SLAUGHTER AND MAY/

INVESTING IN TRANSITION INFRASTRUCTURE

ENERGY TRANSITION
Part of the Horizon Scanning series


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SIGNIFICANT INFRASTRUCTURE INVESTMENT IS REQUIRED

Infrastructure is at the heart of the energy transition and efforts to decarbonise global economies. Existing building stock, transport systems and energy infrastructure need to transform alongside developing new types of assets such as CO2 transport and storage networks and battery gigafactories. Associated, enabling infrastructure is also needed, such as new port facilities capable of servicing the deployment of significant volumes of offshore wind generation.

In order to reduce emissions by 45% by 2030 and hold global warming at 1.5°C, investment in energy transition infrastructure is key. Significant injections of capital are not only essential for the repurposing of existing systems and networks, but also for the development of a whole new range of clean infrastructure assets.

However, whilst investment in infrastructure is steadily increasing every year, it needs to accelerate at pace. The International Energy Agency (IEA) has warned that "a substantial ramp up" in investment is called for, whilst the Energy Transitions Commission (an international coalition of NGOs, financial institutions and industry leaders) estimates that a global net zero economy requires an average of $3.5 trillion capital investment a year to 2050.

WHERE AND WHAT?

The positive momentum behind infrastructure investment, and clean energy investment in particular, is not distributed evenly across countries or sectors. In a 2023 survey of its members, the Global Infrastructure Investment Association found that, in terms of acquired assets, transactions continue to be centred around Western markets, with the US, UK and EU accounting for 74% of acquisitions in 2021 and 2022, albeit with growth in other regions. Meanwhile clean energy spending is heavily concentrated in China, EU and the US, although, according to the IEA World Energy Investment Report 2023, investor activity is increasing in India, Brazil and parts of the Middle East.

With regard to sectors, the IEA **World Energy Outlook 2023** has identified a focus of activity on areas linked to clean electrification and end-use electrification, whilst investment in energy efficiency and low-emission fuels fall short. Mature clean technologies such as wind, solar, and battery storage are seen as cost-competitive in today's fuel-price environment. However, in the offshore wind sub-sector, we have seen some market participants and projects adversely affected by increases in development costs. In its **World Investment Report 2023**, the UN Conference on Trade and Development noted a requirement for investment not just in renewable energy but also in supply chains including R&D activities, critical minerals extraction and in manufacturing of solar panels and wind turbines. The IEA also reports a growing momentum for investment in newer technologies such as low carbon hydrogen and carbon capture, utilisation and storage (**CCUS**).

Other key elements of energy transition infrastructure such as power grids have seen much less growth. Grids – often publicly owned or highly regulated assets – have struggled to secure funds for anticipatory investment due to consumer-cost concerns, but a sea-change is underway due to the electrification requirements of the energy transition. The **International Renewable Energy Agency** also observed a "chronic lack of investment" in end use applications in other areas of the energy ecosystem – including heating and transport – as well as other energy transition technologies such as biofuels, geothermal and hydropower.

WHAT ARE THE CHALLENGES AND HOW CAN THEY BE MANAGED?

Geopolitical tensions, supply chain constraints, shortages in skilled labour, inflationary pressures and higher interest rates are all factors putting pressure on infrastructure investments. These macro-economic challenges may be exacerbated by sector-specific headwinds such as political risk, or immature regulatory frameworks and standards.

For example, investors in critical minerals must increasingly navigate issues of social justice and the need to find the appropriate balance of resources and returns between international and local stakeholders. Regulatory change or divergence in approaches between markets may pose a further barrier to investment. For instance, in relation to hydrogen production, the absence of an internationally recognised standard means that investors are increasingly faced with a jigsaw puzzle of national or regional definitions and standards for low carbon hydrogen. In the EU organisations are also increasingly reporting by reference to the EU taxonomy defining sustainable economic activities. However, the UK equivalent taxonomy is still under development meaning that any differences in approach are likely to place additional reporting requirements on investment managers.

Some of these challenges may be able to be mitigated or minimised. In some jurisdictions, where legislators understand and accept investor concerns, the regulatory regime itself may be designed to reduce risks to investors. Absent this, contractual risk management strategies may be used appropriately to allocate risks (albeit for a price) or to provide flexibility for the contract to continue in the event of a change in law. Finally, transaction structuring may also serve to mitigate key risks, such as having a key supplier, offtaker or government as a minority equity partner to reduce the risk of termination of long-term arrangements underpinning the investment.

TRENDS IN INVESTMENT IN ENERGY TRANSITION INFRASTRUCTURE

In order to reach the level of investment needed, different pools of capital are required to invest in decarbonisation and energy transition projects. As a result, we are seeing new dynamics emerge in the infrastructure investment landscape.

New clean technologies may be difficult for some investors who lack the mandate to invest until technology has matured or greater deployment has occurred, with the associated learnings and cost reductions that this brings. However, in sectors such as low carbon hydrogen and CCUS we are seeing the entry of both small-scale private capital and large-scale industry-funded capital. Traditionally, funds and institutional capital typically step in later after construction when assets are being de-risked. Yet we are seeing exceptions: certain institutional funds are taking on roles more akin to venture capital, investing in assets outside their existing portfolio profiles in order to learn about specific sectors or technologies and associated risks.

Government support schemes are also being designed with different types of capital and risk appetites in mind. For example, the USA's Inflation Reduction Act uses a high level of subsidy via tax credits to attract developers and private investors into energy transition infrastructure. By contrast, in the UK, we are seeing an increase in the use of the Regulated Asset Base models in assets such as new nuclear power, hydrogen pipeline networks and carbon dioxide transport and storage networks, providing stable, regulated returns for investors.

Certain changes to the regulatory treatment and capital requirements for insurers are also playing a role. Solvency UK, the prudential regulatory framework for insurers and reinsurers, is intended to facilitate infrastructure investment by UK insurers, due to recent and upcoming changes which it is hoped will encourage investment in sectors such as low carbon energy generation and energy networks.

WHAT ARE THE SHIFTS EXPECTED IN 2024?

In 2024, we anticipate energy transition infrastructure will continue to be a strong and resilient asset class in a broad range of sectors and markets. We expect to see new opportunities for investors as governments increasingly align their policies and budgets with their climate commitments. In a competitive global capital landscape, policy makers will be working hard to foster a positive investment environment fit for a net zero future.

There is likely to be increasing competition for mature assets and infrastructure targets, whilst newer technologies and markets would benefit from more investment looking to test value propositions before deciding whether to scale up. With global economies seeking to plug the considerable gaps in energy transition supply chains, investors may be revisiting their portfolios to identify where long-term returns are most likely. This may result in greater investment into more developing markets if the right conditions for growth exist.

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