

Energy transition trends



Overview

We are seeing the start of a global economic transformation. Even though this evolution has been decades in the making, it is now gathering momentum. After years of debate and activism, the policy and financial environment needed to support bold investment in sustainability is finally falling into place.

Whilst there is a growing realisation of the opportunity this systemic change presents, many challenges still remain, including navigating a labyrinth of swiftly evolving regulations. Within this intricate landscape, we identify ten trends for investments and transactions in the energy transition space that will be relevant throughout 2025 and beyond.



Just transition

Emerging markets view the 'Just Transition' as essential for achieving sustainable development while ensuring social equity. They recognise the importance of transitioning to greener economies but are concerned about the potential economic and social impacts on workers and communities dependent on fossil fuels and traditional industries. The focus is on creating sustainable jobs, enhancing skills through education and retraining, and ensuring social protections to mitigate these impacts.

However, emerging markets face challenges such as limited financial resources, infrastructure, and technological capabilities. Therefore, they emphasise the need for international support, investment, and technology transfer to facilitate a fair and inclusive transition.

This approach aims to balance environmental goals with economic growth and social stability, ensuring no one is left behind.



ESG in energy transition

The ESG regulatory landscape has proven to be a headwind for the market, with research showing ESG regulations have increased by 155 percent over the past decade. Much of the regulatory focus has been on climate-related disclosures and preventing greenwashing.

A growing focus area for regulators is mandating transition planning. With the IFRS Foundation taking over responsibility for resources developed by the UK Transition Plan Taskforce (TPT), it's likely regulators will look to embed disclosure requirements into their existing frameworks.

The market is awake to this trend, with CDP reporting a 44% increase in companies disclosing having a 1.5°C-aligned climate transition plan.

There's also huge opportunity created by ESG regulatory trends in encouraging transition finance. For example, the Singapore-Asia Taxonomy was a global first by introducing a "transition" category, supporting the market to identify and invest with credibility into transition projects.

As investors and regulators look to refine and implement their ESG strategies and create their transition frameworks, they are increasingly looking to diversify and invest where finance is needed most.

Transmission / Smart grids

There has been a marked uptick in efforts being made to implement detailed planning, refine financial models, and strengthen regulation at the levels of utilities, power pools, and multilateral institutions across all African nations and regions to enhance transmission capacity.

This is set to unlock new Independent Power Producer (IPP) opportunities, facilitate the integration of additional wind and solar energy, stimulate trade to make generation projects more financially viable, and importantly, supply electricity to a greater number of businesses and individuals.

This will not only improve lives but also spur economic expansion. The crucial challenge lies in securing substantial investment to reach these goals.

Energy storage

Innovative solutions such as project hybridisation and the implementation of battery storage are being explored to address issues related to the limited manageability of renewable energy, wind and solar in particular.

Hybridisation, which combines different renewable energy sources, can smooth out the variability of generation by leveraging the complementary production patterns of wind and solar power. Battery storage, on the other hand, can store excess energy during periods of high production and release it during periods of low production, thereby enhancing grid stability and reducing the need for curtailments.

These strategies not only optimise the use of existing infrastructure but also increase the resilience of the energy system. By mitigating curtailments, stabilising market prices, and enhancing grid stability, they reduce the negative impact on communities and improve the social acceptance of renewable energy projects.



Project / Blended Finance

- We are seeing increased collaboration between governments, DFIs, and private investors to co-finance large-scale projects using Public-Private Partnerships (PPPs). Such projects are using guarantees, first-loss capital, and insurance products to lower investment risks.
- Blended finance is expanding into healthcare, education, water and sanitation, and digital infrastructure and financiers are using digital platforms and fintech to streamline financing.
- A slight uptick in local currency financing focusing on reducing foreign exchange risk in EMDEs.
- Tailored initiatives for regions like Sub-Saharan Africa, South Asia, and Latin America.
- Private Sector Capacity Building: Training and technical assistance for local institutions.
- Participation: Growing interest from institutional investors in sustainable finance.
- These trends underscore blended finance's role in addressing global development challenges and achieving sustainable goals.

Infrastructure vs Impact Funds

The landscape of infrastructure and impact funds is evolving with distinct but overlapping strategies.

Infrastructure Funds invest in large-scale physical assets like transportation, utilities, and telecommunications, offering stable, long-term returns with predictable cash flows. We are seeing increasing use of public-private partnerships and growing investment in green infrastructure backed by government incentives.

Impact Funds aim for positive social and environmental outcomes alongside financial returns, investing in sectors like affordable housing, healthcare, and renewable energy. They emphasize impact measurement and reporting and use blended finance including concessional capital to attract private investment. These funds attract diverse investors motivated by impact and returns.

Both fund types are increasingly investing in sustainable projects, reflecting a broader trend towards integrating sustainability in finance.



Oil & Gas Companies

Oil and gas companies continue to invest in energy transition. They are increasingly allocating resources to renewable energy projects such as wind and solar, as well as carbon capture, utilisation, and storage (CCUS) technologies.

Companies like BP, Shell, and TotalEnergies are also investing in hydrogen production, energy efficiency, and electrification of their operations. Additionally, they are supporting sustainable mobility through investments in electric vehicle (EV) charging infrastructure and alternative fuels.

These efforts are part of broader strategies to reduce carbon emissions, align with international climate goals, and adapt to the global shift towards sustainable energy.

Despite their traditional focus on fossil fuels, these companies recognise the need to transition to cleaner energy sources.



Traditional Wind & Solar

Projects in wind and photovoltaic technologies face significant challenges due to the limited manageability of generation. The inherent intermittency of these sources can lead to several issues, including curtailments, negative market prices, and grid stability concerns.

Curtailments occur when the production of renewable energy exceeds the grid's capacity to absorb it, necessitating a reduction in output to prevent overloads. This not only results in wasted energy but also financial losses for project operators. Negative market prices arise when the supply of electricity surpasses demand, forcing producers to pay to offload their excess energy, which can distort market dynamics and undermine the economic viability of renewable projects.

Grid stability is another critical issue. The fluctuating nature of wind and solar power can create imbalances in the electricity supply, challenging the grid's ability to maintain a consistent and reliable flow of energy. This can lead to increased reliance on backup power sources, often from fossil fuels, which counteracts the environmental benefits of renewable energy.

Biogases (H₂, biomethan, biomethanol...)

The current state of electricity production from green hydrogen and biogases presents a promising outlook, albeit with challenges. Green hydrogen, produced via water electrolysis using renewable energy, faces technical issues such as the efficiency of electrolyzers, transportation and safe storage, along with high production costs compared with current and expected sale prices. To encourage investment, regulatory frameworks like the EU's Hydrogen Strategy and the U.S. Inflation Reduction Act offer financial incentives, grants, and tax credits. Governments are also establishing long-term support mechanisms, such as contracts for difference and regulated tariffs, to provide certainty for investors.

On the other hand, biogases, generated from the anaerobic decomposition of organic matter, face challenges due to uncertainties in income stability and grid integration, as well as limited certainty in the availability of creditworthy counterparties for waste supply. Despite these challenges, the global commitment to decarbonization makes these investments attractive in the long term, with significant potential to transform the energy sector.

Transition metals

Transition metals are increasingly critical in the global shift towards sustainable energy and technology.

We are seeing rising demand for metals like lithium, cobalt, nickel, and copper for electric vehicle (EV) batteries, renewable energy systems, and energy storage solutions. Concerns over the supply chain continue, including geopolitical risks and the environmental impacts of mining, which are prompting investments in sustainable sourcing and recycling technologies.

Advances in battery technology and materials science are driving more efficient use of transition metals and the development of alternatives. Governments and companies are investing in mining projects, refining capacities, and recycling programs to secure stable supplies and support the energy transition.

Each of these trends underscore the pivotal role of transition metals in the clean energy future.



Decommissioning

Decommissioning has become a significant trend in the energy sector, particularly within the realms of oil, gas, and nuclear industries, as part of the broader energy transition towards sustainability. This process involves the safe dismantling and removal of energy infrastructure at the end of its operational life, ensuring environmental protection and compliance with regulatory standards. As the global community shifts focus towards renewable energy sources, decommissioning plays a crucial role in managing the legacy of traditional energy production facilities. It facilitates the transition by enabling the repurposing of sites for renewable energy projects, such as wind or solar farms, or restoring them to their natural state, thereby contributing to environmental conservation efforts.

The trend towards decommissioning is driven by the dual imperatives of reducing carbon footprints and optimising energy production through more sustainable means. It represents a complex challenge that encompasses technical, regulatory, and financial considerations, but also offers substantial opportunities for innovation in decommissioning techniques and strategies. As such, decommissioning is not just about dismantling the old but is an essential step towards building a cleaner, more sustainable energy infrastructure for the future.



Nuclear Power

Nuclear power is increasingly recognised as a critical component in the global energy transition towards a low-carbon future. As countries strive to reduce greenhouse gas emissions and combat climate change, nuclear energy offers a reliable and scalable alternative to fossil fuels, providing a steady supply of low-carbon electricity. Its capacity for high energy output from a relatively small physical footprint makes it an attractive option for meeting growing energy demands while minimizing environmental impact. Moreover, advancements in nuclear technology, including the development of smaller, modular reactors, promise enhanced safety and economic viability, further positioning nuclear power as a sustainable energy source. This trend is supported by policies and investments aimed at extending the life of existing plants and exploring next-generation nuclear technologies. As part of a diversified energy strategy, nuclear power plays a pivotal role in achieving energy security and sustainability goals, underscoring its importance in the global shift towards cleaner energy sources.

Our recent energy transition highlights



on various strategic acquisitions relating to lithium battery technology.



on its acquisition and development of multiple ground-mounted solar photovoltaic assets as part of a rolling programme of share purchase acquisitions.

Deutsche Bank



on the development of six power plants for the production of electric and thermal energy from biomass in Italy

EASTALPHA

on its Series A investment in energy transition company Electron.



on its exit from its Lekela Power platform in Africa, which is Africa's largest pure-play renewable energy IPP

ORION | RESOURCE PARTNERS

on its joint venture with Fusion Capital, its acquisition and financing of the SASA lead and zinc mine in Macedonia and its subsequent sale to Central Asia Metals.



BNP Paribas Clean Energy Fund on the acquisition and €118 million project financing of a MW 48 solar plant in Rovigo, Italy

BlackRock

Blackrock World Mining Trust Plc on direct investments in several mining companies.

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The background of the page is a composite image. The upper portion shows several wind turbines against a sky with soft, golden light, suggesting a sunrise or sunset. The lower portion shows a close-up of solar panels with a grid pattern.

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