Opportunity and operational complexity in a changing energy market

Energy security is topping political agendas and as energy demands continue to rise there's greater urgency to build energy infrastructure that is efficient, resilient, affordable and environmentally sound. Pete Blackburn highlights where private markets investors are unearthing opportunities and how operating models need to adapt

The energy transition remains one of the most significant long-term investment themes in global infrastructure. It is an investment story with a broad industrial, geopolitical and economic narrative that covers how the world produces, stores, transmits and consumes energy in a period of rising demand and fragile energy security.

Today, the opportunity extends well beyond renewable generation into grids, storage, industrial decarbonisation and energy-security assets, and so managers are balancing a growing opportunity set with increasing operational complexity.

Recent geopolitical tensions too have reinforced the vulnerability of global energy supply chains, highlighting the need for energy systems that are less exposed to external disruption.

The International Energy Agency's (IEA) World Energy Investment 2026 estimates that global energy investment will reach $3.4 trillion in 2026, with electricity-related spending already accounting for nearly 60% of global energy investment.

As strategies evolve, portfolios are more likely than ever to span multiple asset types, jurisdictions and ownership structures, placing greater demands on governance, reporting and operational scalability.

How rising demand for electricity is creating opportunity

The IEA reports global electricity demand is growing rapidly as industry, transport and buildings electrify, while new sources of demand, including artificial intelligence, data centres, advanced manufacturing and cooling, are placing additional pressure on power systems.

For investors this creates opportunities beyond renewable generation assets to include the wider infrastructure required to support a more electrified economy, such as grid expansion, battery storage, industrial electrification, critical minerals and demand-management technologies.

BloombergNEF's 2026 energy transition investment report recorded $71 billion of investment in energy storage in 2025, while grid investment rose 17% to $483 billion.

The opportunity is increasingly centred on the wider energy ecosystem and assets that support the movement, storage and management of electricity are becoming just as important as those that generate it.

Why grids and transmission are investable bottlenecks

One of the most immediate investment needs is grid infrastructure, with the IEA's Electricity 2026 report describing grids as a critical bottleneck, with more than 2,500 GW of renewable, large-load and storage projects stalled in grid queues worldwide.

This creates opportunities across the value chain, as well as an additional opportunity in the timing mismatch between energy generation and energy distribution. New solar, wind, data centre and EV-charging projects can often be developed faster than major grid infrastructure, where planning, permitting and construction may take years. That imbalance is creating demand for interim solutions such as battery storage and grid-enhancing technologies.

The growing importance of these assets is also changing portfolio construction. Investments frequently involve multiple operating entities, project-finance

structures, cross-border arrangements and long-term revenue models, increasing the importance of consistent data, reporting and oversight.

How nuclear is returning to the investment conversation

Nuclear energy is again being discussed as part of the energy transition because it can provide large-scale, low-carbon power. While not a substitute for cheaper renewables, it can complement them by providing reliable baseload electricity in systems with rising demand and intermittency.

Governments across the UK, Europe and the U.S. have signalled renewed support for nuclear development, including both conventional reactors and emerging small modular reactor technologies. For example, in July 2025 the UK's Sizewell C project reached Final Investment Decision, with an estimated capital cost of around £38 billion. Once operational, Sizewell C is expected to supply electricity equivalent to the needs of six million homes for at least 60 years.

In the U.S., the Nuclear Innovation Alliance reported in 2026 that TerraPower's Natrium reactor in Wyoming and Kairos Power's HERMES II project in Tennessee had moved into nuclear-side construction activity, while HERMES II is expected to provide power to a Google data centre through a power purchase agreement with the Tennessee Valley Authority.

In Europe, the European Commission's 2026 nuclear investment work states that the EU will need significant nuclear investment alongside renewables, efficiency and grids, estimating around €241 billion of nuclear investment needs to 2050 for lifetime extensions and new large-scale reactors. The Commission has also set out a strategy to bring the first European small modular reactor projects online by the early 2030s.

While nuclear remains a relatively small part of many infrastructure portfolios, its re-emergence reflects a broader focus on energy security and diversification.

How industrial energy is creating new transition opportunities

Heavy industry remains one of the hardest areas to decarbonise, but also one of

the most important.

This is creating opportunities across industrial electrification, energy-efficiency technologies, clean fuels, carbon management solutions and on-site power generation.

BloombergNEF reported that global energy transition investment reached a record $2.3 trillion in 2025, with investment spanning electrified transport, renewable energy, grids, storage, clean industry, carbon capture, electrified heat and other transition sectors.

As investment expands across a broader range of technologies and asset classes, the volume of financial, operational and sustainability data continues to grow. Meeting more demanding investor expectations depends on the ability to capture, standardise and report information efficiently across complex portfolios.

How energy policy shapes the market

Policy continues to be an important enabler, even where investment conditions are becoming more complex.

Clean energy production and industrial decarbonisation investment reached $25 billion in Q1 2026, a 15% increase compared with Q1 2025, proving that while policy changes can influence deployment timelines, the underlying drivers of electrification, energy security and industrial competitiveness remain intact.

In Europe, the European Commission’s nuclear investment programme, SMR strategy and wider Clean Industrial Deal all point to an approach that combines renewables, nuclear, grids, efficiency and industrial competitiveness rather than relying on a single technology pathway.

For managers, this reinforces the importance of operating models that can adapt to evolving regulatory frameworks, new structures and the varied requirements of a diverse investor base.

How to manage complexity as opportunity broadens

The next phase of the energy transition is likely to broaden well beyond

renewable generation alone, including more of the infrastructure required to support an increasingly electrified economy.

The strongest investment cases are likely to be those that can answer three questions at once:

- Does the asset support rising energy demand?
- Does it improve system resilience?
- Does it contribute to a more efficient and environmentally sound energy system?

In a market where geopolitical volatility is an embedded feature, the complex energy transition will continue to be a powerful source of long-term investment opportunity. However, success will depend not only on identifying attractive assets, but also on building operating models capable of supporting diverse structures, sophisticated investor reporting and long-duration investment strategies.

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