Clifford Chance

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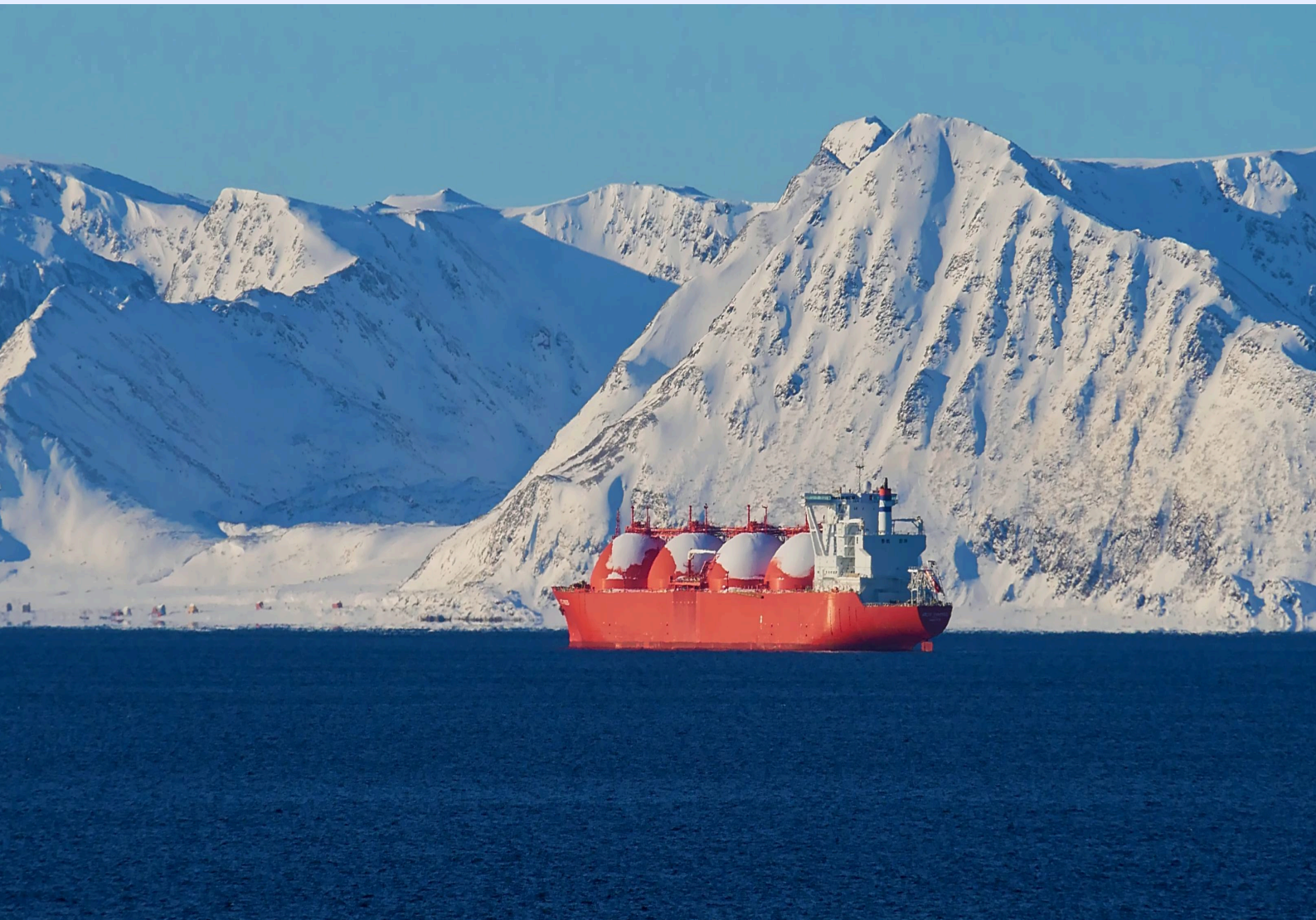
Thought leadership
Energy & resources insights 2026



Energy & resources insights 2026

Where are the opportunities for investment and growth in an increasingly complex geopolitical landscape? Energy security and affordability are a top priority for governments around the world, and the demand for clean energy remains strong, with renewables accounting for an increasing share of electricity generation. In this article we explore where we see the opportunities for investment, from grid expansion and new nuclear build to liquefied natural gas (LNG).

Key takeaways

1. Across energy, resources and infrastructure, hybrid capital, private investment and evolving funding models are expanding the financing toolkit to support capital-intensive projects and manage risk.

2. Geopolitical disruption and price volatility is increasing the focus on energy security and global supply chains, including critical minerals, with governments actively supporting diversification. These efforts are central to industrial policy, resilience and the pace of the energy transition.

3. Grid capacity and access to power are critical for meeting rising demand and net zero trajectories, requiring investment at scale. Innovative models are providing solutions for offshore grids, large-load interconnection and data centres.

1 Hybrid capital: expanding the private capital toolkit for energy, resources and infrastructure

Hybrid capital structures spotlight: Hyperion Data Center, Louisiana

Clifford Chance advised funds and accounts managed by Pacific Investment Management Company LLC (PIMCO) as majority investors in a US$27.3 billion private securities offering by funds managed by Blue Owl Capital. The capital raised will be invested into a joint venture with Meta Platforms, Inc. (Meta) to finance the development and operations of the 2,700-acre Hyperion Data Center in Richland Parish, Louisiana.

Funds managed by Blue Owl Capital will own an 80% interest in the joint venture, with Meta retaining the remaining 20% ownership. The parties have committed to fund their respective pro rata share of the total development costs for the buildings and long-lived power, cooling and connectivity infrastructure at the campus.

Energy, resources and infrastructure projects are typically capital intensive and require material upfront investment during development, construction and ramp-up before they start generating predictable, long-term cash flows. Increasingly, hybrid capital structures that sit between senior debt and common equity are expanding the private capital toolkit available to meet these funding needs.

By tailoring exposure to development and construction risk, merchant price risk, volume risk, regulatory risk and refinancing risk, hybrid capital can unlock non-bank capital for projects that may otherwise face funding constraints. It can also support 'capital-light' development strategies and, in some structures, facilitate balance sheet deconsolidation.

Preferred equity can deliver capital during development, construction and ramp-up while preserving common equity upside for developers. For private capital providers, these preferred positions offer a contracted rate of return while at the same time protecting the downside case through distribution priorities, cash sweeps and liquidation preference, as well as enhanced governance and information rights.

Structured joint ventures and strategic partnerships between developers and private capital providers allow developers to recycle capital, pursue capital-light growth and strengthen their balance sheets by selling down stakes in operating assets or bringing new capital into development pipelines. These partnerships are typically underpinned by contracted, regulated or availability-based revenue frameworks.

Alongside specialist private credit funds, a notable trend is the rise of insurance and reinsurance-backed capital channelled through major asset managers. Insurance capital can be particularly competitive for assets with predictable, long-dated cash flows and robust documentation aligned to asset-liability management needs, supported by strong security packages, conservative leverage and clear cash flow waterfalls.

2

Securing critical minerals to strengthen energy security

With extraction and processing of critical minerals dominated by China, others, including the US, the EU and the UK, are taking action to secure resilient supply chains – including investing in assets globally and supporting the development of local mining and processing.

The tightening of Chinese export control measures during 2025 has demonstrated that, while the size of the market for strategic minerals is relatively small compared with other commodities, supply disruption can have a significant impact on manufacturing – automotive manufacturers have slowed production and some renewable energy projects face delays.

China has now suspended its export controls on rare earths and other critical minerals until November 2026. However, supply for military use or dual-use items remains challenging. China's 15th Five-Year Plan (2026-2030), published following the National People's Congress in March 2026, confirmed an expected continued focus on strategic industries and new infrastructure, meaning that critical minerals will remain a priority.

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In Europe, the US, the Middle East and Australia, new extraction and processing projects are emerging, with particular interest in conversion. The EU aims to facilitate permitting and cut some red tape, and there is focus on brownfield projects. In the Middle East securing the supply of raw materials is a priority in addition to developing local capacity.

The US is also developing support for long-term offtakes, for example, the US Export-Import Bank's Project Vault, establishing a public-private strategic critical minerals reserve in the US. Under the scheme manufacturers will pay a commitment fee in exchange for access to materials during supply disruptions insulating them for price volatility.

Across the battery supply chain, the first generation of zero-impact-residue spodumene to lithium carbonate and hydroxide conversion plants are coming online in the US and Europe. Data from these plants is supporting the development of others, which will help to reduce reliance on Chinese conversion. Similarly, geothermal direct lithium extraction plants are being developed in Europe. As battery-grade lithium prices rise towards levels that make project development viable again, interest in green lithium projects is returning. The challenge is whether projects previously put on hold can restart quickly enough to meet expected demand.

Indonesia dominates the nickel market, but there is regulatory uncertainty as new rules are introduced to limit new nickel production that is not also associated with more battery value chain developments in-country. The new rules appear to be within the context of perceived oversupply and continuing government control over mineral revenues.

Supply gaps in uranium and rare earths production and conversion will continue to be a risk throughout 2026, with new capacity coming to market slowly. African producer countries (Namibia for uranium and Malawi, Tanzania, South Africa and Madagascar for rare earths) are likely to play a significant role in diversification strategies.

Across geographies and metals, government support for these projects is critical if the massive private investment that is required in the longer term is to be secured. Regulations and permitting, construction lead times, technical complexity and technological advancements mean that private investors are wary of providing capital. The US government is making significant changes to the way that it provides support, with Project Vault now sitting alongside more traditional guarantees, export credit support and direct investments. The UK's new Critical Minerals Strategy includes financial support via UK Export Finance (UKEF), the National Wealth Fund and the British Business Bank.

3

Scaling up the grid

The scale of investment needed for grids across the world is enormous. It is estimated that US$21.4 trillion of global grid investment is needed to support the net-zero trajectory to 2050. Grids are the backbone of electricity systems, and capital is needed to upgrade aging infrastructure, enable the wider scaling of renewables, provide resilience against extreme weather and meet the demands of energy security and energy affordability.

The challenge for investors is that grids are highly regulated and regimes differ greatly from jurisdiction to jurisdiction. An opportunity to invest in a high-voltage direct current (HVDC) cable, which is essential for modern grid operations to transport electricity from offshore wind farms or between neighbouring countries, will look very different from one country to another, even within Europe or the US.

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Many European countries, for example, grant a transmission system operator (TSO) a monopoly over grid assets in an area, with all private investment in such assets required to go through the TSO. Others are able to develop alternative models; for example, Britain has introduced mechanisms designed to facilitate direct private investment and increase returns:

- OFTO (Offshore Transmission Owner) regime has successfully attracted private investment from institutional investors, infrastructure funds and strategic investors at low costs of capital by competitively tendering the ownership and operation of transmission assets connecting offshore wind farms to the grid. There is now an active secondary market for OFTOs.
- Building on the OFTO regime, Britain is introducing Competitively Appointed Transmission Owners (CATOs). These are intended to boost private investment in onshore networks by introducing competition earlier in the project life cycle, before detailed design and planning. This means CATOs face greater construction and delivery risks compared with OFTOs, which take over assets post-construction. Ofgem, the energy regulator for Great Britain, plans to consult on the CATO licence in early 2026, with the first CATO selection expected in the summer.

While grid investment is a global problem, TSOs in the North Sea region are leading the way in developing innovative solutions that could be applied elsewhere. The 'cap and floor' regime in Belgium, Britain and the Republic of Ireland has already unlocked private investment in interconnection by combining a stable and predictable revenue floor with a degree of exposure to upside, and further developments in this area are on the way. Currently, offshore wind farms connect directly to their home grids, and interconnectors move electricity between countries. This point-to-point approach will not suffice for the necessary scale of offshore renewables. Offshore Hybrid Assets (OHAs), which combine offshore generation with cross-border transmission, offer efficiencies with fewer landfall points, reduced costs and less environmental impact. However, there are regulatory challenges and, given the enormous capital requirements, it will be difficult for the TSOs to finance such infrastructure on their balance sheets.

To meet these challenges, the Offshore TSO Collaboration was formed to bring together North Sea TSOs to work with governments, offshore wind developers, commercial grid infrastructure developers and hydrogen infrastructure developers to focus on regional planning for the development of an offshore grid in the North Sea, incorporating OHAs with co-located wind, storage and offshore consumption. Elia Group, an Offshore TSO Collaboration member, has proposed innovative offshore grid financing solutions, specifically splitting the ownership and operation of the grid project from its financing, employing a 'double SPV' approach to preserve compliance with differing national regulations while mobilising private capital at scale.

4

The nuclear comeback

The IEA predicts that installed nuclear capacity will increase at least one third by 2035. More than 40 countries have plans for expanding the use of nuclear power, with over 70 GW currently under construction. Nuclear expansion and restarts span advanced and emerging markets alike, with renewed commitments in the US, the UK, France, Poland and EU Member States, alongside buildouts in China, Korea and India, and restarts in Japan. Life-extension projects can be achieved more quickly and at a lower cost than building new plants, and some plants could achieve extensions of 20 or more years. However, bringing older plants back online or extending their operational life is challenging; for example, due to dated technologies and the age and condition of materials and equipment.

A key differential in the nuclear sector is the high level of international cooperation that exists. Maintenance and consolidation of established relationships will be critical to the development of the next generation of projects and to ensure continued investment. However, supply chain constraints, both for components with long lead times and fuel, remain material even as policy support ramps up. Long-term uranium prices are rising. Disruptions in Kazakhstan and Niger have exacerbated supply issues, while countries are seeking greater control and ownership over their nuclear fuel supply value chains (in part to reduce reliance on Russian fuel).

Governments are responding to these challenges. The US issued four executive orders in May 2025 to fast-track licensing, accelerate reactor testing, enable the rollout of small modular reactors (SMRs) (<300 MWe) and microreactors (<20 MWe) for national security, and target 400 GW of nuclear capacity by 2050 (read more in our briefing: Reforming, reinvigorating, deploying: Nuclear energy in the US). The EU's 2025 REPowerEU roadmap sets out a phased exit from Russian nuclear fuel and diversification of enrichment and conversion. France's national revival is anchored by EDF's EPR2 programme – six new units with the option for eight more – while Poland has launched its first large-scale civil nuclear programme.

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Funding models are emerging to help secure more private finance alongside government support for capital-intensive nuclear projects. The Sizewell C project in the UK reached financial close using a regulated asset base (RAB) model, which provides the project with a ratepayer-funded regulated income stream throughout construction and operation (not just post-completion). The RAB model's construction phase revenue stream is intended to reduce costs of capital materially during a very long construction period by providing revenues sufficient to service debt prior to commercial operation of the plant. The US has announced an US$80 billion Brookfield-Westinghouse-Cameco partnership to build a new fleet of reactors for future power demand, including data centre growth. The World Bank Group-IAEA partnership (2025) marks the bank's first re-engagement with nuclear in decades, a first step towards providing multilateral support for safe, secure use of nuclear power in developing countries.

Tech companies have recognised the benefits of nuclear energy, entering into discussions around private wire agreements, and driving investment into SMRs and microreactors, to maintain energy security via direct power supplies and to meet ESG targets. The financial strength of the tech sector should attract funding for such projects, but government approvals, support and commitment to nuclear power are critical to their success. In the UK, Great British Nuclear has selected Rolls-Royce SMR as the preferred bidder in the UK's SMR process, and in the US private developers have publicly committed to various projects rolling out SMR and microreactor technology.

Further innovation in reactor technologies is underway. The US has fast-tracked the Nuclear Regulatory Commission (NRC) review of TerraPower's advanced sodium-cooled Natrium reactor, a pioneering technology which can boost the system's output from 345 MW to 500 MW when needed, and which is also currently undergoing regulatory approval in the UK.

5 The continuing rise of US LNG

February 2026 marked ten years of US liquefied natural gas (LNG) exports. In that time, the US has transformed from a net importer to the world's largest exporter of LNG, achieving the world's fastest and biggest LNG capacity buildout to date – over 100 mtpa in less than a decade. US LNG continues to expand at record pace, with US LNG export capacity set to triple by 2030.

US LNG growth to date has been enabled by several factors, including a historically stable regulatory environment, abundant and low-cost gas, the successful development of key infrastructure such as pipelines, flexible contracting models and robust international demand (particularly following the invasion of Ukraine in 2022 and now the conflict in the Middle East). While global demand for LNG and reliance on US LNG continue to grow, developers now face a more complex and competitive market than ever, creating a unique opportunity for well-structured projects and private capital.

The global LNG market continues to evolve rapidly. Sustained investment in global LNG infrastructure has intensified competition and could drive more flexible terms and lower prices. Significant capacity expansions are underway in Qatar, the US, Canada, Mexico and across Africa. In addition, approximately 130 mtpa of LNG currently sold under legacy long-term contracts will be up for renewal between 2025 and 2030. On the other hand, the 2026 closure of the Strait of Hormuz has effectively taken roughly one-fifth of global LNG exports offline, sending buyers towards US LNG and prices skyward. Damage to facilities in Qatar will take time to recover. US LNG operators are already running at maximum capacity and new capacity will also take time to come online, resulting in prolonged competition and a race to build new US LNG export capacity.

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2025 was a record year for US LNG. Contracting activity was more than four times higher than in 2024. Six US projects reached final investment decisions, representing 60 mtpa of new capacity, although just one was a greenfield (new) project. This highlights the challenges facing new developments: rising construction costs, competition for gas supply and offtake, regulatory uncertainty and financing constraints as banks grow more cautious about greenfield risk.

Having resources and infrastructure is not enough. Delays in building new pipelines, storage or shipping channel access could slow growth. While US gas prices have been stable, rising demand, infrastructure bottlenecks and geopolitical events (as mentioned above) continue to drive prices higher.

US LNG developers face a shifting regulatory landscape. With a pro-energy administration, there is urgency to secure permits and reach final investment decisions. Changes to taxes and tariffs, challenges to existing permits and new global environmental rules (such as the EU's proposed Methane Regulation (2024/1787)) are adding complexity. Robust transaction structuring and preparation is more important than ever.

Private capital is poised to play a leading role in the next phase of US LNG growth. In the case of greenfield projects, while commercial banks remain cautious about greenfield exposure, private capital investors, who can move quickly and take a pragmatic approach to certain project risks, are well-positioned to fill the gap. In addition, some early investors in the current 100 mtpa and more of operating LNG export capacity may look to sell down or exit, with private capital a well-suited buyer given the large-ticket sizes and high-quality, predictable cashflows.

The US LNG sector has transformed the global energy landscape in just a decade. The path forward will be shaped by competition, regulation and the ability to deliver projects efficiently. For developers and investors who can navigate this environment, the opportunities remain significant.

6

Powering data centres

Demand for electricity is expected to grow by around 40% to 2035 (source: IEA), thanks to the electrification of transport, manufacturing, space heating/cooling and data centres. While the scale and demands of AI growth are still uncertain, data centres are expanding rapidly and increasing in scale, bringing significant increases in power demands. Connecting these facilities to the grid can be difficult due to capacity constraints and slow interconnection processes. In the most mature data centre markets in Europe – Frankfurt, London, Amsterdam, Paris and Dublin (the "FLAP D" hubs) – connection queues are reported to average seven to ten years, making time-to-power as critical as time-to-build. As a result, developers, investors and hyperscalers are exploring a more diverse portfolio of power solutions.

Tech companies are partnering with power developers, taking equity stakes that give them offtake rights to provide their businesses with low carbon power. Power developers are also expanding into the data centre market. Other innovative approaches include 'behind the meter' generation, where power is produced on-site or nearby to avoid grid delays, and portfolio PPAs, where hyperscalers commit to buying power from multiple projects.

Many data centre operators and customers are focused on sustainability of power sources and efficiency of operation, particularly hyperscaler customers, who often have ambitious internal sustainability targets and corresponding reporting requirements. In the EU, the current measures promoting energy efficiency (including the Green Industrial Deal and the Energy Efficiency Directive) and requirements for regular reporting on sustainability KPIs (in particular, the Corporate Sustainability Reporting Directive) are widely expected to lead to more requirements prescribing sustainability targets – something already adopted by Germany, where the Energy Efficiency Directive has been transposed to require data centres to source 50% of their energy from renewable energy sources, to be increased to 100% from 2027. At EU level, the recast Energy Efficiency Directive has also introduced sector-specific mandatory public reporting requirements for data centres above 500 kW and the first phase of an EU rating scheme.

Nonetheless, the reliability of base load power is the most import criterion. Gas is often the fastest solution to rollout and the most scalable option. In the US, this has led many data centre developers to explore co-located gas-fired generation solutions, either as a permanent solution or a 'bridge-to-interconnection'. However, additional demand for gas turbines is straining supply chains. Nuclear energy will play a part in the longer term, particularly in the US. SMRs could unlock faster deployment both in the US and elsewhere, but this technology is unlikely to ease near-term constraints materially before the 2030s.

In APAC, data centre expansion is driving investment in renewables – particularly solar and BESS – to supplement grid power, which still underpins most large developments. Australia and India are leading the region, while other markets are catching up in building renewables at sufficient scale to meet data centre demand. Singapore's plan to import around 6 GW of low-carbon electricity from neighbours (including Indonesia and Malaysia) illustrates how data centre growth is catalysing major power projects, many of which are expected to be financed on the basis of direct or indirect offtake by data centre operators. Singapore's Green Data Centre Roadmap, which is demanding more sustainable developments, shows how regulation and customer requirements can shape power solutions. In parallel, and while next-generation renewables are still being developed, Singapore is turning to nearer-term cleaner options, including a proposed biomethane-powered data centre park and expanded LNG import capacity to support the resilience of gas-fired generation.

In the US, policymakers and regulators are increasingly focused on grid modernisation and how to accommodate rapidly growing electricity demand from data centres and other large loads. The US Department of Energy (DOE) has directed the Federal Energy Regulatory Commission (FERC) to issue a rule that would provide large loads with a path to connect directly to the transmission system – potentially shifting elements of the process from state-regulated retail frameworks to federal oversight in order to accelerate grid access for facilities such as hyperscale data centres. At the same time, FERC has begun addressing practical challenges associated with powering these facilities through targeted proceedings and orders, including proceedings involving the PJM Interconnection, LLC market – one of the largest markets in the US. These developments reflect a broader trend toward treating demand from data centres, often exceeding hundreds of megawatts, as a system-planning consideration rather than solely a retail load issue, prompting regulators and market operators to consider how best to co-ordinate federal and state oversight, allocate transmission upgrade costs and accommodate dedicated or co-located generation solutions for large customers.

To read more insights about data centres, see our publication Data Centres & AI Compute Infrastructure Insights 2026.

What's next?

Clean technologies and clean fuels will continue to drive growth
Record growth in energy storage in 2025 is continuing into 2026, and battery energy storage systems (BESS) are becoming central to the energy transition. It has been predicted that there will be 7.3 terawatt hours of installed energy storage capacity worldwide by 2035, an eightfold increase on 2025. Revenue models have diversified, and developed markets have moved from standalone BESS towards portfolio and platform financing. Going forward, the data centre boom will be significant for this sector because BESS, paired with renewables, can provide the stable power supplies that data centres need.

Distributed energy assets such as rooftop solar, battery storage, EV charging and smart meters are playing an increasingly important role in decarbonisation. As policymakers address grid upgrades and capacity constraints, these small assets provide resilience by being located near consumption points for households or businesses, often operating 'behind-the-meter'. This shift reduces costs and offers additional income streams. Strong regulation and long-term rental agreements will be vital to attract financial investors to the sector.

The growth of the clean hydrogen and ammonia market is more measured than anticipated, due to cost, supply chain and policy barriers. However, in the US blue ammonia projects are moving forward under the 45Q tax credit. Investors may look to prioritise industrial offtake, such as refining and chemicals, where hydrogen is already being used and can be decarbonised faster with lower integration risk, and focus on associated infrastructure, such as ports.

In Europe, the ReFuelEU regulations are facilitating a clear path forward on sustainable aviation fuel (SAF), requiring fuel suppliers at EU airports to blend from last year, which will underpin long-term demand and investment. Second-generation plants will integrate carbon capture into their processes, with, for example, the UK's SAF mandate incentivising further carbon reductions by awarding certificates for lower carbon intensity.

The One Big Beautiful Bill Act (OBBBA) in 2025 represented a change in direction for US energy policy, with a focus on domestic energy production and strong federal investment through the new Energy Dominance Financing Office. While tax credits for wind, solar PV and electric vehicles are being phased out, there is strong support for nuclear and geothermal energy. Growth in data centre development and batteries is driving investment. As the Trump administration continues to advance its expressed goals of reducing energy-related regulatory compliance burdens, further changes can be expected, and state-level regulatory complexity remains a key bottleneck.

Amid volatile energy prices, we expect to see continuing concerns around national security, energy security and control of supply chains impacting investment flows.

Contacts

Global Contacts

Clare Burgess
Partner, London
clare.burgess@cliffordchance.com
+44 207006 1727

Nicholas Hughes
Partner, London
nicholas.hughes@cliffordchance.com
+44 207006 4621

Russell Wells
Partner, London
russell.wells@cliffordchance.com
+44 207006 2628

Nadia Kalic
Partner, Sydney
nadia.kalic@cliffordchance.com
+61 2 8922 8095

David Sweeney
Partner, Houston
david.sweeney@cliffordchance.com
+1 713 821 2829

Contributors

Gianluca Bacchiocchi
Partner, New York
gianluca.bacchiocchi@cliffordchance.com
+1 212 878 3256

Tom Capel
Counsel, Singapore
thomas.capel@cliffordchance.com
+65 83990481

Mark Gillgren
Partner, Perth
mark.gillgren@cliffordchance.com
+61 8 9262 5543

Eleanor Hooper
Knowledge Director, London
eleanor.hooper@cliffordchance.com
+44 207006 2464

Mike Niekoop
Counsel, Amsterdam
mike.niekoop@cliffordchance.com
+31 20 711 9143

Bryony Theaker
Partner, London
bryony.theaker@cliffordchance.com
+44 207006 2162

Edward Bretherton
Partner, London
edward.bretherton@cliffordchance.com
+44 207006 4856

Nicolas Cookson
Partner, Düsseldorf
nicolas.cookson@cliffordchance.com
+49 211 4355 5247

Marcia Hook
Partner, Washington DC
marcia.hook@cliffordchance.com
+1 202 912 5116

Alexander Leff
Partner, Houston
alexander.leff@cliffordchance.com
+1 713 821 2804

Alex Pennington
Senior Associate, London
alex.pennington@cliffordchance.com
+44 207006 3583

Clifford Chance

cliffordchance.com

Clifford Chance, 10 Upper Bank Street, London, E14 5JJ

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