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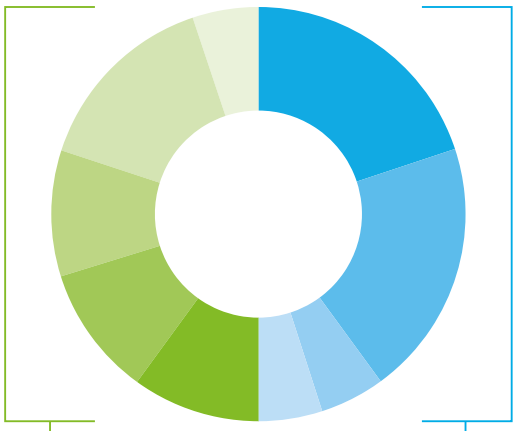
Renewable infrastructure and the energy transition

Key takeaways

- Renewable infrastructure – a sub-set of infrastructure – allows investors to target returns with measurable impact while demonstrating environmental, social & governance (ESG) credentials. However, many of the broader infrastructure sector's risks still apply.
- A renewables fund could sit within an investor's growth allocation or long-term enhanced income allocation. A 'build new' strategy fits more naturally in the growth allocation, but a 'buy and hold' strategy could fit in the enhanced income element of a broader portfolio.
- A dedicated renewable infrastructure allocation can be customised, from focusing on the best mix of global opportunities (diversified by sector and country) to accessing UK-only opportunities (local impact and levelling-up initiatives).
- Most of the funds we've reviewed provide ESG reporting both quantitatively (eg carbon emissions avoided, community payments) and qualitatively (eg strong supplier code of conduct, recycling arrangements for end-of-asset life).

A wider opportunity to invest in greener energy

Renewable infrastructure traditionally focused on energy generation from renewable sources like wind and solar but has expanded to include investable opportunities related to storage and distribution of energy. The current mix of investable opportunities in energy transition and power generating assets is shown below:



Energy transition assets (storage and distribution)

- Low carbon fuels
- Energy storage (batteries)
- EV charging
- Electricity networks
- Evolving opportunities

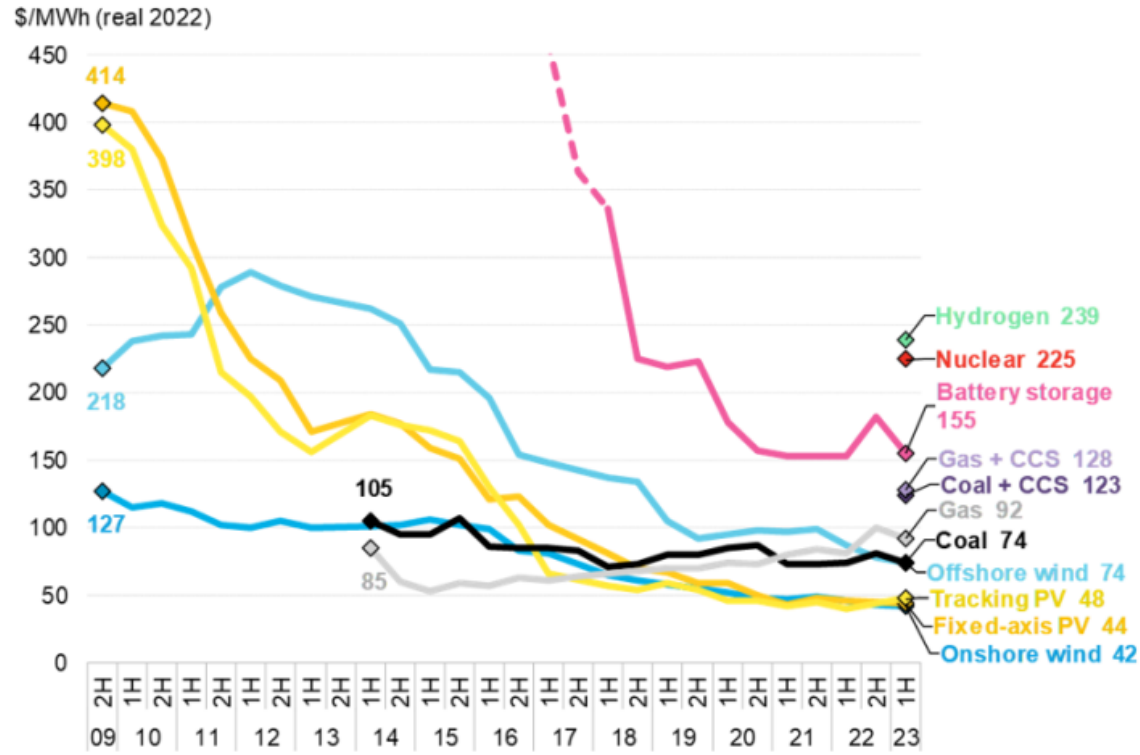
Power generating assets

- Solar energy
- Wind energy
- Hydro power
- Bio energy

Source: Hymans Robertson

Note: Opportunities are not to scale. Evolving opportunities includes technologies currently being trialled (such as carbon capture and storage or technology to balance the grid), which could lead to enhancements in energy storage and distribution.

Figure 1: Global levelized cost of electricity benchmarks, 2009-2023



Source: Bloomberg NEF as at June 2023

Wind and solar are now among the cheapest sources after the past few decades of investment in renewable power generating technologies. **Figure 1** shows that the hourly cost of producing one megawatt of electricity from solar (labelled tracking PV and fixed-axis PV on the chart) or wind is substantially lower than the equivalent cost from fossil fuels globally.

The cheapest option for solar or wind energy varies by country, depending on the weather. And the cost of generating renewable energy is expected to fall further as the market matures and infrastructure develops eg charging stations for electric vehicles.

Cost declines mean that renewables are no longer dependent on government subsidies to make projects feasible. Meanwhile, growing demand for renewable sources from large corporations like Amazon and Google allows these projects' output to be sold on long-term contracts to companies with low credit risk.

The reduced costs and increased demand are coupled with strong policy support for greener energy. Many countries and corporations have made a firm commitment to achieving net zero emissions, typically by 2050. Geopolitical events and rising inflation (partly driven by energy prices) have added further impetus for developed countries to achieve energy independence.

The growing importance of energy-transition assets

The transition from fossil fuels to a multi-fuel, multi-technology, low-carbon energy system represents a challenge for electricity networks, as renewable sources are mostly intermittent, requiring optimised management and energy storage to stabilise production.

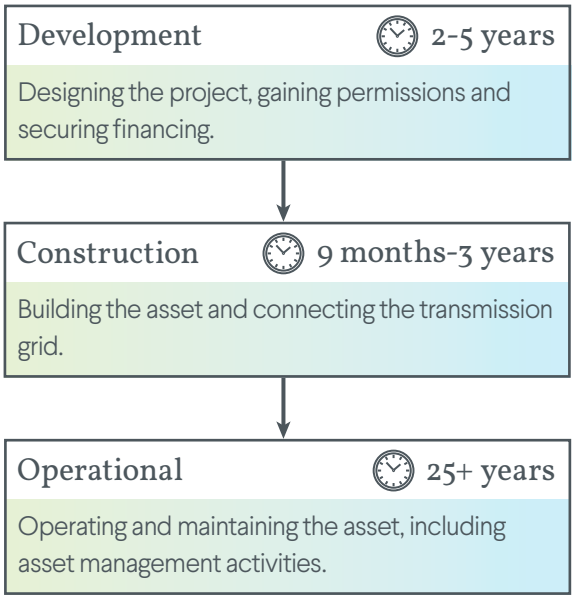
This could mean a larger role for energy-transition assets – for example, batteries store energy during periods of high generation, releasing it when supply is low. Energy-transition assets can also increase the flexibility and reliability of energy systems and provide a pathway for decarbonising sectors that are difficult to electrify (such as aviation, shipping or heavy industry) by producing low-carbon fuels or feedstocks.

The cross-industry push for net zero emissions also makes energy-transition assets more likely to become a bigger part of renewable infrastructure portfolios. In line with the trends observed for renewable power generating assets, we expect reduced costs and increased demand.

Return targets have evolved

Over the last decade, investors have generally benefited from stable returns and diversification through owning the equity portion of infrastructure assets.

As with other infrastructure assets, one of the key determinants of expected returns relates to the stage at which investment is made in a project's lifecycle. With renewable power generating assets or energy-transition assets, investors can expect a higher return for investing in projects before they're operational (the development and construction stages) compared to buying assets once they're fully operational. There are three stages in the lifecycle of a renewable infrastructure project:



Once operational, assets normally have a life of 25 years or more and are amortising, with zero residual value typically assumed. Improvements in technology mean that an asset's life may be extended, or it can be replaced more easily at the end of its life.

Managers who specialise in developing or constructing such assets will typically sell to a utility company – or a fund manager specialising in the operational stage – and use capital growth to provide returns. Managers focusing on the operational stage rely on income payments from government subsidies or power-purchase agreements with creditworthy organisations like utilities to provide the expected return.

Development strategies typically target an internal rate of return (IRR) of 10%+ pa over a 10–15-year period, and construction and operational (combined) strategies tend to target IRRs of 5–8%+ pa over a longer period of 10–25 years. Some funds target the development, construction and operational stages, but it can be challenging to evidence relevant expertise in each part of the investment cycle.

The need for new, cleaner energy generation has led to competition for renewable infrastructure assets. Expected returns from operational assets have decreased, leading to fewer funds concentrating on this stage. Concurrently, the construction period and the risks associated with this stage have reduced substantially as technologies have matured. This suggests that any investments should be made at an earlier stage, with investors' nets cast more widely.

Although explicit inflation links can be difficult to find, given the way power markets function, there is implicit inflation linkage built into these assets' income stream.

Keeping an eye on the key risks

Because of the timeframes involved, renewable infrastructure investments should be considered long term and illiquid. They also share many of the broader infrastructure sector's risks:

Political and regulatory risk
Including changes to subsidies or planning permissions.

Construction and development risk
The risk that projects fail to be built as planned, with delays and overspend.

Operating risk
The risk that an asset fails to operate correctly or is difficult to maintain.

Changing elements risk
Less sunshine or wind than expected.

Income risk
Unexpected reductions in received income or less contractual revenue over the life of the asset, causing greater exposure to power-price changes.

ESG risks
Underlying investments may encounter ESG-related issues eg the risk of negative environmental impact is particularly applicable to greenfield developments. However, brownfield investments are also exposed, as many are less energy efficient than newer developments.

Leverage risk
The majority of infrastructure investments use leverage ie they're funded by varying levels of debt. While leverage can be beneficial to returns, it can also magnify losses.

Many of these risks are mitigated through careful selection of suitable investments, which suggests that the target returns seem realistic for specialist renewable infrastructure managers.

Positive and measurable impact and ESG credentials

Another compelling investment feature of these assets is their contribution to a more sustainable planet. Many funds can quantify the impact on local communities (eg through jobs created, community benefits paid) and contribution towards net-zero targets (carbon emissions avoided, biodiversity and water usage impacts) while showing strong ESG credentials (supplier code of conduct, health & safety regulations).

Unlike many other asset classes, the positive impact from renewables is measurable rather than anecdotal.

Implementation options

Given the size of the opportunity in greener energy, we've seen an increase in dedicated renewable funds, which can be global, regional or sub-sector focused (eg dedicated to solar or wind only).

Global exposure can be complemented with local investment opportunities that have the potential to level up the UK and deliver impact. These opportunities are likely to be more specialised, focusing on a sub-set of the global renewables asset mix. For example, over the past year, we've seen a number of funds and co-investments in the development or operation of solar assets, battery assets, biomass plants and equipment to balance the grid. Although the opportunity set may be smaller, we believe UK-based investments offer attractive returns with the added benefit of delivering on levelling-up and impact objectives.

Our view

For investors who are comfortable with the sub-sector's associated risks, renewable infrastructure and energy-transition assets represents an opportunity to target returns with measurable impact and ESG credentials. The increased focus on green energy from governments and corporations, coupled with the substantial drop in the costs of building and maintaining assets, makes the next few years an attractive time to allocate to renewable infrastructure funds.

Manager and fund selection will be vitally important as competition in the market increases, with managers who have extensive experience of building or operating these assets – and can remain disciplined on pricing – better placed to deliver on their risk, return and ESG objectives.

If you'd like to discuss how a renewable infrastructure investment could fit into your portfolio, please get in touch.

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General Risk warning

Please note the value of investments, and income from them, may fall as well as rise. This includes equities, government or corporate bonds, property whether held directly or in a pooled or collective investment vehicle. Further, investments in developing or emerging markets may be more volatile and less marketable than in mature markets. Exchange rates may also affect the value of an overseas investment. As a result, an investor may not get back the amount originally invested. Past performance is not necessarily a guide to future performance.

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