



LNG Unlimited

Your fortnightly summary of LNG news



LNG Market Tracker

Weekly empirical insight into the LNG market



LNG North America

Bi-monthly report on LNG in the US, Canada



LNG Transition

Quarterly in-depth look at LNG as a transition fuel



LNG Shipping News

Fortnightly coverage of LNG shipping



LNG Asia

Bi-monthly review of LNG in Asia



LNG Monthly Markets

Key developments in LNG markets



Gas to Power Journal

Peakload power and energy storage



Subscription Contacts

For new subscriptions or general subscription queries please contact:

Lauren Evans
lauren@lngjournal.com

To renew an existing subscription or to upgrade your package, please contact:

Gabi Weck
gabi@lngjournal.com

*Sign up now for an Online Subscription at only
US\$1240; €960 or £860*

Discount options are available for multi-users

Contact us for more information or to arrange a free trial