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Trump Reloaded: Zöld és Barna Energiaindexek Reakciója egy Új
Klímapolitikai Korszakra

Trump Reloaded: Green and Brown Energy Indexes Reaction to a New Climate
Policy Era

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Trump Reloaded: Green and Brown Energy Indexes Reaction to a New Climate Policy Era

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Abstract

Donald Trump's 2024 reelection, coupled with his pro-fossil fuel stance, reshaped market expectations around U.S. climate policy. Building on shifts seen in the election of 2016, our event study analyzes the reactions of green and brown energy stock indexes. We observed that Trump's victory led to gains in brown energy indexes and declines in green energy indexes, with their differential nearly doubling compared to 2016. Results reveal an immediate, concentrated market response on election day, aligning with economic expectations about policy impacts on climate-sensitive sectors.

1 Introduction

Donald Trump was elected to his second term as President of the United States on November 6, 2024. His previous tenure was marked by a strong stance on deregulation and an emphasis on traditional energy sources, notably fossil fuels, while rolling back environmental initiatives established in the Obama era. Trump’s policies included the U.S. withdrawal from the Paris Agreement, efforts to ease restrictions on oil, gas, and coal industries, and the appointment of climate change skeptic Scott Pruitt to head the Environmental Protection Agency (EPA). These actions underscored the administration’s prioritization of conventional energy sectors over renewable energy. Several studies have found that Trump’s first presidency had huge impact on climate policy transition risk ([Ardia et al., 2023](#); [Diaz-Rainey et al., 2021](#); [Jotzo et al., 2018](#))

In his 2024 campaign, Trump continued to advocate for policies supporting energy independence and economic growth through the development of traditional energy industries. His pledges to expand oil drilling, provide tax breaks to fossil fuel producers, and oppose electric vehicle incentives highlight a persistent commitment to reducing regulatory burdens on fossil fuel industries, which he argues are essential to job creation and U.S. economic stability.

This study aims to evaluate how the anticipated climate policy shifts associated with Trump’s reelection impact financial markets, specifically the valuation of green and traditional fossil (brown) energy stocks. By characterizing asset price responses to changes in climate policies, our analysis broadens the understanding of how shifts in political leadership influence investor sentiment toward climate policy transition. Our study investigates how election outcomes, favoring pro-fossil fuel policies, can alter investor sentiment and the potential pathways through which these shifts impact green transformation efforts within the economy.

To explore these dynamics, we employ an event-study methodology by [MacKinlay \(1997\)](#), ideal for capturing stock price movements surrounding significant announcements. Our analysis examines how financial markets respond to changes in expected climate policy, focusing on the differential impacts on green and brown energy stock indexes. This method provides a unique lens to study climate transition risks, illuminating how policy decisions favoring fossil fuels influence the valuations of green versus brown energy assets.

Our primary hypothesis is that Trump’s election would lead to negative abnormal returns (AR) for green assets and positive AR for brown assets on the election day in both 2016 and 2024, given Trump’s strong support for fossil fuels and deregulation. Building on this, we posit a secondary hypothesis: due to the market’s experience with Trump’s first term, which clearly prioritized traditional energy policies, investors may have become more sensitive to green policy expectations. As a result, we expect stronger effects in 2024 compared to 2016, with more pronounced positive returns for brown energy stocks and sharper declines for green energy stocks.

Our results confirm these hypotheses, revealing significant abnormal returns that favor brown energy sectors over green. The election day in 2024 showed economically and statistically significant abnormal returns, particularly in green assets, with little to no

reaction in the days surrounding the election. Cumulative abnormal returns (CAR) around the election day were significant in isolated cases, but the significant abnormal returns were concentrated specifically on the election day, indicating a rapid, concentrated market response.

Notably, the green-brown AR differential on the 2024 election day was double that observed in 2016, suggesting heightened market sensitivity to Trump’s climate policy stance. However, despite these amplified effects, both elections displayed similar overall patterns in market response. Additionally, while the overall energy market reaction in 2016 leaned more negative, in 2024 it leaned more positive regarding Trump’s impact; nevertheless, this trend did not reach statistical significance at any level.

Robustness tests and alpha correction (See e.g. [Harvey et al. \(2016\)](#), [Harvey et al. \(2020\)](#), [Menkveld et al. \(2024\)](#)) further support these findings, showing consistent results across different research designs, with statistical significance persisting in both the green-brown differential and individual green asset performance.

A number of recent studies explore the interconnections between climate change and financial markets, including [Andersson et al. \(2016\)](#); [Wagner et al. \(2018\)](#); [Bernstein et al. \(2019\)](#); [Bolton and Kacperczyk \(2021\)](#); [Ardia et al. \(2023\)](#); [Addoum et al. \(2023\)](#). Our paper complements this growing body of research by showing that green and brown energy-related stock indexes are heavily influenced by expectations regarding shifts in the regulatory environment for climate change.

Our study’s novelty lies in examining the abnormal returns of green versus brown assets specifically in relation to the 2024 U.S. election, making us likely among the first to analyze this context. Additionally, we compare these findings with those from Trump’s 2016 election, revealing that Trump’s 2024 victory produced a stronger effect on market expectations than his initial 2016 win.

Moreover, our analysis contributes to the literature on climate policy events and their effects on asset returns. Prior studies, including ([Wagner et al., 2018](#)); [Jotzo et al. \(2018\)](#); [Selby \(2019\)](#); ([Ramelli et al., 2021](#)); [Child et al. \(2021\)](#); [Diaz-Rainey et al. \(2021\)](#)), have examined the impact of Donald Trump’s policies during his previous term. Our research builds on these works by providing a comparative view of market responses to Trump’s pro-fossil fuel policies across two election cycles.

The remainder of this paper is structured as follows: Section 2 presents the data and methodology utilized in our empirical analysis. Section 3 details our examination of abnormal and cumulative abnormal returns in green and brown energy stock indexes. Section 4 discusses the main results, focusing on the 2024 and 2016 election comparisons, along with robustness checks.

2 Data and methodology

To perform the event study, we obtain 11 exchange-traded energy indexes. We follow [Monasterolo and De Angelis \(2020\)](#) and [Bauer et al. \(2023\)](#) to use these indexes as a proxy for green and brown energy stock indexes. We collected our daily data from Bloomberg,

excluding weekends and holidays.

We use the event study methodology to evaluate the election effect on the green and brown market indexes (MacKinlay, 1997). First, we choose the length of the estimation window and the event window. The initial reports of Donald Trump's victory were revealed on 6th November 2024, thus we choose that date as the event day τ . We examine a 7-days-long event window $[-3, 3]$ between 1st November 2024 and 11st November 2024, which might comprises expectations leading up to the election day as well as the initial market reactions after the result. We consider a 250 days long estimation window between 6th November 2023 and 18th October 2024. Our data consists trading days throughout the study and there is no overlap between the estimation and event period. We omit 2 weeks of daily data between the estimation and event window to avoid possible volatility rise in the estimation data due to events leading to the election. Hereafter, the notion of the estimation and event windows are $[T_0, T_1 - 10]$ and $[T_1, T_2]$, respectively.

To measure the impact of the election, we estimate the daily abnormal returns (AR) and the cumulative abnormal returns (CAR). The daily abnormal returns are estimated by:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}), \quad t = T_1, \dots, T_2 \quad (2.0.1)$$

where $R_{i,t}$ is the logarithmic daily return and $E(R_{i,t})$ is the expected or normal returns of index i during the event window.

We calculate the cumulative abnormal return (CAR_i) for each indexes i , by summing the abnormal returns (AR_i) in the event window.

$$CAR_i = \sum_{t=T_1}^{T_2} AR_{i,t} \quad (2.0.2)$$

In order to present the abnormal returns of green and brown factors $F = \{f_1, f_2\}$, we calculate the aggregate of abnormal returns ($AAR_{f,t}$) on day t and the cumulative aggregate of abnormal returns ($CAAR_f$) by taking the arithmetic mean of the N_f components of each factors. Notice, that N_f is the number of components in the specific factor f , which is 6 for the green factor f_1 and 5 for the brown factor f_2 .

$$AAR_{f,t} = \frac{1}{N_f} \sum_{i=1}^{N_f} AR_{i,t} \quad (2.0.3)$$

$$CAAR_f = \sum_{t=T_1}^{T_2} AAR_{f,t} \quad (2.0.4)$$

The expected returns are estimated by the market model regression (MacKinlay, 1997; Binder, 1998). Our baseline model is the value-weighted CRSP US Total Market Index (CRSP) based market model following Bauer et al. (2023).

The expected return in the market model is $E(R_{i,t}) = \hat{\alpha}_i + \hat{\beta}_i R_{m,t} + \epsilon_{i,t}$, assuming that $E(\epsilon_{i,t}) = 0$ and $var(\epsilon_{i,t}) = \sigma_{\epsilon_i}^2$. The market return $R_{m,t}$ is derived by CRSP index. The market model parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$ are estimated through the estimation window for each indexes by the OLS regression.

$$R_{i,t} = \hat{\alpha}_i + \hat{\beta}_i R_{m,t} + \epsilon_{i,t}, \quad t = T_0, \dots, T_1 - 10 \quad (2.0.5)$$

3 Results

3.1 Impact of the 2024 Election on Clean and Fossil Energy Indexes

In this section, we assess the abnormal returns (AR) and cumulative abnormal returns (CAR) of the broader energy stock market using the aforementioned event study methodology. First, we evaluate a period of 7 days (1st November 2024 - 11st November 2024) surrounding the event day (τ), which covers the effects of precursory news regarding the election, as well as the immediate aftermath of Trump’s victory.

We hypothesized that electing Donald Trump would lead to an overperformance of traditional energy stock indexes (brown energy companies) and an underperformance in green energy stock indexes. This expectation is grounded in Trump’s prior policy stance, which prioritized deregulation and support for fossil fuels while reversing many environmental policies. During his previous term, Trump implemented a series of policy actions aimed at dismantling Obama-era climate initiatives, including the U.S. withdrawal from the Paris Agreement, and promoted increased fossil fuel production by easing restrictions on oil, gas, and coal industries (See e.g. Jotzo et al., 2018; Selby, 2019; Diaz-Rainey et al., 2021; Ardia et al., 2023).

Our results align with expectations and reveal both economically and statistically significant underperformance in green assets alongside overperformance in brown assets, specifically on the election day. This is especially evident in clean energy indexes, which experienced abnormal losses ranging from 6.891% to 14.051% on the event day (Table 1). In contrast, oil and gas indexes recorded moderate yet consistently positive abnormal returns, indicating favorable market sentiment toward traditional energy sectors.

Notably, no significant abnormal returns, either statistically or economically, were detected in the days surrounding the election day from 1st November to 11st November, suggesting that these reactions are tightly associated with the election event itself (Table 1). This focused response highlights the election’s impact as the primary driver, without extended anticipation or sustained reaction in the subsequent days.

To explore these sectoral differences further, we examined the abnormal returns by comparing green and brown factors through an aggregated analysis of individual indexes. On the event day, green stock indexes underperformed brown indexes by a statistically significant 11.486% as shown in Table 1. However, this pattern of underperformance was absent before and after the election.

Table 1: A(A)R(%) of green and brown factors and the corresponding indexes in 2024

	$\tau - 3$	$\tau - 2$	$\tau - 1$	τ	$\tau + 1$	$\tau + 2$	$\tau + 3$
Green Factor	0.308	2.417	-0.659	-9.207***	-0.360	-1.099	0.614
Nasdaq Clean Edge Green Energy	0.467	2.459	-0.212	-8.155**	-0.729	-0.192	1.550
Wilderhill Clean Energy	0.941	2.190	-0.180	-9.959***	-0.950	-0.681	2.167
S&P Global Clean Energy	0.359	2.313	-1.167	-8.362***	-0.111	-1.710	-0.732
World Renewable Energy (Renixx)	0.404	2.649	-1.223	-7.825***	-0.287	-0.086	1.447
ISE Global Wind Energy	-0.261	1.566	-1.572	-6.891***	1.050	-0.730	-0.384
MAC Global Solar Energy	-0.064	3.325	0.398	-14.051***	-1.131	-3.195	-0.364
Brown Factor	-0.962	1.686	0.216	2.278*	-0.579	0.237	0.469
S&P 500 Integrated Oil & Gas	-0.274	2.350*	-0.331	1.198	-0.331	-0.166	-0.487
FTSE Local USA Oil & Gas & Coal	-1.541	1.564	0.540	2.780**	-0.583	0.950	0.836
FTSE All World Oil & Gas & Coal	-0.412	1.267	0.100	0.705	0.014	-0.487	-0.045
Dow Jones Select Oil Expl. & Prod.	-1.327	1.860	0.057	3.135**	-1.146	0.687	1.016
Dynamic Energy Expl. & Prod. Intellindex	-1.257	1.388	0.711	3.574**	-0.848	0.201	1.024
Green - Brown	1.270	0.731	-0.875	-11.486***	0.219	-1.336	0.145

Factor values are estimated by the arithmetic mean of the indexes. The p-values are calculated by the two-tailed t-test. Significance levels on 1%, 5% and 10% are denoted by ***, ** and *, respectively.

Table 2: C(A)AR(%) of green and brown factors and the corresponding indexes in 2024

	$[-3, 3]$	$[-2, 2]$	$[-3, -1]$	$[1, 3]$
Green Factor	-7.986	-8.954*	2.066	-0.983
Nasdaq Clean Edge Green Energy	-4.811	-6.874	2.715	0.460
Wilderhill Clean Energy	-6.473	-9.655	2.952	0.352
S&P Global Clean Energy	-9.409**	-9.063**	1.505	-2.641
World Renewable Energy (Renixx)	-4.923	-6.825	1.829	0.914
ISE Global Wind Energy	-7.222**	-6.611**	-0.266	-0.113
MAC Global Solar Energy	-15.081**	-14.694**	3.660	-4.871
Brown Factor	3.344	3.754	0.939	0.075
S&P 500 Integrated Oil & Gas	1.960	2.647	1.745	-1.028
FTSE Local USA Oil & Gas & Coal	4.545	5.169*	0.563	1.160
FTSE All World Oil & Gas & Coal	1.142	1.534	0.955	-0.562
Dow Jones Select Oil Expl. & Prod.	4.281	4.494	0.590	0.491
Dynamic Energy Expl. & Prod. Intellindex	4.793	4.927	0.842	0.312
Green - Brown	-11.331**	-12.708**	1.127	-1.058

Factor values are estimated by the arithmetic mean of the indexes. The p-values are calculated by the two-tailed t-test. Significance levels on 1%, 5% and 10% are denoted by ***, ** and *, respectively.

Our analysis of cumulative abnormal returns (CAR) during the election week window $[-2, 2]$ and the 7-day event window $[-3, 3]$ shows patterns consistent with those observed on the event day (Table 2). All green indexes showed negative abnormal returns, while brown indexes displayed positive returns in both windows. The difference between green and brown factors was statistically significant at the 5% significance level, with CAR of 11.331% and 12.708% for $[-3, 3]$ and $[-2, 2]$ event windows, respectively. Although these results are not as robust as the event day outcomes in terms of statistical significance, they are economically relevant. The event day's impact alone accounted for the cumulative abnormal returns observed over the entire week, reinforcing the strength of the election's effect on asset performance.

Comparing CAR over the three-day periods immediately preceding and following the election day ($[-3, -1]$ and $[1, 3]$), we observe non-significant cumulative abnormal returns in all cases (Table 2). On these surrounding days, indexes — regardless of classification as green or brown — moved largely in tandem, with predominantly positive abnormal returns in the days leading up to the election and mostly negative returns following it. Although showing only the cumulative returns, the above-mentioned results are easy to see from Figure 1 and Figure 2.

Figure 1 and Figure 2 show the cumulative logarithmic returns of the individual indexes and both green and brown factors, respectively. The event window is marked with the light grey area, and the event-day with the black vertical line. The last day of estimation window, 18th of October is considered as the initial value 0% in all cases on the figures.

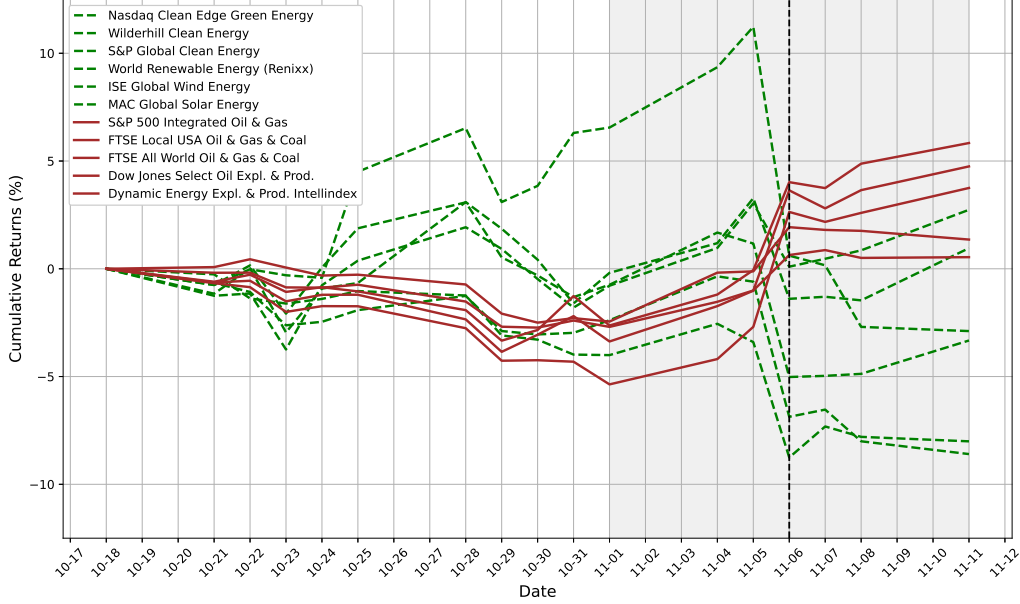


Figure 1: Cumulative logarithmic returns of green and brown indexes from 18th November 2024 (18th November is the end of the estimation window with 10 days gap between the estimation and the event window). The dashed vertical line is the event day, and the grey background indicates the event window. Weekends are included in the figure.

These results suggest that, while green and brown assets exhibited a strong and distinct reaction on the election day, they did not display significant divergence before or sustained divergence after the event. This short-term response to the election implies an immediate market reassessment of sectoral valuations in light of the anticipated climate policy direction, without reflecting a broader market consensus on the green-brown energy divide prior to the event or projecting any extended trend for these assets.

3.2 Comparative Analysis: The 2024 and 2016 Elections

To deepen our understanding of market reactions to political events that impact energy and environmental policy, this section examines the 2016 U.S. presidential election, which initiated president Trump’s first term. Like the 2024 election (See e.g. [Wagner et al., 2018](#); [Diaz-Rainey et al., 2021](#); [Ramelli et al., 2021](#)), this event was expected to bring significant shifts in climate and energy policy, providing a historical benchmark to compare against the 2024 results. This comparison allows us to assess immediate asset responses, detect any evolution in market perception of green versus brown energy assets, and determine whether the 2024 reaction reflects a broader trend or aligns with past expectations.

Following [Ramelli et al. \(2021\)](#), we consider November 8, election day, as the event day; however, market effects only materialized on November 9.

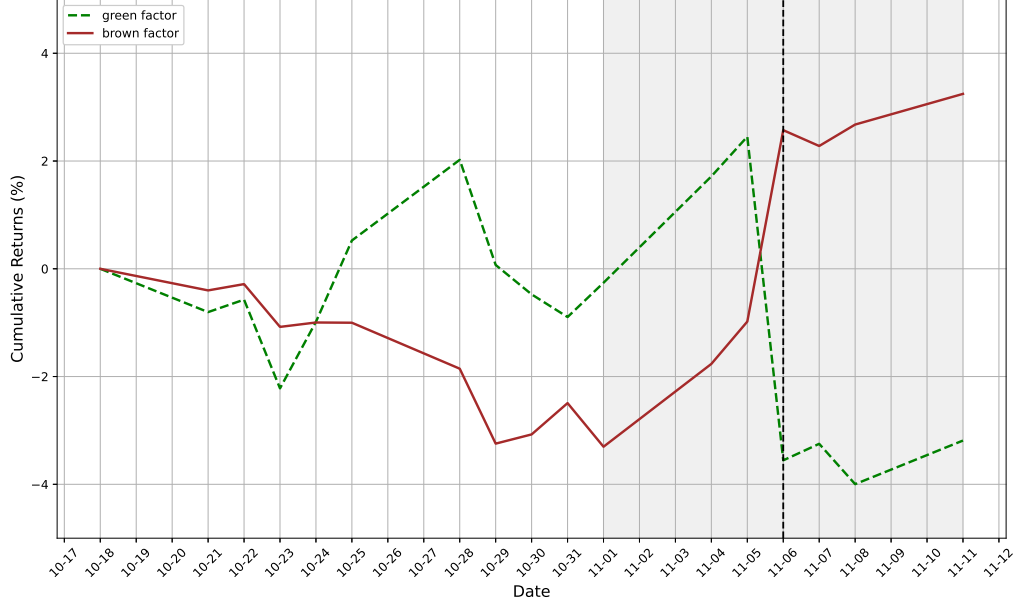


Figure 2: Cumulative logarithmic returns of green and brown factors from 18th November 2024 (18th November is the end of the estimation window with 10 days gap between the estimation and the event window). The dashed vertical line is the event day, and the grey background indicates the event window. Weekends are included in the figure.

The 2016 results share similarities with 2024: green assets underperformed consistently on the event day, while brown energy stocks showed mixed performance, often statistically insignificant (Table 3). The abnormal return of green factor was negative and statistically significant, while the brown factor was positive but not significant at conventional significance levels. The difference between green and brown assets was statistically significant at the 1% level, though in 2024, the effect doubled in magnitude (Table 3). This suggests that market participants may have anticipated worse outcomes in 2024 regarding climate policy, based on experiences from Trump’s first term, leading to stronger reactions.

Interestingly, as shown in Figures 3, 4 (with detailed data in Tables 6, 7, and 8 in the Appendix), the market reaction in 2016 trended downward for both green and brown indexes after the event day, while in 2024, brown assets trended upward, even green assets recovered somewhat. It is important to note, however, that these results lack statistical significance according to our CAR results in Table 3.

Further examining the CAR over the 7-day event window $[-3, 3]$ in Table 3, we see that no index in 2016 exhibited positive CAR, even for brown indexes. These results were not statistically significant, including the green versus brown factor. By contrast, 2024 results are more straightforward and align with our hypothesis and economic intuition.

Table 3: Comparing green and brown factors and the corresponding indices for 2016 and 2022

	τ		$\tau + 1$		$[-3, 3]$	
	2016	2022	2016	2022	2016	2022
Green Factor	-0.111	-9.207***	-4.639**	-0.360	-6.939*	-7.986
Nasdaq Clean Edge Green Energy	-0.185	-8.155**	-2.458	-0.729	-0.837	-4.811
Wilderhill Clean Energy	0.763	-9.959***	-3.387*	-0.950	-2.657	-6.473
S&P Global Clean Energy	-0.154	-8.362***	-6.093***	-0.111	-10.711**	-9.409**
World Renewable Energy (Renixx)	-0.527	-7.825***	-5.235**	-0.287	-8.164*	-4.923
ISE Global Wind Energy	-1.222	-6.891***	-4.309***	1.050	-9.219**	-7.222**
MAC Global Solar Energy	0.658	-14.051***	-6.349**	-1.131	-10.048*	-15.081**
Brown Factor	-0.551	2.278*	0.494	-0.579	-2.652	3.344
S&P 500 Integrated Oil & Gas	-0.380	1.198	-0.536	-0.331	-2.195	1.960
FTSE Local USA Oil & Gas & Coal	-0.910	2.780**	0.905	-0.583	-2.536	4.545
FTSE All World Oil & Gas & Coal	-0.094	0.705	-0.837	0.014	-4.730	1.142
Dow Jones Select Oil Expl. & Prod.	-0.804	3.135**	1.006	-1.146	-2.980	4.281
Dynamic Energy Expl. & Prod.	-0.569	3.574**	1.933	-0.848	-0.819	4.793
Green - Brown	0.440	-11.486***	-5.133***	0.219	-4.287	-11.331**

Factor values are estimated by the arithmetic mean of the indices. The p-values are calculated by the two-tailed t-test. Significance levels on 1%, 5% and 10% are denoted by ***, ** and *, respectively.

3.3 Robustness Testing: Study Design and Multiple Testing Adjustments

We apply hypothesis tests to each individual time-series, which inflates the probability of Type I error, increasing the chance of finding statistically significant abnormal returns by chance. To address this multiple testing problem, we use the Bonferroni correction (Holm, 1979) and the Benjamini-Hochberg (BH) false discovery rate (Benjamini & Hochberg, 1995) to assess the robustness of the abnormal returns on November 6, 2024.

The Bonferroni correction reduces the risk of Type I errors by setting a stricter significance threshold; here, the chosen significance level ($\alpha = 0.05$) is divided by the total number of tests ($m = 14$). Although this correction is highly conservative and can lead to a higher rate of false negatives, particularly with numerous tests, we argue that the results remaining significant under Bonferroni correction are likely to be relevant. In contrast, the BH procedure, which is designed to control the False Discovery Rate (FDR), ranks the p-values in ascending order and adjusts the significance threshold for each p-value based on the formula $\frac{i}{m} \cdot \alpha$, where i is the rank. Hypotheses with p-values below this adaptive threshold are rejected.

Table 4 presents the t -statistics and corresponding p -values of the abnormal returns for green and brown assets on the event day for the 2024 election. Notably, neither the Bonferroni nor the BH correction shows significant ARs for the brown factor or its indexes.

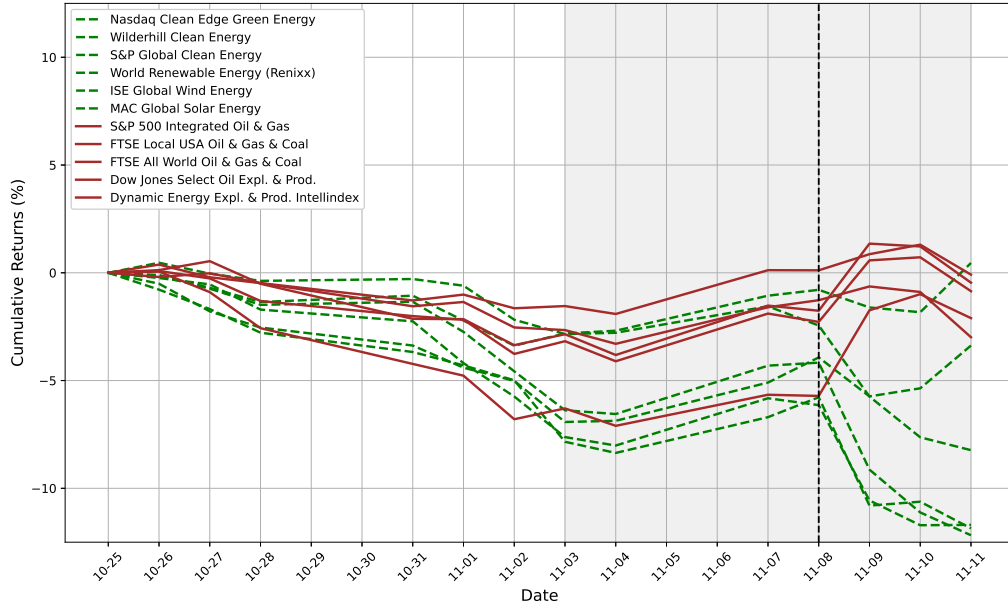


Figure 3: Cumulative logarithmic returns of green and brown indexes from 25th October 2016 (25th October 2016 is the end of the estimation window with 10 days gap between the estimation and the event window). The dashed vertical line is the event day, and the grey background indicates the event window. Weekends are included in the figure.

However, significance is observed for most green indexes, as well as for the difference between green and brown factors.

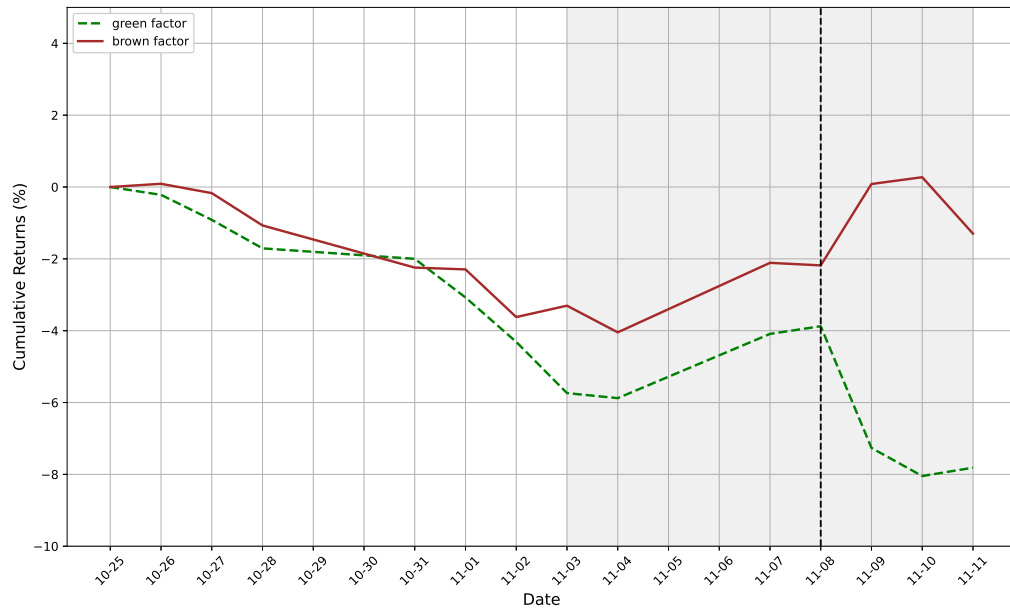


Figure 4: Cumulative logarithmic returns of green and brown factors from 25th October 2016 (25th October 2016 is the end of the estimation window with 10 days gap between the estimation and the event window). The dashed vertical line is the event day, and the grey background indicates the event window. Weekends are included in the figure.

Table 4: T-statistics and p-values with Bonferroni and BH adjustments (5%)

	t (p-value)	Bonferroni (5%)	BH (5%)
Green Factor	-5.60994 (0.00137)	x	x
Nasdaq Clean Edge Green Energy	-3.68594 (0.01026)		x
Wilderhill Clean Energy	-3.93381 (0.00768)		x
S&P Global Clean Energy	-6.28721 (0.00075)	x	x
World Renewable Energy (Renixx)	-4.67552 (0.00341)	x	x
ISE Global Wind Energy	-6.85963 (0.00047)	x	x
MAC Global Solar Energy	-6.41372 (0.00068)	x	x
Brown Factor	2.15694 (0.07439)		
S&P 500 Integrated Oil & Gas	1.06674 (0.32712)		
FTSE Local USA Oil & Gas & Coal	2.55763 (0.04305)		
FTSE All World Oil & Gas & Coal	0.81155 (0.44804)		
Dow Jones Select Oil Expl. & Prod.	2.46914 (0.04851)		
Dynamic Energy Expl. & Prod. Intellindex	3.10450 (0.02100)		x
Green - Brown	-6.98174 (0.00043)	x	x

The column " t (p-value)" shows the t-statistics with corresponding p-values. The "Bonferroni (5%)" and "BH (5%)" columns indicate significance based on Bonferroni and Benjamini-Hochberg (BH) adjustments at the 5% level, respectively.

To further assess the robustness of our findings, we acknowledge that research design choices can introduce variability and uncertainty into the results (Menkveld et al., 2024). In event studies, key parameters such as the event window length, estimation window length, and the gap between these two windows are influential in determining outcomes (MacKinlay, 1997; Binder, 1998).

We have already explored variations in event window lengths by incorporating multiple CAR lengths, which provide insights across different time horizons. Initially, we used an estimation window of 250 days with a 10-day gap between the estimation and event

windows. However, to further evaluate the robustness of our findings to these design choices, we examined additional configurations for the abnormal return of the event day: estimation windows of 120, 250, and 500 days, along with gaps of 1, 10, and 20 days.

Figure 5 presents the results for the difference between green and brown factors across these design variations. Interestingly, despite altering these parameters, our results demonstrate minimal sensitivity to these changes. Specifically, we observe that the differences between green and brown factor AR remain consistent regardless of the chosen estimation and gap window lengths on the election day. This consistency suggests that our findings are robust and not substantially influenced by the study design.

Examining the distributions of the underlying green and brown indexes across these combinations, as depicted in Figure 6, reveals a similar pattern. The distribution of returns appears stable and largely independent of the research design, reinforcing that the observed effects are not an artifact of specific methodological choices.

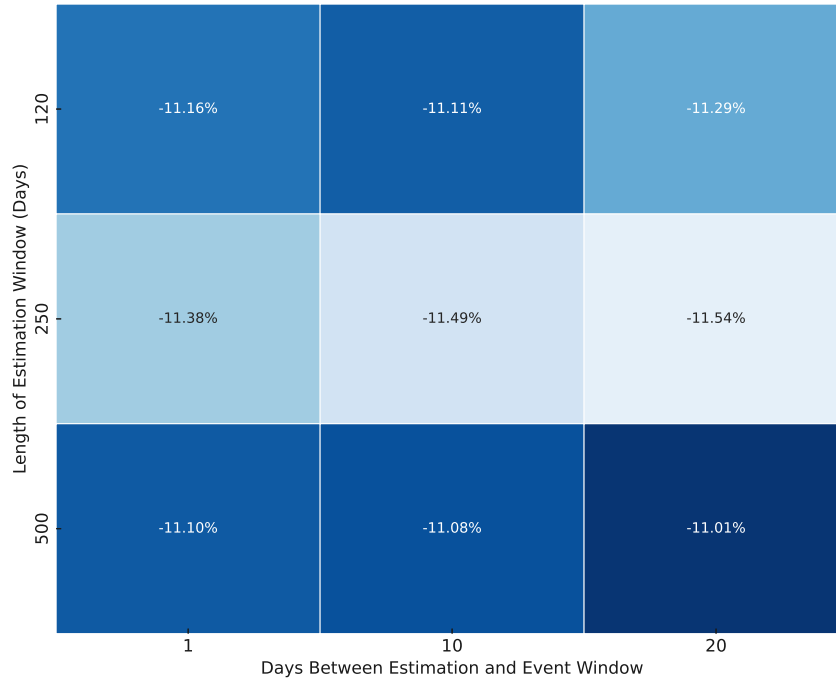


Figure 5: Abnormal returns of green - brown factors on 6th November 2024

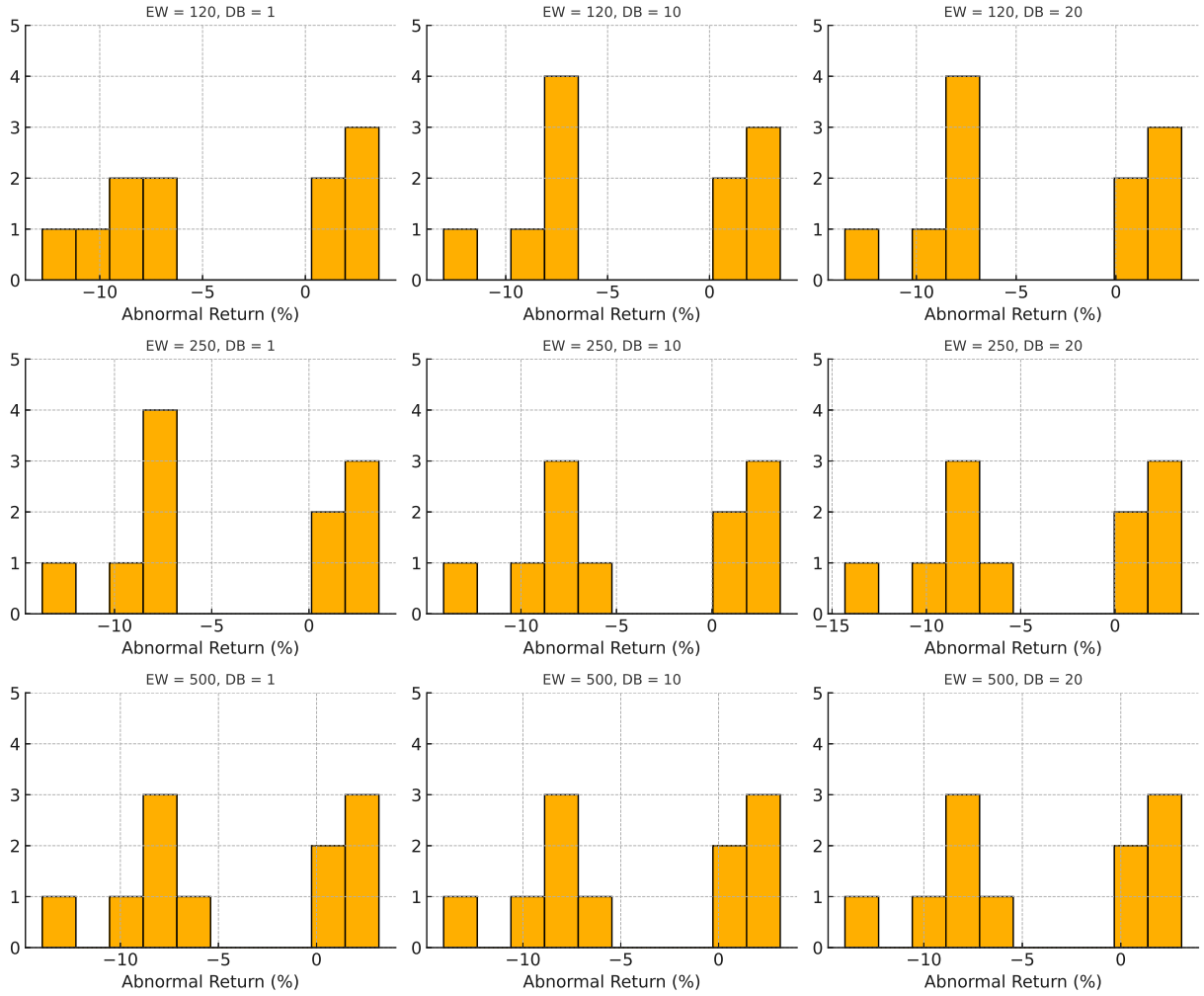


Figure 6: Abnormal returns of green and brown indexes on 6th November 2024. EW is an abbreviation for estimation window length, DB is for the difference between estimation and event window length.

4 Conclusion

This study examined the impact of Donald Trump’s 2024 election on financial markets, with a specific focus on the valuation of green versus brown energy stock indexes, using an event study methodology to capture abnormal returns surrounding the election day. Our analysis covers the 2024 election event window from 1st November to 11st November, with a comparison to the 2016 election for additional context. We also conducted robustness tests to ensure the reliability of our findings across various research designs, with a particular focus on minimizing the risk of statistical anomalies by focusing on the control of alpha inflation.

Our results validate our hypotheses and align with economic intuition regarding how green assets react to possible policy shifts favoring traditional energy. Specifically, we observed significant abnormal returns on the 2024 election day, with green energy indexes showing marked underperformance and brown energy stocks displaying positive gains.

Notably, the green-brown AR differential doubled in magnitude in 2024 compared to 2016, indicating that investors may have internalized Trump’s policy trajectory from his previous term and adjusted their expectations more sharply in response.

The cumulative abnormal returns (CAR) around the election day were generally less pronounced and appeared concentrated on the election day itself, suggesting an immediate, focused market reaction to Trump’s pro-fossil fuel stance.

Additionally, while the overall energy market leaned negatively in 2016, it showed a slight positive shift in 2024, though this trend did not achieve statistical significance.

In a broader sense, these findings contribute to the understanding of how anticipated policy shifts, particularly those associated with a pro-fossil fuel administration, influence investor sentiment and sectoral valuations in climate-sensitive industries. By characterizing asset price responses to shifts in climate policy, our study offers insights into how political leadership transitions can impact the pace of the green transition within financial markets.

These results suggest that market sentiment toward green and brown assets is heavily shaped by the perceived regulatory and operational landscape, highlighting the critical role of government policies in steering investment trends. As political decisions continue to play a central role in shaping climate-related risks and opportunities, our findings underscore the importance of investor awareness of transition risks and the potential for policy-driven shifts in asset valuation.

Future research could broaden this analysis by examining a wider range of green and brown assets, potentially extending to individual stock-level data to capture more granular market reactions. Additionally, while our analysis focused on short-term effects due to data constraints, [Ramelli et al. \(2021\)](#) highlights the long-term impact of Trump’s policies following his 2016 election. Future studies could investigate these extended effects to capture evolving market responses over time.

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A Appendix

Table 5: t-statistics and p-values for 2024 across time intervals

	$\tau - 3$	$\tau - 2$	$\tau - 1$	τ	$\tau + 1$	$\tau + 2$	$\tau + 3$
Green Factor	0.18758 (0.85739)	1.47267 (0.19126)	-0.40165 (0.70186)	-5.60994 (0.00137)	-0.21922 (0.83375)	-0.66951 (0.52808)	0.37413 (0.72117)
Nasdaq Clean Edge Green Energy	0.21122 (0.83971)	1.11157 (0.30887)	-0.09581 (0.92679)	-3.68594 (0.01026)	-0.32970 (0.75283)	-0.08657 (0.93383)	0.70081 (0.50967)
Wilderhill Clean Energy	0.37176 (0.72285)	0.86513 (0.42021)	-0.07104 (0.94568)	-3.93381 (0.00768)	-0.37531 (0.72034)	-0.26911 (0.79686)	0.85577 (0.42497)
S&P Global Clean Energy	0.27024 (0.79603)	1.73873 (0.13274)	-0.87713 (0.41415)	-6.28721 (0.00075)	-0.08329 (0.93633)	-1.28530 (0.24607)	-0.55024 (0.60202)
World Renewable Energy (Renixx)	0.24144 (0.81725)	1.58249 (0.16462)	-0.73101 (0.49232)	-4.67552 (0.00341)	-0.17175 (0.86928)	-0.05167 (0.96047)	0.86477 (0.42039)
ISE Global Wind Energy	-0.25995 (0.80359)	1.55919 (0.16997)	-1.56436 (0.16877)	-6.85963 (0.00047)	1.04483 (0.33636)	-0.72616 (0.49508)	-0.38270 (0.71513)
MAC Global Solar Energy	-0.02905 (0.97776)	1.51776 (0.17987)	0.18175 (0.86176)	-6.41372 (0.00068)	-0.51607 (0.62427)	-1.45820 (0.19506)	-0.16605 (0.87357)
Brown Factor	-0.91100 (0.39742)	1.59600 (0.16160)	0.20405 (0.84506)	2.15694 (0.07439)	-0.54799 (0.60347)	0.22432 (0.82996)	0.44370 (0.67281)
S&P 500 Integrated Oil & Gas	-0.24433 (0.81512)	2.09313 (0.08125)	-0.29446 (0.77833)	1.06674 (0.32712)	-0.29457 (0.77825)	-0.14748 (0.88758)	-0.43345 (0.67984)
FTSE Local USA Oil & Gas & Coal	-1.41770 (0.20606)	1.43870 (0.20029)	0.49683 (0.63698)	2.55763 (0.04305)	-0.53653 (0.61089)	0.87368 (0.41588)	0.76869 (0.47124)
FTSE All World Oil & Gas & Coal	-0.47409 (0.65220)	1.45815 (0.19507)	0.11521 (0.91204)	0.81155 (0.44804)	0.01632 (0.98751)	-0.56094 (0.59515)	-0.05171 (0.96044)
Dow Jones Select Oil Expl. & Prod.	-1.04510 (0.33624)	1.46483 (0.19331)	0.04473 (0.96577)	2.46914 (0.04851)	-0.90259 (0.40152)	0.54079 (0.60813)	0.79987 (0.45428)
Dynamic Energy Expl. & Prod. Intellindex	-1.09203 (0.31672)	1.20599 (0.27322)	0.61787 (0.55937)	3.10450 (0.02100)	-0.73707 (0.48889)	0.17502 (0.86682)	0.88943 (0.40801)
Green - Brown	0.77208 (0.46938)	0.44445 (0.67230)	-0.53173 (0.61402)	-6.98174 (0.00043)	0.13315 (0.89843)	-0.81197 (0.44782)	0.08836 (0.93247)

Values are presented as t-statistics with corresponding p-values in parentheses.

Table 7: C(A)AR(%) of green and brown factors and the corresponding indexes in 2016

	$[-3, 3]$	$[-2, 2]$	$[-3, -1]$	$[1, 3]$
Green Factor	-6.939*	-6.171*	-1.336	-5.494
Nasdaq Clean Edge Green Energy	-0.837	-4.158	0.208	-0.867
Wilderhill Clean Energy	-2.657	-3.299	-2.028	-1.371
S&P Global Clean Energy	-10.711**	-8.224**	-1.145	-9.426*
World Renewable Energy (Renixx)	-8.164*	-6.593	-1.082	-6.562
ISE Global Wind Energy	-9.219**	-8.086**	-0.797	-7.207*
MAC Global Solar Energy	-10.048*	-6.665	-3.171	-7.534
Brown Factor	-2.652	-1.963	-0.741	-1.336
S&P 500 Integrated Oil & Gas	-2.195	-1.231	0.073	-1.845
FTSE Local USA Oil & Gas & Coal	-2.536	-2.197	-0.592	-1.022
FTSE All World Oil & Gas & Coal	-4.730	-2.892	-0.994	-3.625
Dow Jones Select Oil Expl. & Prod.	-2.980	-2.510	-0.825	-1.330
Dynamic Energy Expl. & Prod. Intellindex	-0.819	-0.985	-1.366	1.141
Green - Brown	-4.287	-4.208	-0.595	-4.158

Factor values are estimated by the arithmetic mean of the indices. The p-values are calculated by the two-tailed t-test. Significance levels on 1%, 5% and 10% are denoted by ***, ** and *, respectively.

Table 6: A(A)R(%) of green and brown factors and the corresponding indexes in 2016

	$\tau - 3$	$\tau - 2$	$\tau - 1$	τ	$\tau + 1$	$\tau + 2$	$\tau + 3$
Green Factor	-0.933	-0.025	-0.378	-0.111	-4.639**	-1.009	0.155
Nasdaq Clean Edge Green Energy	1.161	0.238	-1.191	-0.185	-2.458	-0.551	2.148
Wilderhill Clean Energy	-1.270	0.213	-0.972	0.763	-3.387*	0.097	1.899
S&P Global Clean Energy	-1.362	-0.068	0.285	-0.154	-6.093***	-2.191	-1.128
World Renewable Energy (Renixx)	-1.555	-0.312	0.784	-0.527	-5.235**	-1.291	-0.029
ISE Global Wind Energy	-0.393	0.056	-0.461	-1.222	-4.309***	-2.147*	-0.744
MAC Global Solar Energy	-2.179	-0.276	-0.716	0.658	-6.349**	0.029	-1.216
Brown Factor	0.984	-0.604	-1.121	-0.551	0.494	-0.153	-1.702
S&P 500 Integrated Oil & Gas	0.538	-0.305	-0.159	-0.380	-0.536	0.165	-1.517
FTSE Local USA Oil & Gas & Coal	1.335	-0.772	-1.155	-0.910	0.905	-0.227	-1.711
FTSE All World Oil & Gas & Coal	0.388	-0.559	-0.823	-0.094	-0.837	-0.568	-2.238
Dow Jones Select Oil Expl. & Prod.	1.317	-0.791	-1.351	-0.804	1.006	-0.530	-1.827
Dynamic Energy Expl. & Prod. Intellindex	1.342	-0.592	-2.115	-0.569	1.933	0.397	-1.214
Green - Brown	-1.917	0.579	0.742	0.440	-5.133***	-0.856	1.857

Factor values are estimated by the arithmetic mean of the indexes. The p-values are calculated by the two-tailed t-test. Significance levels on 1%, 5% and 10% are denoted by ***, ** and *, respectively.

Table 8: t-statistics and p-values for 2016 across time intervals

	$\tau - 3$	$\tau - 2$	$\tau - 1$	τ	$\tau + 1$	$\tau + 2$	$\tau + 3$
Green Factor	-0.73360 (0.49085)	-0.01942 (0.98514)	-0.29758 (0.77606)	-0.08747 (0.93315)	-3.64806 (0.01073)	-0.79355 (0.45768)	0.12209 (0.90681)
Nasdaq Clean Edge Green Energy	0.79334 (0.45779)	0.16269 (0.87610)	-0.81405 (0.44671)	-0.12610 (0.90377)	-1.67964 (0.14403)	-0.37657 (0.71945)	1.46800 (0.19248)
Wilderhill Clean Energy	-0.81374 (0.44688)	0.13674 (0.89571)	-0.62316 (0.55611)	0.48878 (0.64235)	-2.17098 (0.07296)	0.06223 (0.95240)	1.21733 (0.26918)
S&P Global Clean Energy	-1.06109 (0.32948)	-0.05338 (0.95916)	0.22239 (0.83139)	-0.12023 (0.90823)	-4.74874 (0.00316)	-1.70770 (0.13856)	-0.87888 (0.41328)
World Renewable Energy (Renixx)	-1.08385 (0.32005)	-0.21727 (0.83520)	0.54684 (0.60421)	-0.36732 (0.72599)	-3.64967 (0.01071)	-0.90034 (0.40263)	-0.02010 (0.98462)
ISE Global Wind Energy	-0.35932 (0.73166)	0.05140 (0.96068)	-0.42176 (0.68789)	-1.11812 (0.30628)	-3.94369 (0.00759)	-1.96440 (0.09710)	-0.68058 (0.52152)
MAC Global Solar Energy	-1.16664 (0.28762)	-0.14752 (0.88755)	-0.38309 (0.71486)	0.35202 (0.73686)	-3.39867 (0.01452)	0.01558 (0.98808)	-0.65075 (0.53932)
Brown Factor	0.56942 (0.58973)	-0.34939 (0.73873)	-0.64874 (0.54052)	-0.31909 (0.76047)	0.28606 (0.78445)	-0.08835 (0.93248)	-0.98504 (0.36265)
S&P 500 Integrated Oil & Gas	0.39985 (0.70311)	-0.22671 (0.82817)	-0.11853 (0.90952)	-0.28245 (0.78709)	-0.39875 (0.70388)	0.12268 (0.90636)	-1.12881 (0.30208)
FTSE Local USA Oil & Gas & Coal	0.66459 (0.53101)	-0.38452 (0.71386)	-0.57507 (0.58615)	-0.45314 (0.66637)	0.45041 (0.66823)	-0.11303 (0.91369)	-0.85205 (0.42688)
FTSE All World Oil & Gas & Coal	0.27003 (0.79619)	-0.38872 (0.71090)	-0.57277 (0.58761)	-0.06530 (0.95006)	-0.58221 (0.58163)	-0.39530 (0.70629)	-1.55777 (0.17030)
Dow Jones Select Oil Expl. & Prod.	0.60247 (0.56892)	-0.36172 (0.72996)	-0.61824 (0.55914)	-0.36766 (0.72574)	0.46025 (0.66154)	-0.24255 (0.81643)	-0.83604 (0.43516)
Dynamic Energy Expl. & Prod. Intellindex	0.61996 (0.55808)	-0.27349 (0.79365)	-0.97746 (0.36609)	-0.26298 (0.80136)	0.89323 (0.40613)	0.18349 (0.86046)	-0.56118 (0.59500)
Green - Brown	-1.39869 (0.21141)	0.42250 (0.68738)	0.54181 (0.60747)	0.32115 (0.75899)	-3.74591 (0.00956)	-0.62499 (0.55498)	1.35525 (0.22413)

Values are presented as t-statistics with corresponding p-values in parentheses.