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POWERFUL INVESTMENT

OPPORTUNITIES IN RENEWABLE ENERGY INFRASTRUCTURE

More private funds are investing in clean energy projects, but this needs to grow significantly to meet global net-zero targets

There has been a significant increase in investment in clean energy infrastructure in recent years, with countries around the world looking to reduce their dependence on fossil fuels. The bulk of this money has been used to further renewables projects – those that use no finite resources – although nuclear power projects, which have no carbon emissions and are therefore classified as ‘clean’, have also attracted a small chunk of investment.

While many of these projects are funded by government and public money, private investment is being sought for others.

The shift away from fossil fuels is being driven by environmental factors and the urgent need to reduce carbon emissions to meet the net-zero targets set out in the 2016 Paris Agreement on climate change.

All this is deeply connected to property and cities. Get it right and urban areas and the built environment will become more resilient and flourish. Get it wrong and decline is likely, with

the attendant loss in values. Renewables are therefore at the heart of real estate’s purpose.

The longer-term push to renewables has been accelerated by more recent geopolitical and economic factors. The war in Ukraine and subsequent international sanctions against Russia have caused wholesale gas and oil prices to spike, creating demand for alternative energy supplies that are more cost-effective.

At the same time, political uncertainty has underlined the importance of the security of energy supply. In a bid to achieve domestic energy “sovereignty”, more countries are looking to increase onshore production and storage of renewables to limit their reliance on imports from less stable parts of the world.

These three factors – carbon reduction, security of supply and rising energy costs – have led to a significant increase in the development of renewable infrastructure globally, creating new opportunities for institutional investors.

Clean energy: a growing market that will grow further

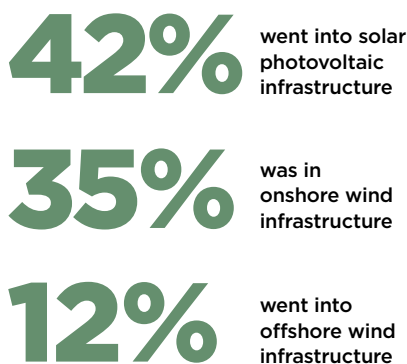
Global energy consumption continues to grow and an increasing slice of this is coming from carbon-free renewable sources. Figures from BloombergNEF point to the energy sector being at a tipping point, with investment in low-carbon technologies now reaching parity with the capital being deployed into traditional fossil-fuel extraction and supply.

The majority of new investment in the energy industry is now going towards these greener technologies. International Energy Agency (IEA) data shows that investment in clean or renewable energy now accounts for almost three-quarters of the growth in overall energy investment.

In total, the IEA estimates that more than \$1.4 trillion was invested in clean energy projects last year – a record high – with the biggest swathe in China and the Asia Pacific region, followed by the EU and then North America, as shown in the graph overleaf.

Much of this new investment is going into more “established” renewable sources, such as wind and solar energy projects. This is partly because these are now the cheapest option for new power generation in many countries.

Figures show that of this new investment:



This money isn't just funding renewable infrastructure, such as wind turbines or large-scale solar farms. Significant investment is also going into the tertiary market – building and upgrading the infrastructure needed to store and distribute power.

Clean energy also encompasses other infrastructure initiatives, such as retro-fitting existing buildings to make them more energy efficient, as well as smart technologies and building infrastructure to support more widespread adoption of electric vehicles.

But is this level of investment enough? According to the International Renewable Energy Agency (IRENA), investment levels are languishing at less than 40 per cent of that required each year between 2021 and 2030 to meet net-zero targets. The IEA estimates that investment in clean energy needs to triple by 2030 – to \$4 trillion – to achieve a global net-zero target by 2050.

Solving the investment challenge

Despite the clear magnitude of the problem and the sector's fantastic growth prospects, investors can be reluctant to commit.

One reason is that some renewable energy generation from sources such as solar or wind is by its nature intermittent and more variable than from fossil fuels, which makes it difficult to match demand with supply consistently.

This means the infrastructure behind it needs to be more flexible, in relation to weather for example. Energy storage therefore becomes a critical supporting technology to solar and wind, as do smart technologies that allow for load shifting.

Financial hurdles

On top of the technological and engineering challenges relating to renewable energy infrastructure, there are specific financial hurdles that can impact potential returns on investment.

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The major issue for many investors is the long lead time involved in such projects. Getting planning permission for large infrastructure projects can take years, particularly in more developed economies. Figures show the average design and build time for wind farms in the UK is between seven and 11 years.

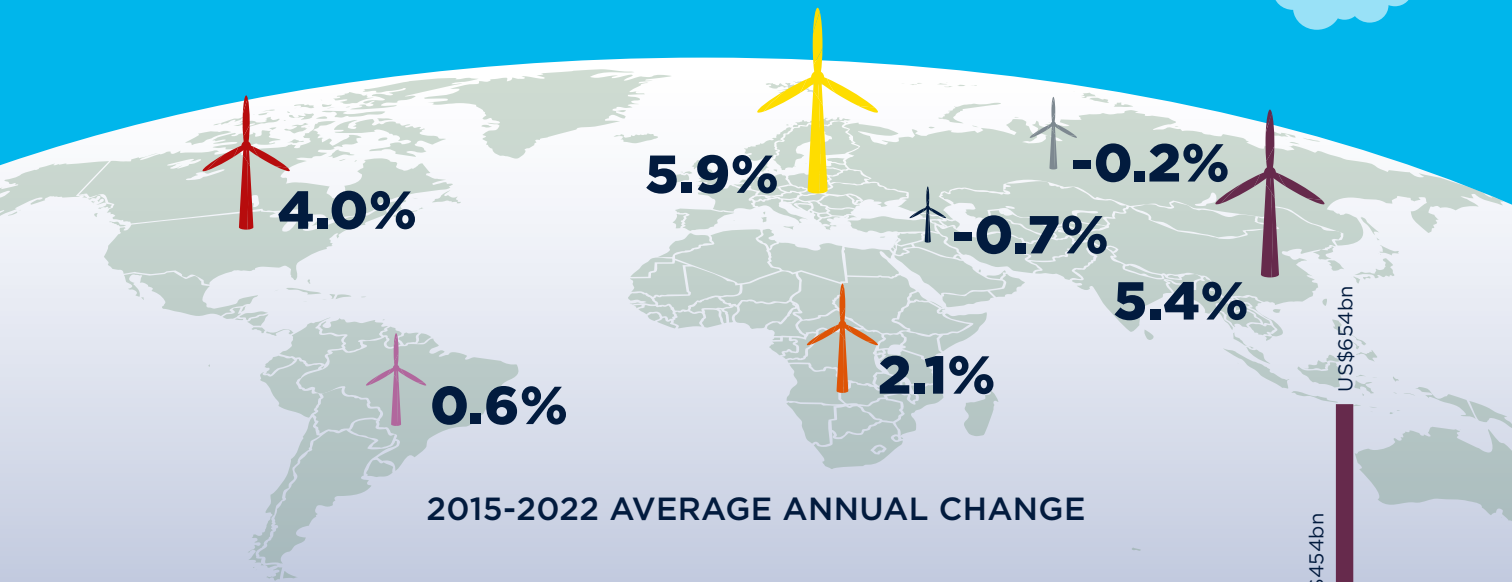
Such protracted delays are more likely on the larger projects needed to provide renewable energy at scale, as these will also require a build-out of transmission lines, connections and upgrades to national or international grids, flexible systems and storage solutions.

The complexity of planning requirements for such projects can cause supply-chain bottlenecks and skills gaps. This can be a major issue for investors, who are asked to tie up capital for many years before seeing a return.

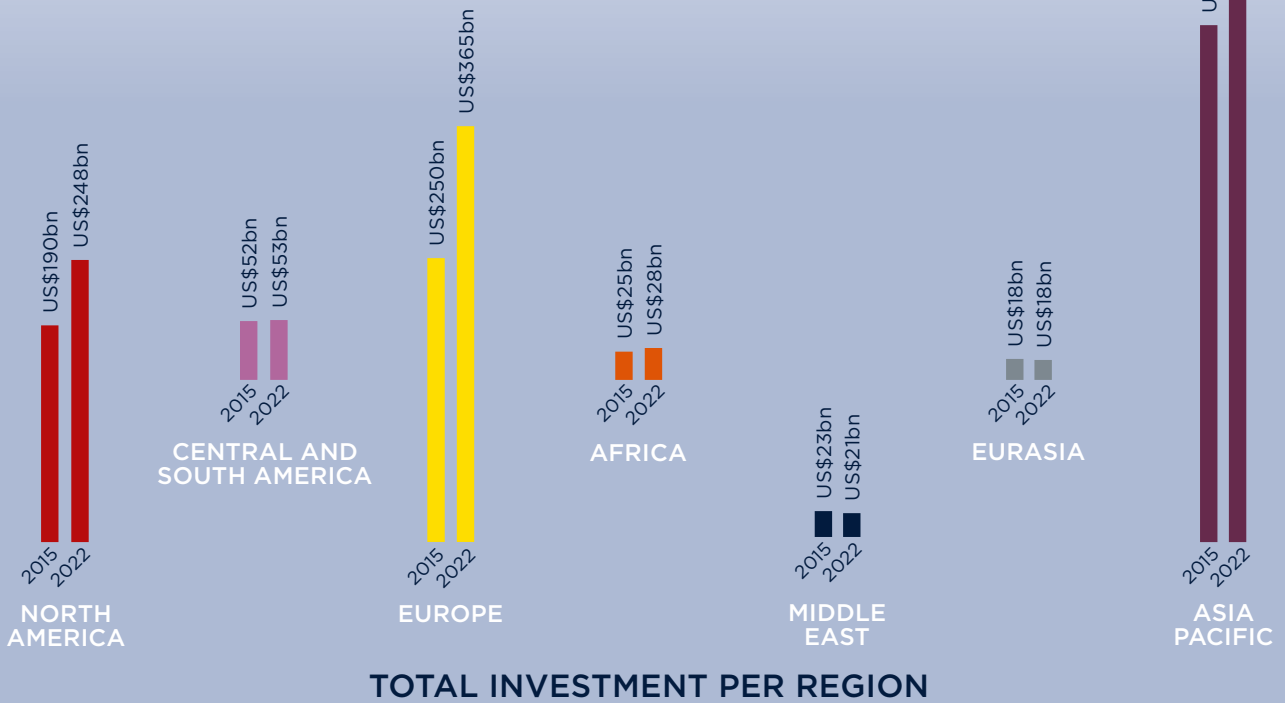
Smart technologies and solutions such as heat pumps, battery storage, smart meters, vehicle-to-grid technology and solar panels don't have this planning risk. As a result, they offer an alternative investment option that is more akin to the technology sector rather than the infrastructure sector.

Building costs are another growing challenge for investors. In recent years, prices of aluminium, copper and steel – essential for cables, turbines and photovoltaic (PV) panels – have

CLEAN ENERGY INVESTMENT



2015-2022 AVERAGE ANNUAL CHANGE



TOTAL INVESTMENT PER REGION

Source: Savills Research using International Energy Agency (IEA)

increased significantly, driving up overheads for projects in both developed and developing economies. Rising labour costs only add to the expense, potentially weighing on overall returns for investors.

Government subsidies and the way in which different energy sources are taxed can help or hinder matters. Although China and India have been investing heavily in renewables, most developing countries tax fossil fuels at a noticeably lower rate, making investment into renewables less attractive.

Financing for projects in developing markets is often expensive, due to its scarcity and there being less regulatory protection. This is one reason why the Just Energy Transition called for more innovative funding models at COP26, with developed countries helping to support infrastructure in less developed economies.

Opportunities for private investors

These factors mean that there have to date been limited opportunities for private – and, in particular, institutional – investors in this sector. Figures from IRENA show that total funds from institutional investors accounted for only 1 per cent of private investment in renewables – at \$2.5 billion.

Most of this private money has been to fund more established technologies, such as solar PV and onshore wind, which accounted for 84 per cent of these funds in 2020. In addition, there has been more of a weighting towards renewable projects in North America and Europe, accounting for 31 per cent and 29 per cent of these investments respectively. In contrast, just 14 per cent of this institutional investment money went into renewable projects in the East Asia Pacific region.

Thomas McMillan, Director and Head of Energy and Consultancy at Savills, says that despite these challenges there remain exciting opportunities for investors in this sector, particularly with

INVESTORS SHOULD NOT OVERLOOK HOW ENERGY UNDERPINS OUR DAY-TO-DAY LIVES

regard to technologies that support renewables deployment, such as energy storage and smart technologies.

“The transition to renewable energy sources is gaining momentum globally, but the rate of growth is insufficient to meet international climate goals. However, the growth we have seen recently may very much be the tip of the iceberg. With developments in the pipeline, we expect to see far more renewable infrastructure projects and smart technologies coming through in the next few years,” he says.

“Real estate companies should look at these as an opportunity to diversify risk. But they should also look at their existing portfolios, and how energy efficiency, renewables and smart technologies can be integrated into assets. This will help determine if there are assets that should be disposed of or repurposed over the coming decade.

“There are infrastructure investment opportunities across different global regions and it is clear that countries that can modernise their grid infrastructure, shorten planning issues and offer opportunities to invest in tertiary infrastructure present more attractive options for investors.

“This can be further supported by government policies, particularly those that create a long-term framework to encourage institutional investment into these important strategic areas.

“Investment in smart technologies is likely to be driven more by customer needs than government regulations,

where customers seek to reduce running costs or address security of supply concerns,” adds McMillan.

A collective effort, from governments, the private sector and local communities, is essential if we are to successfully transition towards a greener, cleaner energy future.

Looking ahead

Renewable energy infrastructure is a sector that looks set to be increasingly important for many private and institutional investors. But barriers to investment, such as the inherent complexity and long timelines of such projects, remain, which may make investment into supporting technologies more attractive to some investors.

When entering the renewables market, investors should not overlook how energy underpins our day-to-day lives. Technology cannot be powered without it. Transport stops without it. Commercial and residential real estate cannot flourish without it. ■

