# GREEN, BROWN, OR GRAY: WHICH COLOURS DO INVESTORS FAVOUR FOR INVESTMENTS IN THE ENERGY SECTOR?

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## Overview

To achieve a low-carbon energy world, private finance must be mobilised to finance the transition. Investment in green energy has increased and now rivals that in brown energy. Notably, for every USD 1 spent on fossil fuels, nearly USD 2 is invested in a range of clean energy technologies and infrastructure, underscoring the significant shift towards sustainable energy solutions (World Outlook 2024, IEA). These investments need to continue to rise, and investment in fossil fuels must significantly decrease to reallocate financial resources entirely to green energy in order to meet the Paris Agreement objectives.

Understanding the investment dynamics of professional investors in energy firms is crucial for mobilising private finance for the low-carbon transition. This paper aims to examine the preferences of the financial community regarding energy firms based on their energy mix and both financial and non-financial information. It seeks to determine whether investments in brown energy firms are decreasing and which factors influence these investment decisions. Given the literature on the status quo bias in climate change, this study will also assess whether such a bias impedes reducing investments in brown energy firms.

The paper uses a continuous-discrete choice experiment, a method that allows for simultaneous multiple investments and is rarely used in choice experiments, providing a novel approach to these dynamics. Past research has focused on the green preferences of retail investors; this paper fills a gap by studying European professional investors. The findings align with behavioural finance literature, demonstrating that cognitive biases influence investments in the energy sector. While green energy firms are often chosen in the experiment, investments in oil and gas remain high, especially in the short term.

## Methods

A survey of 12 minutes, composed of two parts, was conducted. The first part included the discrete-continuous choice experiment (MDCEV) according to the model developed by Bhat (2008). This experiment required respondents to allocate a budget among three companies presented in every choice card, these companies were characterised by different energy mixes: oil, gas, green energy, and coal. Additionally, a neutral investment option in the form of a monetary fund was included. The experiment comprised 18 choice cards divided into blocks of three, allowing respondents to tackle only six cards to minimise cognitive fatigue. All three firms presented had identical attributes: price/earnings ratio, return on equity, dividend yield, ESG score, low-carbon capital expenditure, and a transition plan.

Then, the second part of the survey incorporated a psychometric scale, a tool designed to assess resistance to change developed by Oreg (2003). This scale consisted of 17 statements, and respondents were asked to indicate their level of agreement or disagreement with each statement on a 6-point Likert scale. A higher score on this scale indicates less resistance to change, whereas a lower score suggests greater resistance. To mitigate cognitive fatigue, socio-demographic questions were interspersed between the two parts of the survey.

This bias was used to reduce unobserved heterogeneity and to better explain the choices made by respondents in the experimental part. This method draws inspiration from hybrid choice experiments; however, unlike these, our experiment incorporates both discrete and continuous choices.

The survey targeted European financial professionals, primarily from asset management firms, and garnered 156 responses between April and November 2024. Of the participants, 87% were employed in asset management, with fund managers (37%) and investment directors (12%) being the predominant roles. Half of the respondents were affiliated with French institutions, while the remainder represented other European countries. To encourage participation, a donation of 5€ to a charity was made for each completed survey.

## Results

Results were both significant for the choice experiment and for the latent variable. A confirmatory factor analysis validated the psychometric scale used on the sample, revealing an average resistance to change score of 2.7 out of 6 on the Likert scale. Therefore, this result shows that the sample studied tends to be reluctant to change. The main results from the choice experiment demonstrate that the utility of investing in brown firms exceeds that of investing in green firms; the more one invests in brown firms, the less utility is derived from green firms. The analysis also determined that roles within financial institutions influence investment patterns. Specifically, members of ESG teams are more reluctant to invest in coal-exploiting facilities, a trend not observed in other groups. Additionally, the investment decisions of investors are influenced by their time horizons; longer time horizons are negatively associated with investments in brown firms, whereas very short-term investments are negatively associated with green firm investments. Furthermore, individuals working in small financial institutions tend to invest more in green energy firms.

When the measure of resistance to change is analysed in conjunction with investment patterns in energy firms, it reveals that individuals with higher resistance to change are more likely to invest in oil and gas firms, indicating the presence of a status quo bias. This effect persists regardless of the financial and non-financial information about the firms. Finally, the study incorporated indicators from the European Taxonomy, low carbon capex, to help respondents identify companies in transition. Although this attribute proved to be significant, its impact was close to zero and negative.

## Conclusions

The results support existing literature, showing that professional investors' decisions are influenced by cognitive biases. Introducing fossil fuel divestment and incorporating transition indicators require significant shifts in financial strategies, demanding adaptability. The study finds that individuals with higher resistance to change are less likely to divest from brown energy firms.

Demanding that all energy firms be green currently is unrealistic; however, they are expected to implement a transition plan to adapt to a low-carbon world. Factors such as transition plans and significant low-carbon capital expenditures should encourage investment in these companies. Yet, the survey indicates that investors often ignore this information when investing in brown firms, favouring financial criteria, particularly in the short term. The survey suggests that investors perceive investments in brown firms as more profitable than in green energy in the short term, despite all firms in the experiment having identical financial information.

This paper demonstrates that the presence of a status quo bias hinders rational investment choices and a preference for short-term profitability. The European Union's measures to improve non-financial information aim to better guide investors in their investment choices, and to identify which companies are green or are making efforts to transition. This experiment presented companies with strong financial indicators to examine the impact of non-financial information on choices. The non-significance of climate information shows that, for now, investors either do not trust the climate information required by regulations or do not prioritise it. The newly implemented Green European Taxonomy will test whether the required information can help reallocate investments. However, there is a risk that mandatory disclosure alone may not be sufficient to redirect financial flows, and investors need to recognise financial opportunities in green energy investments.

## References

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