

Climate in focus: classifying performance effects and identifying companies for a sustainable future

Do climate-friendly companies offer a return premium? Should investors rely on past data? Or should they dare a look ahead? Our research experts Dr Jieyan Fang-Klingler and Dr Maximilian Stroh answer these questions.



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So-called green companies have received a lot of attention in recent years. Is there a return premium for climate-friendly (green) companies?

To get an idea for whether climate-friendly companies have delivered a return premium in recent years, we first compare the stock returns of the green companies with those of brown companies. We identified green and brown companies by looking at the CO2 intensity (the CO2 emissions relative to the company's sales) of operational direct emissions and emissions from energy

demand. Green companies comprise the bottom third with the lowest carbon intensity. Brown companies are the third of shares with the highest carbon intensity. The blue line in Figure 1 shows the return on the shares of green companies minus the return on brown companies.

First of all, it looks like the shares of climate-friendly companies have significantly outperformed in recent years: green outperformed brown by 80% in the period from January 2013 to September 2020. However, since October 2020, brown have even performed 20% better overall than green.

To what can the differences in performance be attributed?

A look at the stocks in both portfolios shows clear differences in the sector allocation. For example, the brown portfolio shows a higher number of energy companies and a lower number of information technology companies than the green portfolio.

Developed Markets excl. Financials: Green-minus-brown performance based on carbon intensity Scope 1 and Scope 2

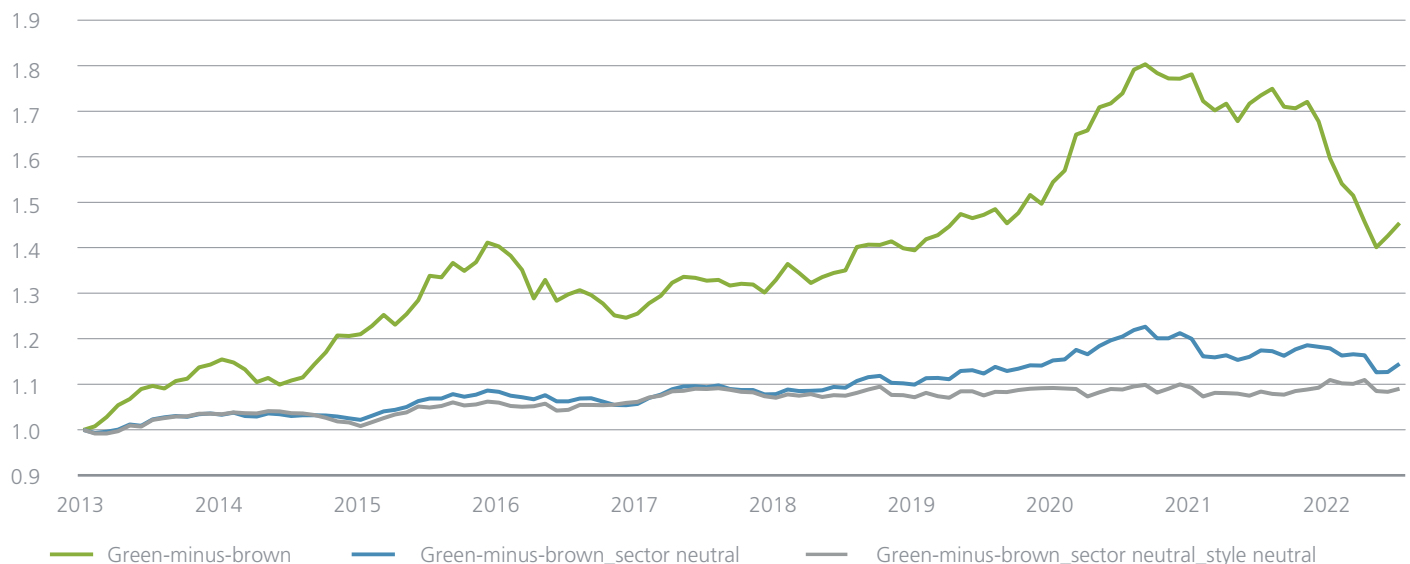


Figure 1: Net total returns in USD; sources: Trucost, Datastream, Kenneth French; calculations: Quoniam Asset Management GmbH

As the green-minus-brown portfolio leads to a strong sector weighting, we have constructed a new green-brown portfolio where we remain invested in all sectors and then apply a best-in-class approach by sector. We control for differences in sector allocation so that green/brown stocks are the third lowest/highest carbon intensity stocks within each sector. In the case of sector-neutral portfolios, the outperformance of green versus brown stocks is reduced from 45% to 15% over the period from January 2013 to July 2022 (see the blue line in Figure 1).

To further evaluate the performance of green versus brown companies, we adjust the classical style factors from the performance of the green-minus-brown portfolio using a regression where the returns of the green-minus-brown portfolio are regressed on Fama-French 5 factors and the Carhart momentum factor using the best-in-class approach. The performance difference is further reduced by this adjustment. Green stocks perform only 9% better than brown in the period from January 2013 to July 2022. This outperformance is no longer statistically significant.

Overall, we have seen that the green-minus-brown portfolio has performed well in the past despite strong volatility. However, the outperformance of green versus brown stocks is due to a different sector allocation and correlation to classic style factors.

Is a return premium for climate-friendly companies empirically demonstrable? What can be expected for the future returns of green companies?

Similar analyses with different climate variables have shown that a return premium for climate-friendly companies cannot be clearly demonstrated empirically. The evidence for this is weak at best, and often non-existent. Because of the very short period for empirical analyses and the weak empirical evidence for the return premium, we cannot expect a positive return premium in the future. Of course, green companies could do very well in the future if opportunities and risks from climate change and the decarbonisation of the global economy materialise. But these are more future scenarios, not an empirically confirmed style premium with a long study period like value or momentum.

How can climate-friendly companies be identified?

There are two ways to identify climate-friendly companies: firstly, the systematic analysis of past-related information - looking in the rear-view mirror. This includes, for example, the level of the company's CO2 emissions, the changes in these emissions over the past years and the CO2 intensity, i.e. the CO2 emissions in relation to the company's turnover. Such key figures often have a major influence on the weighting of companies in climate indices.

Alternatively, data can be used to give indications of how companies will behave in the future—looking through binoculars, so to speak. Forward-looking (or ex-ante) measures provide more information about the potential future development of CO2

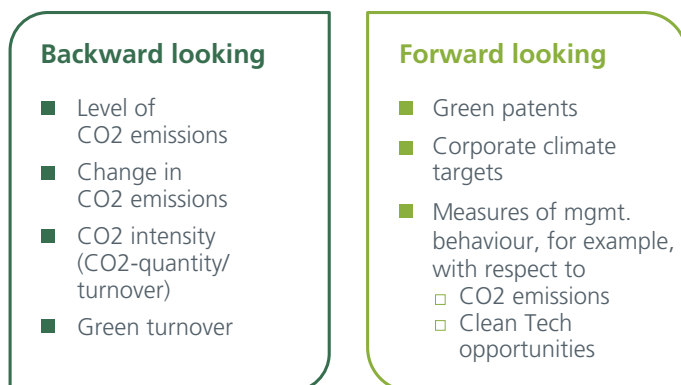


Figure 2: Source: Quoniam Asset Management

emissions, for example whether a company has set a climate target. How many green patents—patents that contribute positively to a sustainable transformation—does the company have? What is management planning in the area of clean technologies? This makes it possible to identify so-called transformation candidates, i.e. companies with a clear climate goal.

Should investors invest in companies that currently have low emissions or can achieve the greatest reduction in the future?

This question can only be answered by a thorough analysis of climate data. In the course of developing our dedicated climate strategy, we examined various correlations within the framework of a project team consisting of members of our research team as well as ESG specialists:

- between the past-related climate data and the future-oriented climate data, and
- between forward-looking climate data and future CO2 changes in different phases and in different markets.

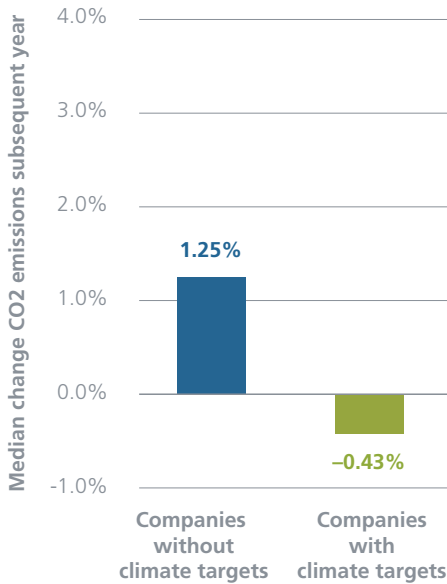
Parts of our research were published in a working paper: "Back to the Future: The Role of Forward-looking Climate Metrics in Decarbonization Portfolios".

The results of our analyses show, for example, that companies with climate targets show lower growth in emissions in subsequent years than companies without climate targets (see Fig. 3).

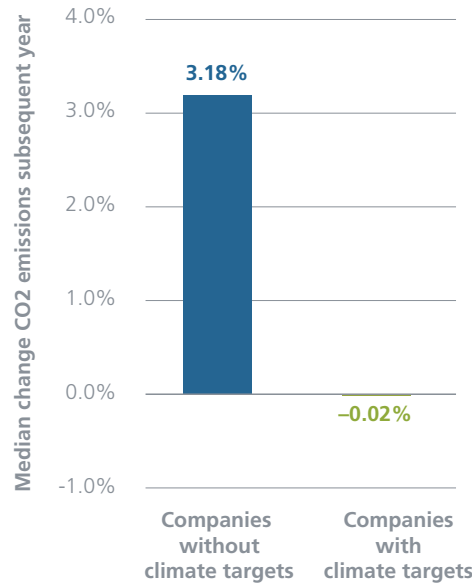
The crucial point is that both perspectives, i.e. rear-view mirror and binoculars, can lead to very different results. Companies with high emissions may not be attractive for sustainable investors at first glance. However, this assessment can change with the binoculars view. This may be the case, for example, if these companies have set themselves climate targets and/or invest particularly heavily in green patents.

Future-oriented key figures are important

Direct emissions only (Scope 1)



Energy requirement (Scope 2)



Value chain (Scope 3)

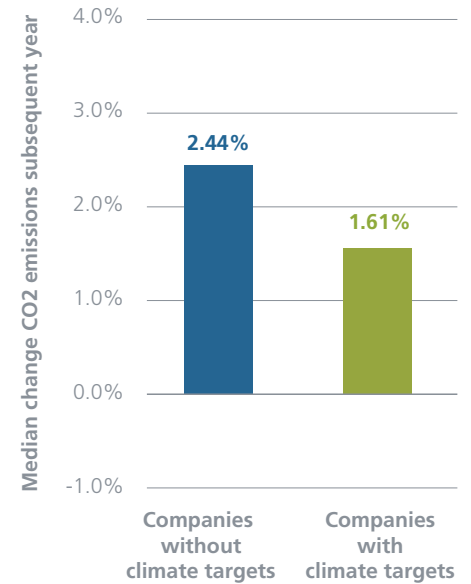


Figure 3: Source: Trucost and MSCI; calculations: Quoniam Asset Management GmbH; period 2013–2021

Conclusion

A simple comparison between green and brown portfolios shows a strong outperformance of the green portfolio, followed by a strong drawdown from October 2020 onwards. However, a more detailed analysis shows that the performance differences are due to sector weighting and correlation with classic style factors. After adjusting for sector bias and style factors, the performance differences of a green portfolio versus a brown portfolio are no longer statistically significant. Similar analyses for other climate data lead to similar results.

Furthermore, climate risks and opportunities can be measured in different ways. One approach, often used in climate indices, is to use backward-looking data such as CO2 emissions or CO2 intensity. Alternatively, data can be used that give indications of the behaviour of companies in the future.

Our research analyses show that the addition of forward-looking data is useful for identifying transformation candidates. Although a return premium based on past data for green or climate-friendly stocks cannot be clearly demonstrated empirically, opportunities and risks from climate change and the decarbonisation of the global economy could materialise in the future.

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