

# Investments in green energy infrastructure: An (over)performance that will last?

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The summer of 2022, which saw repeated [heat waves, fires, and droughts](#) in Europe and around the world, is confirmation that the effects of global warming are coming on stronger and faster than even the most

pessimistic forecasts. To be able to hope to curb them, it is essential for us to change our current mode of energy production and consumption to a more responsible model. This paradigm shift will require major investments: the European Commission estimates that between 2021 and 2030, the EU's energy sector will need a minimum of [175 to 290 billion euros per year for the development of green energies](#) (solar, wind, etc.) and the necessary infrastructure.

But from a strictly financial point of view, is the return for investors worth it? Do green energies, which represent the future, provide better [financial performance](#), compared to fossil energies, which are doomed to disappear?

In our [recent work](#), we studied the expected returns and actual performance of green-energy infrastructure compared to fossil-energy infrastructure over a 10-year period (2011-2021). This question of return on investment is crucial, as investments in wind and solar energy projects currently represent between 25% and 33% of all infrastructure investments and their growth is anticipated to accelerate.

## **A favorite among investors**

One of the arguments used to promote sustainable investment is that it generates better returns than conventional investment (which finances, among other things, [fossil fuels](#)). Does this hold true in practice?

In 2011, wind and [solar energy projects](#) had an expected return of 8%, compared to 9% for fossil energy projects. Their total annualized returns over 10 years were 16% and 17% respectively in 2021. These two figures may seem similar, but they correspond to two different economic realities.

Our study shows that there is now evidence of outperformance of

investments in green infrastructure (defined as wind and solar projects). This outperformance, which is defined as higher returns than conventional assets, is indeed due to changing [investor](#) preferences for "green" projects. In other words, there is an excess demand for this type of investment, which can be attributed to the public's growing awareness of energy-transition issues, and that explains the better performance of responsible assets compared to conventional assets.

## **A paradigm shift?**

Over the past decade, investors have shown increasing interest in the renewable energy sector. In the first half of 2022, green investments totalled [US\\$226 billion](#), up 11% year-on-year, according to a BloombergNEF report published in August. In particular, investments in solar projects reached \$120 billion (+33%) and wind projects \$84 billion (+16%).

In a 2022 survey of around 350 asset portfolios, [EDHECinfra](#) found that renewables accounted for between 25% and 33% of investments, but also that fossil fuels (gas and coal) accounted for only 1 to 3% of portfolios, with a notable exception for North American investors.

This is because fossil-fuel projects are, in addition to being relatively unpopular, subject to environmental taxes—such as the [carbon tax in France](#) and from 2026, the [European Union](#). Moreover, we are witnessing what may well be a tipping point. In 2020, investment in renewables exceeded \$500 billion, compared to \$400 billion for oil and gas production. Indeed, the value of so-called "traditional" assets is being affected.

## **Will the momentum keep up?**

It can be seen that over the last decade, fossil fuel investments have been shunned by mainstream investors, while green assets have been widely integrated into investment portfolios. This is particularly visible over the period 2012-2015, during which green assets also performed better than (or as well as) conventional assets.

This performance of green assets can be explained in particular by a change in risk perception (responsible investment tends to become more normalized and even more desirable). By contrast, the performance of conventional assets remains driven by their risk-adjusted return.

However, these temporarily higher returns for green investments do not predict future performance. According to our observations, this phenomenon of strong demand accompanied by an increase in the value of green assets reached its peak in 2019. At present, the expected returns from this type of investment are much lower.

This means, among other things, that returns on green energy projects should not be seen as an indicator of their future performance. For the more demand for green assets is met by additional [investment](#), the lower the expected returns. Indeed, supply and demand eventually converge, allowing the outperformance of green assets to be "corrected."

There is therefore no real [risk premium](#) for green infrastructure projects that investors could benefit from over the long term. In fact, we should rather speak of a "green premium," which investors were willing to pay at a given moment, when responsible assets gained in popularity. The outperformance of green assets over the previous decade was only due to excess demand, which eventually diminished.

In other words, when supply finally caught up with demand, green assets experienced a relative decline in performance as a result of a return to market equilibrium. The green premium is a reality, but it was only

meant to be temporary. The previous decade should therefore be seen as a transition period, not as the beginning of a permanent phenomenon.

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