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2024 U.S. presidential elections: An event study for U.S. and non-U.S. fossil fuel and renewable listed firms

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ABSTRACT

This study examines the short-term market effect of Donald Trump' victory in the 2024 US presidential election on largest US and non-US listed worldwide fuel fossil and renewable firms. Employing an event study methodology, we observe a negative and statistically significant stock price reaction for worldwide renewable listed firms. An analysis by economic zones reveals the existence of negative abnormal returns for renewable energy firms in the US, Europe, India and in the rest of the world. In the case of China, abnormal returns are not statistically significant. With respect to worldwide fossil fuel listed firms, abnormal returns are generally not statistically significant. However, regarding US firms, we observe positive and statistically significant abnormal returns. These abnormal returns are explained by the change of US energy policy (pro-oil and gas policy) and the expected cut in subsidies and lower profitability of investments in green energies. Finally, our study provide insight into which firm-specific characteristics emerge as value drives around US presidential elections. The results show that despite the change in environmental policy in the US, favourable to fossil energy, the stock markets reward firms with high environmental ratings. Overall, our results indicate that 2024 US presidential election, for implying a change in US energy policy, has relevant policy implications for energy listed firms.

1. Introduction

The first consequence of Trump's victory in the US presidential election on November 5, 2024, will be US backtracking on climate action. During his victory speech, Donald Trump underscored his plans to prioritize traditional energy sectors, potentially limiting support for renewables while advancing oil and gas production expansion. As a result of his election, significant policy changes are expected to further increase fossil fuel production in the US, notably the dismantling federal climate initiatives, including repealing tax incentives from Biden Administration's Inflation Reduction Act (IRA) and expected restriction of clean energy tax credits and back support for projects like green hydrogen production (Forbes, 2024). The US financial markets reacted to Donald Trump's election with an increase in fossil fuel energy stocks and a decrease of renewable energy market value.

A recent report from Goldman Sachs (Goldman Sachs, 2024) highlights the prospect of a long life for hydrocarbon assets, with peak oil demand occurring after 2030 and demand for fossil fuel growing until 2050. According to the report "*this implies new greenfield oil and gas developments are likely to be needed beyond 2040*". The longer horizon to peak oil demand in part reflects a slower adoption rate for electric vehicles (EV) and rising incomes around the world, that increase the appetite for energy supplies that will be met primarily with more fossil fuels (Goldman Sachs, 2024). Several countries have or plan to cut subsidies, and price competition has put pressure on automobile manufacturers profits, slowing countries investment. Technical issues, affordability, changing infrastructure, and policy uncertainty around elections in the US and Europe are all contributing to sluggish EV sales.

While global carbon emissions have risen higher than previously expected, and the goals set out in the Paris Agreement are unlikely to be achieved, and ambitious path to containing temperature increases to 2 degrees may still be attainable, according to Goldman Sachs (2024) report. In this sense, we have seen efforts from the two most populous countries in the world to reduce carbon emissions. China may have

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already peaked its carbon emissions seven years ahead of the deadline for its Paris Agreement commitments. China's consumption of hydrocarbons is entering a path of secular decline, with installed renewable energy capacity growing faster than growth in energy demand (Xie, 2024). Guided by a "remove, target, and shift" strategy, India steadily whittled down its fuel support, opening doors to new investments in solar power, electric vehicles, and a strong energy grid. As noted by Asian Development Bank (2024) in its recent Asia-Pacific Climate report, India is shifting from an unsustainable dependence on fossil fuel subsidies to fostering clean energy.

This paper contributes to the debate on the impact of the US presidential elections and political uncertainty on the energy sector, by investigating the short-term effects caused by 2024 US presidential elections on largest listed worldwide fuel fossil and renewable firms. The government economic policy – that includes regulatory, expenditure, taxation, environmental and monetary policies – has major and market-wide economic impacts that are non-diversifiable (e.g., Pástor & Veronesi, 2012, 2013). Environmental regulation uncertainty is only one (particular) type of policy uncertainty (Hsu et al., 2023). These authors argue that environmental regulation uncertainty is a substantial yet under explored part of policy uncertainty.

Pástor and Veronesi (2012, 2013) analyse the effect of political uncertainty on asset pricing within a theoretical framework based on a general equilibrium model, demonstrating that changes in government policy tend to affect stock prices. According to the authors, firms make decisions based on their perspectives on future economic and environmental policy scenarios. Therefore, well-intentioned policymakers can heighten risk by creating uncertainty around their future economic decisions.

Our study contributes to the existing financial literature in several ways. First, it extends the literature on the stock market impact of US presidential elections on energy listed firms (e.g., Barnett, 2019; Diaz-Rainey et al., 2021; Mukanjari & Sterner, 2024; Nerger et al., 2021; Ramelli et al., 2021). Second, despite the existence of some empirical studies on the impact of election results on the share prices of energy firms, to the best of our knowledge, this is the first study for the 2024 US presidential election and for a sample of US and non-US fossil fuel and renewable listed firms. This type of sample will allow us to investigate the impact caused by the change in energy policy in the US (pro-oil and gas policy) on listed firms in the US (directly affected) and in other economic zones – China, Europe, and India, who have adopted environmental policies in the opposite direction. As highlighted by Birindelli et al. (2023) the reaction of financial markets to climate events depends on how country authorities respond to commitments to accelerate and scale the transition to a greener economy. Rogge and Dütschke (2018) recommend the development of similar empirical studies in different countries over time. Our study, by focusing on economic areas with different environmental policies, will allow a global-level comparison of stock market reactions. Finally, it examines the cross-sectional determinants of energy firms' abnormal returns for the 2024 US presidential election.

Our results show that Donald Trump' victory in the 2024 US presidential election had the following reactions from the financial markets: (*i*) a negative and statistically significant stock price reaction for worldwide renewable listed firms, and (*ii*) a lack of statistically significant impact for worldwide fossil fuel listed firms, for the generality of event windows. The analysis by economic zones reveals, for renewable listed firms, the existence of negative abnormal returns for all economic zones, except for China. In the case of fossil fuel listed firms, US firms observe positive and statistically significant abnormal returns. In the other economic zones, fossil fuel abnormal returns are not statistically significant. Finally, our study provide insight into which firm-specific characteristics emerge as value drives around US presidential elections. The results show that despite the change in environmental policy in the US, pro-oil and gas energy, the stock markets reward firms with high environmental ratings.

Table 1
Largest Fossil and Renewable Listed Firms by Economic Areas.

Distribution by Economic Areas			
Panel 1: Fossil Listed Firms (# 250 firms)			
Economic Area	**# Firms**	**Economic Area**	**# Firms**
China	34	US	85
Europe	36	Rest of World	83
India	12		
Panel 2: Renewable Listed Firms (# 250 firms)			
Economic Area	**# Firms**	**Economic Area**	**# Firms**
China	70	US	35
Europe	57	Rest of World	79
India	9		

This table shows the largest Fossil listed firms (Panel 1) and the largest Renewable listed firms (Panel 2) by economic areas. "# Firms" means the number of listed firms.

The remainder of the paper is organized as follows. Section 2 presents the literature revision. Section 3 describes the research hypotheses. Section 4 provides the data and methodology employed in the empirical analysis. Section 5 explains and discusses the results obtained. Section 6 concludes the paper.

2. Literature review

In recent years, the financial literature has increasingly investigated the reaction of energy share prices to climate summits, such as Kyoto Protocol, Paris Agreement and COP26 (e.g., Antoniuk & Leirvik, 2021; Batten et al., 2016; Birindelli et al., 2023; Birindelli & Chiappini, 2021; Monasterolo & De Angelis, 2020; Pham et al., 2019; Ramiah et al., 2015) presidential elections (e.g., Nerger et al., 2021; Ramelli et al., 2021) or both events (e.g., Barnett, 2019; Diaz-Rainey et al., 2021; Mukanjari & Sterner, 2024).

Pástor and Veronesi (2012, 2013) analyse the effect of political uncertainty on asset pricing within a theoretical framework based on a general equilibrium model, demonstrating that changes in government policy affect stock prices. Pástor and Veronesi (2012) show that, on average, the impact of the discount rate typically outweighs the cash flow effect, resulting in a decline in equity prices upon a government policy change announcement. This occurs because positive announcements often lead to muted returns, as investors often predict policy changes that could potentially boost stock prices. According to the authors, stock prices rise only if the outgoing policy is perceived as sufficiently harmful to profitability. There is a large number of empirical studies that show the importance of elections and political uncertainty on stock prices (e.g., Ahmed et al., 2023; Ahmed et al., 2025; Bash & Al-Awadhi, 2023a, 2023b; Wagner et al., 2018).

Presidential elections, especially the US elections and climate summits by sending signals to financial markets about future climate change policies, tend to influence the market value of energy firms. For example, the Trump's presidential victory in 2016 was received as good news for high-emission firms, probably anticipating more relaxed environmental regulations (e.g., Hsu et al., 2023; Nerger et al., 2021; Ramelli et al., 2021). President Trump is a staunch supporter of the US oil and gas industry, both during and after his presidential campaign, and a strong supporter of technological advances in fracking (shale gas which is obtained by hydraulic fracturing), with the aim of expanding US oil and gas production and thus making the US a net energy exporter (Diaz-Rainey et al., 2021). Wagner et al. (2018) show that stock price gained for high-tax firms and those with substantial deferred tax liabilities, while stock price fell for firms with significant net operating loss deferred tax assets. More recently, Ahmed et al. (2025) examine the impact of the 2024 US presidential election outcome on US equities. Sectoral analysis reveals varied responses: the energy sector saw substantial gains, likely due to the potential relaxed environmental

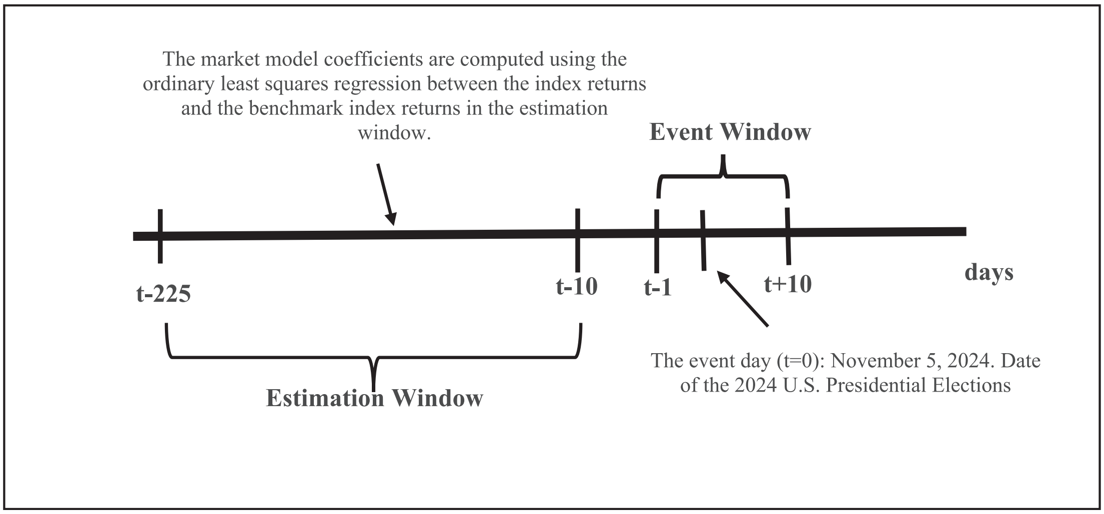

Fig. 1. Event Timeline. The figure illustrated the event timeline used to compute ARs around the 2024 U.S. Presidential Elections for the largest U.S. and non-U.S. Fossil and Renewable listed firms.

enforcement, an increase of home fossil-fuel exploration, and 'American product first' policies', while industries like chemicals had more moderate post-event reactions.

The empirical results for the energy industry during President Trump's first election are contradictory. Barnett (2019) focuses exclusively on oil stocks and finds positive abnormal returns for the 2016 US election. According to the author, climate policy that restricts oil use and has an unknown arrival time, generates a run on oil, with oil firms dynamically accelerating oil extraction as climate change increases and oil reserves decrease due to the risk of future climate policy actions stranding oil reserves. Nerger et al. (2021) and Mukanjari and Sterner (2024) show that the coal and fuel industries were the energy sectors that presented the highest positive abnormal returns, as a result of the loosening of environmental regulations and policies during Trump's tenure. As pointed out by Mukanjari and Sterner (2024), Trump's election signalled an end to US engagement in global climate efforts. Trump promised to reverse all Obama-era environmental regulations affecting fossil fuel industries. Many observers worried that a US withdrawal from climate negotiations would provide an excuse for other reluctant countries to withdrawal as well, or to weaken their commitments. Ramelli et al. (2021) examine the cross-section of stock returns after the 2016 and 2020 US elections, focusing on a sample of US firms and controlling for other policy changes. They show that carbon intensive firms benefited from Trump's election. The authors also demonstrate that firms displaying a high level of climate responsibility benefited because investors expected stiffer climate policies in the post-Trump period. Such investors appear to have bet on a "boomerang" in climate policy. Harbingers of a boomerang appeared during Trump's term. Hsu et al. (2023) propose and model a new systematic risk related to environmental policy uncertainty. They conclude that regime change risk is negatively priced, and high-emission firms carry more negative exposure to this risk, thereby earning higher risk premia. The authors show that high toxic emission firms observe a favourable shock in response to Donald Trump's 2016 presidential election victory, which suggests a connection between emission-related return predictability and changes in environmental policies and regulations. Firms with more toxic emissions are associated with higher current profitability and that high toxic emission firms' future profitability is lower after governments impose stricter environmental regulations. On the contrary, Obama's victory in the 2008 US presidential election had a negative impact on high-emission firms, due to his strong focus on environmental policies (Ramiah et al., 2015). Finally, Mukanjari and Sterner (2024) combining event studies with impulse indicator saturation methods, they show that the Paris Agreement and the election of Mr. Biden benefited renewable industries, while the election of Mr. Trump had negative effects. For fossil fuel industries, the effects were largely the opposite.

Contrary to the expectations, Diaz-Rainey et al. (2021) reveal that the 1st election of Donald Trump and the announced withdrawal of the US from the Paris Agreement negatively affected the energy industry. The authors obtained a strong negative CAAR (−14.79 %) for integrated oil and gas firms. This result is explained by the fact that the benefits of the shale boom were obtained by independent firms, most of which were unlisted, with most large integrated oil and gas firms starting investments in this technology just two years after the election of the US president.

The financial literature reveals that climate summits also have the capacity to influence energy firms' abnormal returns. These events are expected to play a critical role in the transition to a low-carbon economy by increasing government action to limit global warming and leading to the evolution of social norms and consumer behaviour, and changing statutory interpretations (e.g., fiduciary duty or disclosure requirements), which can negatively impact the market value of high-emission firms (Caldecott, 2017). The empirical studies reveal that these events tend to negatively impact high-emission industries in terms of risk and return (Pham et al., 2019; Ramiah et al., 2015), while benefitting the clean energy sector (Antoniuk & Leirvik, 2021). Monasterolo and De Angelis (2020) argue that stock market investors have started to consider low-carbon assets as an appealing investment opportunity after the Paris Agreement but have not penalized yet carbon-intensive assets. Finally, Seltzer et al. (2022) using the Paris Agreement as a shock to expect climate risk regulations, provide evidence that climate regulatory risks causally affect bond credit ratings and yield spreads. They find that firms with poor environmental profiles or high carbon footprints tend to have lower credit ratings and higher yields spreads, particularly when their facilities are located in states with stricter regulatory enforcement.

Furthermore, the reaction of financial markets to climate events depends on how country authorities respond to commitments to accelerate and scale the transition to a greener economy (e.g., Birindelli et al., 2023). According to the authors, in industries emitting the most pollution, investors tend to reward firms with better/worse environmental performance according to the type of climate policies adopted, more or less strict. So, in the EU, with a strong commitment to a net-zero pollution economy, in the period following the COP26, the empirical evidence suggests that investors tend to reward firms with a higher environmental commitment, which will arguably benefit from the

Table 2
Descriptive Statistics for Control Variables.

Variable	Mean	SD	25th perc.	Median	75th perc.
Panel 1: Fossil Listed Firms					
All Sample (# 250 firms)					
SIZE	\$19,564 ml	\$23,503 ml	\$2715 ml	\$5901 ml	\$18,584 ml
LEV	51.9 %	17.7 %	41.0 %	49.7 %	63.4 %
ROA	12.2 %	9.1 %	6.7 %	10.4 %	15.8 %
BM	0.684	0.237	0.558	0.735	0.852
ERS	64.3	25.5	47.9	68.1	85.5
China (# 34 firms)					
SIZE	\$22,532 ml	\$47,301 ml	\$2922 ml	\$5226 ml	\$8567 ml
LEV	48.2 %	12.5 %	40.8 %	48.5 %	52.8 %
ROA	10.2 %	5.4 %	7.7 %	9.9 %	13.2 %
BM	0.797	0.133	0.735	0.805	0.910
ERS	62.2	25.3	42.7	69.8	80.1
Europe (# 36 firms)					
SIZE	\$26,935 ml	\$62,231 ml	\$2052 ml	\$4961 ml	\$12,926 ml
LEV	58.4 %	16.7 %	46.4 %	59.4 %	68.2 %
ROA	11.4 %	8.3 %	6.4 %	10.0 %	15.5 %
BM	0.688	0.197	0.591	0.698	0.792
ERS	81.8	19.8	70.8	88.3	97.3
India (# 12 firms)					
SIZE	\$18,584 ml	\$31,432 ml	\$1794 ml	\$7392 ml	\$14,814 ml
LEV	54.4 %	17.2 %	42.0 %	49.7 %	71.7 %
ROA	13.2 %	10.2 %	6.2 %	16.3 %	19.2 %
BM	0.734	0.195	0.650	0.760	0.831
ERS	63.1	17.4	58.1	60.9	80.7
U.S. (# 85 firms)					
SIZE	\$17,259 ml	\$33,638 ml	\$2816 ml	\$5539 ml	\$17,157 ml
LEV	54.5 %	17.2 %	42.0 %	49.7 %	71.7 %
ROA	12.5 %	7.9 %	7.4 %	11.1 %	16.8 %
BM	0.595	0.281	0.427	0.651	0.803
ERS	50.6	28.7	34.6	56.2	81.9
Rest of World (# 83 firms)					
SIZE	\$16,989 ml	\$53,163 ml	\$1744 ml	\$4713 ml	\$13,801 ml
LEV	49.2 %	16.7 %	38.2 %	49.0 %	63.5 %
ROA	12.8 %	11.6 %	6.4 %	9.5 %	15.4 %
BM	0.727	0.204	0.581	0.760	0.898
ERS	67.5	20.0	55.2	68.7	83.3
Panel 2: Renewable Listed Firms					
All Sample (# 250 firms)					
SIZE	\$1252 ml	\$2446 ml	\$23.1 ml	\$176.7 ml	\$769.9 ml
LEV	34.3 %	39.8 %	19.5 %	32.9 %	51.8 %
ROA	2.5 %	7.0 %	−2.0 %	0.7 %	6.2 %
BM	62.6 %	64.0 %	49.5 %	65.0 %	82.0 %
ERS	51.9	29.4	25.9	51.3	76.9
China (# 70 firms)					
SIZE	\$2720 ml	\$5171 ml	\$337.7 ml	\$792.8 ml	\$2595.9 ml
LEV	40.7 %	14.5 %	19.7 %	39.1 %	58.3 %
ROA	2.8 %	10.1 %	−1.4 %	2.6 %	5.6 %
BM	71.2 %	66.2 %	34.1 %	55.9 %	86.4 %
ERS	42.1	27.1	27.6	37.8	54.5
Europe (# 57 firms)					
SIZE	\$1166 ml	\$5891 ml	\$5.5 ml	\$45.3 ml	\$218.8 ml
LEV	20.6 %	21.5 %	14.9 %	15.0 %	30.0 %
ROA	2.3 %	12.4 %	−2.8 %	2.5 %	5.4 %
BM	69.4 %	84.4 %	48.9 %	65.6 %	84.3 %
ERS	65.2	23.3	47.7	65.3	85.9
India (# 9 firms)					
SIZE	\$659.2 ml	\$985 ml	\$9.8 ml	\$118.7 ml	\$692.2 ml
LEV	33.9 %	16.3 %	16.0 %	28.4 %	45.7 %
ROA	3.3 %	6.8 %	−1.9 %	3.5 %	7.0 %
BM	52.1 %	82.9 %	41.0 %	54.6 %	78.9 %
ERS	35.7	24.3	13.8	33.6	47.7
U.S. (# 35 firms)					
SIZE	\$1216 ml	\$3171 ml	\$19.7 ml	\$149.7 ml	\$905.9 ml
LEV	30.2 %	21.2 %	14.7 %	23.2 %	42.2 %
ROA	2.4 %	14.3 %	−2.2 %	2.8 %	5.7 %
BM	77.3 %	69.6 %	64.1 %	79.5 %	98.9 %
ERS	39.2	28.7	15.3	33.6	68.2
Rest of World (# 79 firms)					
SIZE	\$308 ml	\$437 ml	\$34.3 ml	\$91.3 ml	\$526.2 ml
LEV	26.3 %	17.9 %	11.2 %	24.7 %	38.6 %
ROA	2.7 %	28.6 %	−0.7 %	2.9 %	4.5 %
BM	71.1 %	64.6 %	57.1 %	69.5 %	88.9 %
ERS	65.43	32.0	56.4	68.8	87.4

This table offers descriptive statistics for control variables (whole sample) for the largest Fossil listed firms (Panel 1) and the largest Renewable listed firms (Panel 2). All figures of firm-specific control variables are calculated based on last accounting numbers prior to the 2024 U.S. Presidential Elections. The variables are the following: $SIZE_i$ is the market capitalization in USD (natural logarithm) of firm *i*; LEV_i is the ratio of total liabilities to total assets (%) for firm *i*; ROE_i is the ratio of net income to equity (%) for firm i; BM_i is the book-to-market (%) for firm i and is constructed as the ratio between common equity and market capitalization; ERS_i is the Emission Reduction Score for firm *i*, obtained from Refinitiv, that ranges from 0 (worst performance) to 100 (best performance).

stringent regulations expected in EU (Birindelli et al., 2023; Birindelli & Chiappini, 2021). In the case of China, the results reveal that investors rewarded firms with the worst environmental performance, due to confidence that more relaxed climate policies should provide an advantage to these firms.

In addition to the nature of the transition, the speed of the transition has important implications for energy firms' valuation. The speed and nature of the transition is likely to be strongly moderated by policy (Diaz-Rainey et al., 2021). Bansal et al. (2017) study the welfare implications of rising temperature, and they propose a temperature-augmented long-run risks model, that accounts for the interaction between temperature, economic growth, and risk. They demonstrate that a preference for early resolution of uncertainty and long-run impact of temperature on growth imply a significant social cost of carbon and motivate early actions to abate global warming. Gourdel et al. (2024) show that delays in climate policies implementation and policy incoherence contribute to weakening market signalling to investors and delay the decarbonization of the economy (e.g., Rogge & Dütschke, 2018).

Therefore, a rapid transition could lead to stranded gas and oil reserves and therefore large shareholder losses (Diaz-Rainey et al., 2021). A slow transition that strongly depends on fossil fuels as a "transition" fuel can have a limited impact on large listed oil and gas firms with low reserve life ratios (Griffin et al., 2015). Lastly, the nature and speed of the transition may have profound implications for banks. Nguyen et al. (2023) show that US banks are heavily exposed to the oil and gas sector, where a transition shock will not only to lead to dramatic drops in banks market value but will also lead to rising bad debts within US banks.

3. Research hypotheses

In the previous section we see that the literature based on event studies suggests that fossil fuel firms to be one of the most penalized when climate regulations are expected to be tight and the most rewarded when climate policies are looser (Hsu et al., 2023; Ilhan et al., 2021; Ramelli et al., 2021). The opposite situation tends to happen with renewable energy firms (Antoniuk and Leirvik, 2024; Mukanjari & Sterner, 2024).

With this study we aim to assess the impact of the 2024 US presidential elections on the energy sector, examining the short-term effects caused by 2024 US presidential elections on largest listed worldwide fuel fossil and renewable energy firms. Donald Trump's victory in the 2024 US presidential election had the following direct consequences for the US market: (*i*) US backtracking on climate action; (*ii*) dismantling federal environmental and climate regulations; (*iii*) reduction or elimination of subsidies for green initiatives; (*iv*) the choice of an energy secretary (Chris Wright) who is a staunch defender of the use of fossil fuel and a climate sceptic. Consequently, concerning fossil fuel listed firms (renewable energy firms), we expect the stock market to react positively (negatively) to the 2024 US presidential elections. We, therefore, formulate our first research hypothesis as follows:

H1. The 2024 US presidential elections are associated with a significant positive (negative) stock market reaction for fossil fuel (renewable energy) listed firms.

According to the conclusions obtained by Birindelli et al. (2023), different reactions are expected from financial markets depending on countries or economic areas commitment to meeting climate goals (net carbon emissions to zero). In the case of US, the Trump's victory constitutes a setback in climate action. It is expected more relaxed climate policies. In response, the EU must push ahead with its own domestic decarbonization agenda, leading by example at the global level. In the case of China and India, despite their high dependence on fossil energy, they are promoting a rapid transition to clean energy. Given the above, our second research hypothesis is the following:

H2. The 2024 US presidential elections are associated with a significant positive (negative) stock market reaction for fossil fuel (renewable energy) listed firms, for economic areas with more relaxed environmental policies.

Finally, we are interested to investigate the firm-specific characteristics that influence the sign and magnitude of the reaction found for abnormal returns. Given the crucial role of finance in the transition to a low-carbon economy (Battiston et al., 2021), we are particularly interested in examining the investor incentives and firm's commitment and effectiveness towards reducing environmental emissions for each economic area. Among the various variables, we are particularly interested in evaluating the impact on abnormal returns by environmental ratings. Research focusing on environmental ratings as a proxy for firms' environmental commitments highlight that stock market rewards firms with high environmental ratings and penalizes those with low environmental ratings (e.g., Gupta & Goldar, 2005; Takeda & Tomozawa, 2008). We are particularly interested in testing these findings for the recent US presidential election. Our last research hypothesis is the following:

H3. Abnormal returns of energy firms vary across economic areas and are driven by firm-specific characteristics.

4. Data and methodology

4.1. Data

We use the date of 2024 US presidential elections (November 5, 2024) to compute the abnormal returns (ARs). The data used in the event study was collected from different sources. Energy firms' stock returns and country benchmark indices were obtained from Refinitiv Eikon and computed using the total return index. For the cross-sectional analysis we use five firm-specific variables: size, leverage, profitability, book-to-market, and the emission reduction score. All the variables are calculated from the 2023 year-end accounting figures and were obtained from ORBIS and Refinitiv Eikon databases.

Regarding the selection of energy firms (US and non-US listed firms), given that our research is based on an event study methodology, only listed firms are considered. Listed firms with lack of information on firm-specific variables and/or no price information available along the event window were dropped. Eikon Refinitiv's database features a total of 404 listed renewable energy firms. If we remove firms that do not meet the above criteria, the number of firms drops to 357 renewable energy firms. Given that some of the smaller firms suffer from market liquidity problems, it was decided to analyse the 250 largest renewable listed firms. Finally, it was decided to have two panels of renewable and fossil energy listed firms of equal size, so we also selected the 250 largest listed worldwide fuel fossil firms from Eikon Refinitiv database, based on its market capitalization. Table 1 presents the distribution of each energy subsample by economic areas – China, Europe, India, US, and Rest of the World.

4.2. Data

Event study methodology has been the standard method for measuring the impact of presidential elections and/or climate summits on energy firms' stock prices (e.g., Ramiah et al., 2015; Batten et al., 2016; Barnett, 2019; Pham et al., 2019; Monasterolo & De Angelis, 2020; Antoniuk & Leirvik, 2021; Birindelli & Chiappini, 2021; Diaz-Rainey et al., 2021; Nerger et al., 2021; Ramelli et al., 2021; Birindelli et al., 2023; Mukanjari & Sterner, 2024).

To evaluate the first two research hypotheses presented in the preceding section, we apply the standard AR technique based on the market model.[1] The market model ARs are measured as the residual returns from estimating the following regression equation:

$$\mathrm{E}\left(R_{i,t}\right) = \alpha + \beta R_{m,t} + \varepsilon_{i,t} \tag{1}$$

where, $\mathrm{E}(R_{it})$ is the expected rate of return of energy firm i on the trading day t; R_{mt} refers to the observed return of stock market index (benchmark index) on the trading day t; α_i and β_i are the regression coefficients of the daily rate of return of energy firm i and the market rate of return, respectively. e_{it} refers to the error term.

The event date is nominated as day $t = 0$. Like Mukanjari and Sterner (2024), an estimation window of 215-trading-day period is used to calculate ARs. ARs are obtained by the difference between the observed returns of energy stock i on day t (R_{it}) and the expected return generated by the market model $E(R_{it})$, as follows:

$$AR_{i,t} = R_{i,t} - E\left(R_{i,t}\right) \tag{2}$$

Fig. 1 illustrates the event timeline used to compute the ARs. By accumulating the ARs around a specific time interval, we obtain the cumulative abnormal returns (CARs) as follows:

$$CAR[t_1, t_2] = \sum_{t_1}^{t_2} AR_t \tag{3}$$

We use eight different time intervals (event windows) to calculate the CARs: [−1,1], [−1,5], [−1,10], [−5,5], [−5,10], [−10,10], [0,2] and [0,3]. Finally, for each time interval, we calculate the cumulative average abnormal returns (CAARs) using the following specification:

$$CAAR[t_1, t_2] = 1 \Big/ N \sum_{t_1}^{t_2} CAR_{[t1,t2]} \tag{4}$$

where, N represents the sample size of each subsample (in this case, $N =$ 250). The descriptive statistics for CAARs are shown in Table 3.

Regarding the statistical significance of CAARs, we use both parametric and non-parametric tests. The parametric test statistic used is Brown and Warner (1980) without crude dependence adjustment. The non-parametric test is the Corrado (1989) rank test. For more details about the tests, see Serra (2004).

4.3. Cross-section analysis

To evaluate the last research hypothesis, we estimate by Ordinary Least Squares (OLS) the Eq. (5) for each economic area, to analyse the impact of firm-specific characteristics on the cross-sectional variations of CARs.

$$CAR_i = \beta_0 + \beta_1 \ln(SIZE_i) + \beta_2 LEV_i + \beta_3 ROE_i + \beta_4 BM_i + \beta_5 \mathrm{ERS} + \varepsilon_i \tag{5}$$

where CAR_i is the cumulative abnormal returns for energy stock i; $SIZE_i$ is the market capitalization in USD (natural logarithm) for energy stock i; LEV_i is the ratio of total liabilities to total assets (%) for energy stock i; ROE_i is the ratio of net income to equity (%) for energy stock i; BM_i is the book-to-market (%) for energy stock i and is constructed as the ratio between common equity and market capitalization; ERS_i is the Emission Reduction Score for energy stock i, obtained from Refinitiv, that ranges

[1] For further information, please look at the works of MacKinlay (1997) and Serra (2004).

Table 3
CAARs: Descriptive Statistics and Significance Tests.

Variable	Mean	SD	25th perc.	Median	75th perc.	θ_1	τ_1
Panel 1: Fossil Listed Firms							
All Sample (# 250 firms)							
CAAR [−1,1]	1.660 %	4.479 %	−1.565 %	1.367 %	4.337 %	0.060*	0.034**
CAAR [−1,5]	0.886 %	6.514 %	−2.839 %	0.062 %	4.949 %	0.512	0.551
CAAR [−1,10]	2.556 %	7.449 %	−2.024 %	2.189 %	6.818 %	0.149	0.113
CAAR [−5,5]	1.059 %	7.729 %	−3.650 %	0.377 %	5.238 %	0.532	0.462
CAAR [−5,10]	2.729 %	8.487 %	−1.831 %	2.407 %	7.696 %	0.181	0.121
CAAR [−10,10]	2.810 %	10.065 %	−2.819 %	2.274 %	8.812 %	0.229	0.193
CAAR [0,2]	1.048 %	3.991 %	−1.292 %	0.681 %	3.402 %	0.236	0.211
CAAR [0,3]	0.584 %	4.635 %	−2.294 %	0.368 %	3.515 %	0.567	0.510
China (# 34 firms)							
CAAR [−1,1]	−0.951 %	4.642 %	−3.461 %	−2.179 %	−0.203 %	0.586	0.533
CAAR [−1,5]	−3.194 %	5.449 %	−7.125 %	−3.627 %	−1.317 %	0.231	0.433
CAAR [−1,10]	−0.643 %	5.676 %	−4.465 %	−1.293 %	1.076 %	0.554	0.577
CAAR [−5,5]	−4.344 %	5.764 %	−7.790 %	−5.873 %	−1.959 %	0.194	0.246
CAAR [−5,10]	−1.793 %	5.930 %	−5.515 %	−1.769 %	1.512 %	0.376	0.344
CAAR [−10,10]	−0.918 %	9.257 %	−7.259 %	−1.795 %	2.014 %	0.544	0.533
CAAR [0, 2]	−0.607 %	4.520 %	−2.844 %	−1.075 %	1.299 %	0.589	0.571
CAAR [0, 3]	−1.065 %	4.955 %	−4.119 %	−1.441 %	0.653 %	0.487	0.472
Europe (# 36 firms)							
CAAR [−1,1]	0.363 %	3.417 %	−1.521 %	0.273 %	3.291 %	0.477	0.465
CAAR [−1,5]	0.029 %	5.599 %	−2.255 %	−0.055 %	3.053 %	0.679	0.654
CAAR [−1,10]	2.755 %	5.314 %	−0.274 %	2.128 %	5.995 %	0.212	0.223
CAAR [−5,5]	0.517 %	9.415 %	−4.644 %	0.043 %	5.008 %	0.444	0.451
CAAR [−5,10]	3.244 %	8.881 %	−0.958 %	3.332 %	6.228 %	0.203	0.197
CAAR [−10,10]	2.851 %	10.734 %	−1.281 %	1.806 %	7.287 %	0.211	0.223
CAAR [0, 2]	0.987 %	4.117 %	−1.245 %	1.444 %	3.564 %	0.265	0.270
CAAR [0, 3]	0.475 %	4.939 %	−1.970 %	0.155 %	4.433 %	0.366	0.358
India (# 12 firms)							
CAAR [−1,1]	1.176 %	4.317 %	−1.685 %	−0.105 %	1.550 %	0.430	0.439
CAAR [−1,5]	−2.221 %	4.993 %	−4.722 %	−2.492 %	0.994 %	0.438	0.425
CAAR [−1,10]	−4.156 %	6.134 %	−7.194 %	−3.555 %	−0.647 %	0.267	0.274
CAAR [−5,5]	−0.243 %	5.126 %	−3.412 %	−0.254 %	1.485 %	0.589	0.573
CAAR [−5,10]	−2.178 %	6.445 %	−6.278 %	−1.264 %	2.348 %	0.289	0.295
CAAR [−10,10]	−6.301 %	6.693 %	−10.582 %	−4.992 %	−0.941 %	0.146	0.134
CAAR [0, 2]	2.274 %	5.220 %	−0.562 %	2.146 %	4.035 %	0.152	0.161
CAAR [0, 3]	−0.242 %	5.083 %	−1.722 %	−0.181 %	1.617 %	0.566	0.570
U.S. (# 85 firms)							
CAAR [−1,1]	5.065 %	3.948 %	3.200 %	4.894 %	7.375 %	0.004***	0.005***
CAAR [−1,5]	5.069 %	6.252 %	1.234 %	5.148 %	9.432 %	0.058*	0.065*
CAAR [−1,10]	7.277 %	6.831 %	4.113 %	7.561 %	11.081 %	0.037**	0.040**
CAAR [−5,5]	5.501 %	6.991 %	1.466 %	6.034 %	10.558 %	0.088*	0.082*
CAAR [−5,10]	7.709 %	7.549 %	4.962 %	7.938 %	12.390 %	0.048**	0.045**
CAAR [−10,10]	8.360 %	8.671 %	3.505 %	8.691 %	14.506 %	0.042**	0.044**
CAAR [0, 2]	2.931 %	3.699 %	0.855 %	3.043 %	4.799 %	0.040**	0.039**
CAAR [0, 3]	2.701 %	4.411 %	0.349 %	3.188 %	5.329 %	0.067*	0.071*
Rest of World (# 83 firms)							
CAAR [−1,1]	−0.125 %	3.042 %	−2.078 %	−0.397 %	2.228 %	0.545	0.552
CAAR [−1,5]	−0.906 %	5.361 %	−3.353 %	−1.034 %	1.329 %	0.343	0.351
CAAR [−1,10]	−0.084 %	6.926 %	−2.687 %	−0.168 %	3.601 %	0.634	0.650
CAAR [−5,5]	−0.854 %	6.147 %	−3.637 %	−0.658 %	2.103 %	0.377	0.382
CAAR [−5,10]	−0.032 %	7.683 %	−2.736 %	0.488 %	4.221 %	0.689	0.694
CAAR [−10,10]	−0.046 %	8.900 %	−3.578 %	0.483 %	4.448 %	0.670	0.677
CAAR [0, 2]	−0.353 %	2.714 %	−2.089 %	0.000 %	1.152 %	0.366	0.359
CAAR [0, 3]	−0.742 %	3.583 %	−3.434 %	−0.697 %	1.908 %	0.302	0.298
Panel 2: Renewable Listed Firms							
All Sample (# 250 firms)							
CAAR [−1,1]	−2.977 %	12.783 %	−6.521 %	−2.119 %	0.861 %	0.041**	0.017**
CAAR [−1,5]	−4.628 %	24.191 %	−11.903 %	−4.473 %	0.732 %	0.039**	0.005***
CAAR [−1,10]	−5.508 %	25.207 %	−14.911 %	−6.264 %	0.357 %	0.033**	0.007***
CAAR [−5,5]	−3.021 %	31.601 %	−12.434 %	−4.465 %	3.700 %	0.077*	0.065*
CAAR [−5,10]	−3.900 %	25.575 %	−15.126 %	−5.406 %	3.247 %	0.084*	0.080*
CAAR [−10,10]	−3.692 %	32.786 %	−14.149 %	−2.587 %	4.881 %	0.094*	0.097*
CAAR [0, 2]	−4.922 %	11.485 %	−7.674 %	−3.247 %	0.119 %	0.001***	0.000***
CAAR [0, 3]	−5.713 %	14.455 %	−7.953 %	−3.491 %	0.111 %	0.000***	0.000***
China (# 70 firms)							
CAAR [−1,1]	0.201 %	10.116 %	−3.839 %	−0.782 %	2.489 %	0.651	0.673
CAAR [−1,5]	0.229 %	13.516 %	−7.216 %	−2.321 %	3.703 %	0.650	0.532
CAAR [−1,10]	−1.740 %	12.607 %	−8.451 %	−2.972 %	2.595 %	0.545	0.539
CAAR [−5,5]	2.828 %	18.339 %	−6.752 %	−2.131 %	10.074 %	0.302	0.291
CAAR [−5,10]	0.859 %	16.524 %	−6.417 %	−1.797 %	6.806 %	0.488	0.493
CAAR [−10,10]	3.989 %	18.372 %	−5.120 %	3.567 %	13.482 %	0.145	0.139
CAAR [0, 2]	−2.503 %	8.733 %	−7.596 %	−3.809 %	0.366 %	0.173	0.162

(*continued on next page*)

Table 3 (*continued*)

Variable	Mean	SD	25th perc.	Median	75th perc.	θ_1	τ_1
CAAR [0, 3]	−0.714 %	9.963 %	−6.079 %	−2.308 %	0.771 %	0.385	0.394
Europe (# 57 firms)							
CAAR [−1,1]	−5.418 %	16.785 %	−6.389 %	−3.289 %	−0.027 %	0.000***	0.000***
CAAR [−1,5]	−9.397 %	27.747 %	−12.766 %	−5.039 %	0.394 %	0.000***	0.000***
CAAR [−1,10]	−7.060 %	23.070 %	−19.969 %	−7.406 %	−2.562 %	0.000***	0.000***
CAAR [−5,5]	−8.447 %	27.263 %	−13.877 %	−5.656 %	0.902 %	0.000***	0.000***
CAAR [−5,10]	−6.110 %	20.040 %	−18.915 %	−6.835 %	−0.267 %	0.000***	0.000***
CAAR [−10,10]	−5.195 %	21.567 %	−19.675 %	−8.029 %	3.302 %	0.000***	0.000***
CAAR [0, 2]	−5.103 %	12.137 %	−6.469 %	−3.265 %	0.132 %	0.000***	0.000***
CAAR [0, 3]	−5.802 %	14.053 %	−7.944 %	−3.159 %	0.439 %	0.000***	0.000***
India (# 9 firms)							
CAAR [−1,1]	−0.906 %	1.846 %	−2.481 %	−0.599 %	0.937 %	0.401	0.394
CAAR [−1,5]	−6.033 %	6.166 %	−11.567 %	−7.291 %	−2.151 %	0.012**	0.014**
CAAR [−1,10]	−11.014 %	9.120 %	−19.423 %	−11.843 %	−3.662 %	0.001***	0.002***
CAAR [−5,5]	1.721 %	8.037 %	−6.811 %	2.910 %	5.894 %	0.423	0.435
CAAR [−5,10]	−3.259 %	10.366 %	−13.363 %	−5.034 %	5.368 %	0.444	0.451
CAAR [−10,10]	−8.628 %	11.727 %	−19.293 %	−8.637 %	0.799 %	0.000***	0.000***
CAAR [0, 2]	−0.317 %	2.586 %	−2.299 %	−0.760 %	0.998 %	0.411	0.420
CAAR [0, 3]	−2.355 %	3.579 %	−5.018 %	−3.841 %	−1.860 %	0.090*	0.092*
U.S. (# 35 firms)							
CAAR [−1,1]	−5.581 %	18.096 %	−11.822 %	−6.769 %	0.712 %	0.000***	0.000***
CAAR [−1,5]	−4.857 %	22.427 %	−13.473 %	−4.940 %	1.730 %	0.015**	0.013**
CAAR [−1,10]	−5.673 %	20.713 %	−16.439 %	−5.336 %	0.955 %	0.028**	0.025**
CAAR [−5,5]	−5.779 %	22.044 %	−12.024 %	−5.620 %	1.358 %	0.024**	0.022**
CAAR [−5,10]	−6.593 %	22.110 %	−16.000 %	−7.315 %	2.045 %	0.015**	0.013**
CAAR [−10,10]	0.304 %	31.557 %	−23.815 %	−9.658 %	7.059 %	0.456 %	0.440 %
CAAR [0, 2]	−12.694 %	17.087 %	−24.120 %	−11.089 %	−2.946 %	0.000***	0.000***
CAAR [0, 3]	−17.820 %	21.855 %	−30.267 %	−15.788 %	−3.665 %	0.000***	0.000***
Rest of World (# 79 firms)							
CAAR [−1,1]	−3.141 %	6.524 %	−5.497 %	−2.086 %	0.316 %	0.033**	0.036**
CAAR [−1,5]	−5.337 %	15.578 %	−11.952 %	−4.504 %	−0.272 %	0.013**	0.017**
CAAR [−1,10]	−7.280 %	16.109 %	−14.810 %	−6.211 %	−0.581 %	0.008***	0.009***
CAAR [−5,5]	−3.711 %	17.184 %	−10.512 %	−5.013 %	2.023 %	0.067*	0.071*
CAAR [−5,10]	−5.655 %	17.182 %	−14.336 %	−4.927 %	1.904 %	0.075*	0.078*
CAAR [−10,10]	−5.675 %	18.677 %	−13.256 %	−7.284 %	3.312 %	0.091*	0.095*
CAAR [0, 2]	−3.854 %	8.273 %	−5.662 %	−2.005 %	0.339 %	0.042**	0.040**
CAAR [0, 3]	−4.987 %	10.704 %	−7.759 %	−3.245 %	−0.052 %	0.000***	0.000***

This table offers descriptive statistics of Cumulative Average Abnormal Returns (CAARs) as well as the outcomes from tests on abnormal returns for the largest Fossil listed firms (Panel 1) and the largest Renewable listed firms (Panel 2), for different sets of economic areas. θ_1 and τ_1 are the *p*-value of *t*-test statistics and Corrado rank test statistics, respectively, based on Brown and Warner (1980) and Corrado (1989) (see more details in Serra, 2004). ***, ** and * means statistical significance at the 1 %, 5 % and 10 % level, respectively.

from 0 (worst performance) to 100 (best performance). Descriptive statistics for control variables are presented in Table 2.

Firm size, leverage, profitability, and book-to-market ratio are standard control firm-specific variables. Ramelli et al. (2021) and Birindelli et al. (2023), among other authors, employ these variables in the cross-section analysis of firms' abnormal returns. Like Quintana-García et al. (2022) and Birindelli et al. (2023), we also include in the estimation a measure of corporate emission performance (*ERS* variable). This variable by considering current carbon emission levels, but also broader emission reduction strategies and investments, it constitutes an excellent measure of firm's commitment and effectiveness towards reducing environmental emissions in the production and operational processes.

5. Results

5.1. Abnormal return

Panel 1 of Table 3 shows evidence of the fossil fuel listed firm's CARs around the 2024 US presidential elections. Fig. 2 plots the daily average ARs and CARs. Except for the event window [−1;1], the results show that abnormal returns for worldwide fossil fuel are not statistically significant. Analysis by economic zones reveals the existence of different patterns of market reaction to Donald Trump's victory in the 2024 US presidential elections. On the one hand, we have US fossil fuel listed firms that reveal positive abnormal returns. These firms present CARs of 5.065 %, 5.069 % and 7.277 % for the event windows [−1;1], [−1;5] and [−1;10], respectively. On the other hand, we have the other economic zones - China, India, Europe, and the rest of the world for which the CARs show no statistical significance.

Our results are consistent with prior empirical studies showing that fossil fuel listed firms market reacts positively to relaxed regulations and climate policies (e.g., Hsu et al., 2023; Ilhan et al., 2021; Mukanjari & Sterner, 2024; Ramelli et al., 2021). These studies report a tendency of the stock market to penalize high emitters under expectations of tighter climate policies and reward them when the regulation is relaxed. Consequently, our results are the consequence of the change of US energy policy (pro-oil and gas policy), as a result of Trump's victory, signalling a commitment to fossil fuel energy in the US. His victory in the US elections is good news for fuel fossil US firms that foresee growth in the production and consumption of fossil energy. A similar conclusion was reached by Ahmed et al. (2025) in their study on the impact of the 2024 US presidential election outcome on equity markets. They find substantial gains for the energy sector consistent with expectations of deregulation and a more favourable regulatory landscape. In this regard, it is important to remember the recent Goldman Sachs (2024) report that points a longer life for hydrocarbon assets, with peak oil demand occurring after 2030 and demand for natural gas as transition fuel growing until 2050.

In the case of other economic zones, the lack of significant CARs can be explained by strict policies to reduce the consumption of hydrocarbons. In the case of India and China, our results are different from those found by Birindelli et al. (2023) around the first election of D. Trump, with China and India's fossil fuel listed firms showing positive abnormal

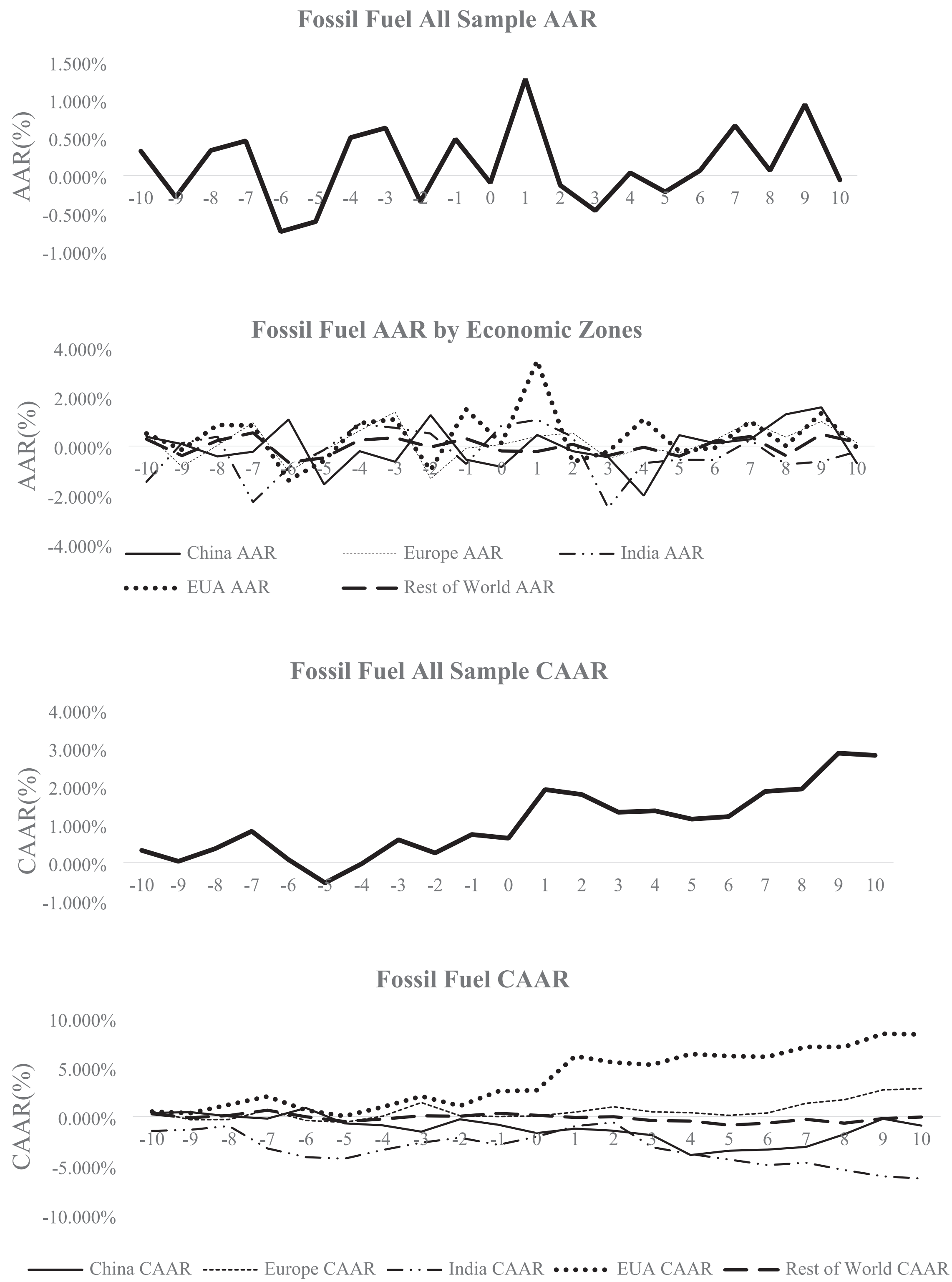

Fig. 2. Fossil Fuel: Average Abnormal Returns (AAR) and Cumulative Average Returns (CAR). The following figures present the average daily abnormal returns (AAR) and cumulative average returns (CAR) from 10 days before the event to 10 days after for all sample of fossil fuel listed firms and by economic zones.

returns, as a result of the relaxation of environmental policies. However, later, these economic zones changed their environmental policy. India, for example, is rapidly electrifying, its two-wheelers, which account for about 50 % of the country's gasoline consumption (Asian Development Bank, 2024). In China, consumption of hydrocarbons is entering a path of secular decline, with renewable energy sources growing at a faster rate than energy demand growth. As mentioned in the footnote 2 the "China is becoming the Saudi Arabia of renewables". Emblematic in this respect is the EU, where investors and European Union are committed to cut emissions by at least 55 % by 2030 and become the first climate-neutral jurisdiction by 2050 (Birindelli et al., 2023). For these three economic zones, the change in energy and climate policy resulting from Trump's election does not seem to have any effect on fuel fossil firms in these countries, as no change in climate policy is expected in these

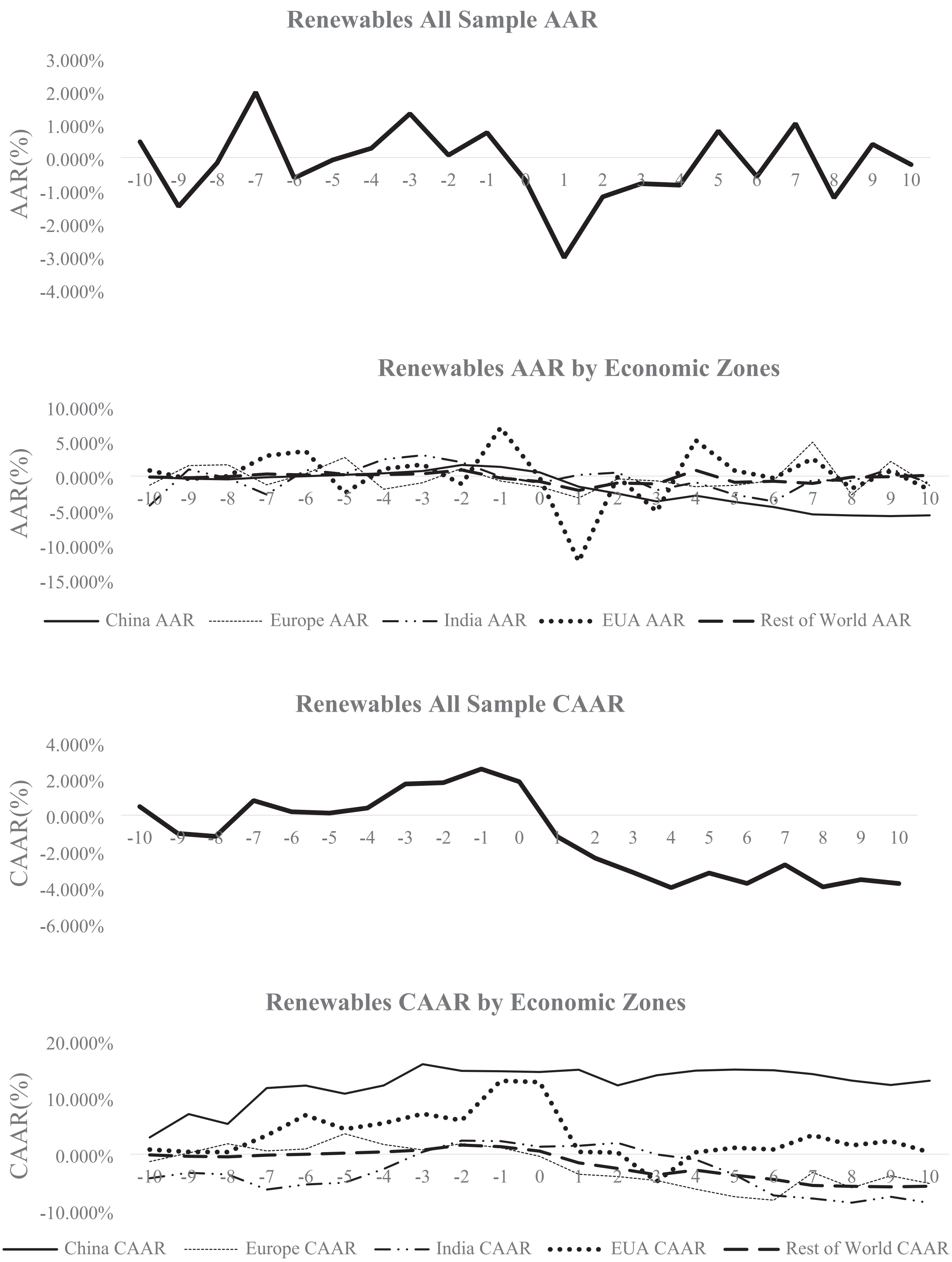

Fig. 3. Renewable: Average Abnormal Returns (AAR) and Cumulative Average Returns (CAR). The following figures present the average daily abnormal returns (AAR) and cumulative average returns (CAR) from 10 days before the event to 10 days after for all sample of renewable listed firms and by economic zones.

countries.

Finally, in Panel 2 of Table 3, we present the CARs for renewable firms, with Fig. 3 providing a visual representation. CARs are negative and statistically significant for worldwide renewable listed firms. Our results show the existence of abnormal returns of −2.977 %, −4.628 % and − 5.508 % for the event windows [−1;1], [−1;5] and [−1;10], respectively. An analysis by economic zones reveals the existence of negative abnormal returns for renewable energy firms in the US, Europe, India and in the rest of the world. In the case of China, abnormal returns are not statistically significant. In general, the results show a stock market reaction opposite to that found for fossil fuel firms. These results are in line with those obtained by Mukanjari and Sterner (2024), which reveal the existence of negative abnormal returns for renewable firms. The rollback of federal climate initiatives, including the repeal of tax incentives from the previous administration, changed investor expectations, which may result in a slower transition to clean energy and decreased investment profitability, leading to negative abnormal returns around the election. As highlighted by Hsu et al. (2023), the renewable firms' future profitability is lower after governments impose relaxed environmental regulations. Possible cuts in government subsidies for

Table 4
Cross-Sectional Analysis.

	China		Europe		U.S.	
	CAR [−1;5]	**CAR [−1;10]**	**CAR [−1;5]**	**CAR [−1;10]**	**CAR [−1;5]**	**CAR [−1;10]**
Panel 1: Fossil Fuel Listed Firms						
Constant	0.193 (1.467)	0.298 (1.298)	0.022 (0.132)	0.010 (0.161)	0.060 (0.439)	−0.181 (−1.219)
Ln(SIZE)	−0.015* (−1.904)	−0.028* (−1.911)	−0.010 (−1.126)	0.018 (1.311)	0.003 (0.460)	0.010 (1.622)
LEV	0.004 (0.041)	−0.002 (−0.021)	−0.142** (−2.050)	−0.163** (−2.088)	−0.144** (−2.130)	−0.175** (−2.222)
ROE	0.030* (1.867)	0.061* (1.815)	0.031* (1.788)	0.059* (1.777)	0.029* (1.907)	0.132* (1.933)
BM	−0.013* (−1.774)	−0.022* (−1.834)	−0.007 (−1.213)	−0.013 (−1.182)	−0.045* (−1.974)	−0.060* (−1.888)
ERS	0.020** (2.364)	0.028** (2.265)	0.029** (2.464)	0.037** (2.365)	0.035** (2.514)	0.048** (2.465)
# Obs.	34	34	36	36	85	85
Adj. R^2	0.187	0.218	0.199	0.185	0.201	0.221
Panel 2: Renewable Listed Firms						
	China		**Europe**		**U.S.**	
	CAR [−1;5]	**CAR [−1;10]**	**CAR [−1;5]**	**CAR [−1;10]**	**CAR [−1;5]**	**CAR [−1;10]**
Constant	0.249 (1.455)	0.357 (1.630)	0.176 (1.301)	−0.031 (−0.153)	0.342 (1.147)	0.306 (1.188)
Ln(SIZE)	−0.023** (−2.480)	0.016* (−1.740)	−0.009 (−1.372)	−0.015 (−1.146)	−0.072** (−2.185)	−0.075* (−1.922)
LEV	0.027 (0.237)	0.058 (0.110)	−0.206** (−2.477)	−0.285** (−2.267)	−0.035* (−1.712)	0.025 (0.994)
ROE	0.011 (1.153)	0.031 (1.496)	0.005 (0.288)	−0.001 (−0.292)	−0.010 (−0.571)	−0.007* (−0.416)
BM	−0.018*** (−3.051)	−0.017*** (−2.989)	−0.016** (−2.285)	−0.018** (−2.169)	−0.039* (−1.733)	−0.055* (−1.794)
ERS	0.029** (2.189)	0.035** (2.165)	0.024** (2.164)	0.031** (2.065)	0.018* (1.912)	0.029* (1.865)
# Obs.	70	70	57	57	35	35
Adj. R^2	0.195	0.236	0.257	0.311	0.189	0.187

This table offers the cross-sectional estimation for the CARs of largest Fossil Fuel listed firms (Panel 1) and the largest Renewable listed firms (Panel 2) around the 2024 U.S. Presidential elections. The dependent variables are the hotel's CARs for two different time windows: [−1;+5] and [−1;+10], computed using the market model (MM). The control variables are the following: $SIZE_i$ is the market capitalization in USD (natural logarithm) of firm *i*; LEV_i is the ratio of total liabilities to total assets (%) for firm *i*; ROE_i is the ratio of net income to equity (%) for firm i; BM_i is the book-to-market (%) for firm *i* and is constructed as the ratio between common equity and market capitalization; ERS_i is the Emission Reduction Score for firm *i*, obtained from Refinitiv, that ranges from 0 (worst performance) to 100 (best performance). ***, ** and * means statistical significance at the 1 %, 5 % and 10 % level, respectively. Robust standard errors adjusted for heteroskedasticity are reported in parentheses. # Obs. denotes the number of observations used in the estimation.

renewable energy and a lower return on investments could be the cause of the drop in stock prices seen around the US presidential elections.

5.2. Cross-sectional analysis

We also examine the cross-section effects of firm-specific characteristics on CARs around the 2024 US presidential election. Table 4 shows the results of the regression estimation by economic zones. Regressions were not estimated for India due to the small number of firms nor for the rest of the world due to the heterogeneity of countries and environmental policies in this subsample. The same procedure was adopted by Birindelli et al. (2023).

Despite the existence of different impacts caused by the size, leverage, profitability, and book-to-market ratio in the different economic zones in the two subsamples, one result is common to the six regressions - positive and statistically significant coefficient of the *ERS* variable. These results are consistent with prior research showing that stock markets reward firms with high environmental ratings and penalize those with low environmental ratings (e.g., Gupta & Goldar, 2005; Takeda & Tomozawa, 2008). In this regard, Ramelli et al. (2021) state that energy firms displaying a high level of climate responsibility benefited because investors expected stiffer climate policies in post-Trump period. This means that despite the change in environmental policy in the US, favourable to fossil energy, investors are concerned about investing in energy firms that seek to reduce their carbon emissions.

6. Conclusions

This research explores the short-term market effect of Donald Trump' victory in the 2024 US presidential election on largest US and non-US listed worldwide fuel fossil and renewable firms. Using an event study methodology, we observe a negative and statistically significant stock price reaction for worldwide renewable listed firms. An analysis by economic zones reveals the existence of negative abnormal returns for all economic zones, except for China. As for the abnormal returns of worldwide fossil fuel listed firms, they show no statistical significance for most event windows. The analysis by economic zones, however, shows the existence of positive and statistically significant abnormal returns for US fossil fuel listed firms.

These results are consistent with prior empirical studies showing that fossil fuel (renewable) listed firms market reacts positively (negatively) to relaxed regulations and climate policies (e.g., Hsu et al., 2023; Ilhan et al., 2021; Mukanjari & Sterner, 2024; Ramelli et al., 2021). The expected change of US energy policy (pro-oil and gas policy) after the Donald Trump's 2024 US presidential election victory, tends to constitute a favourable (unfavourable) shock for fossil fuel (renewable) listed firms. Fossil fuel firms are highly exposed to regulation regime change risk and thus earn higher average excess returns as risk premia (Bolton & Kacperczyk, 2021; Hsu et al., 2023), upon a shift from a stringent to a weak regulation regime. In the case of renewable firms, the signs resulting from the election, the dismantling of federal climate initiatives, including repealing tax incentives from Biden Administration's IRA and the possible restriction of clean energy tax credits and back support for green projects, lead to changes in investor expectations, due to a slower transition to clean energy and lower investment profitability, which explains the negative abnormal returns found around the election (Mukanjari & Sterner, 2024).

Our results also provide insights into which firm-specific characteristics emerge as value drivers around the 2024 US presidential elections by economic zones. Of these variables, the Emission Reduction Score variable deserves special mention, which shows that stock markets reward firms with high environmental ratings and penalize those with low environmental ratings.

This study has important managerial and policy implications. Our results provide valuable insights for managers and investors, that should be prepared to deal with potential value changes in their firms/portfolios that result from a different climate policy. Making informed investment decisions may require investors and managers to monitor elections and other key policy events. Investors and managers should be prepared to deal with potential losses in their portfolios that result from negative policy changes. Changes in government administrations or policy reversals could impact energy stock prices. Overall, to manage potential risks and capitalize on opportunities, portfolio managers should consider how climate policy change may affect their investments in both renewable and fossil fuel energy firms. Given the differences in terms of returns between economic zones and energy subsectors, to achieve an optimum risk-reward trade-off, suitable portfolio optimization techniques for energy portfolio creation should be used. Our results also show the important role that capital markets could play in environment management. As far as policymakers are concerned, they must be fully aware that their decisions affect financial markets and support the implementation of public policies that are clear, long-term, and not fragmented across economic zones. Given the irreversible nature of energy investment (e.g., Rozenberg et al., 2014) it is critical that governments provide clear and long-term market-based incentives for investors to decarbonize their equity investments and switch to clean energy assets. These policies must achieve consensus at a global level and not be held hostage by election results. This is critical for investors concerned about the portfolio's long-term exposure to environmental and regulatory risks associated with the transition to a climate-resilient economy (e.g., Kuang, 2021).

While this research provides insightful implications, it is important to keep in mind its limitations, that may open new avenues for future research. First, like most event studies, our results only address the short-term market reaction of energy sector. Consequently, once the data is available, an analysis of the long-term effects in terms of returns and volatility of energy firms could be of interest. Second, although the federal climate policies may shift, state and private efforts to invest in renewables are expected to continue, underscoring the complex interplay between environmental goals and economic interests. Future studies should analyse the impact of climate policy changes at the state/regional level, as there is often disagreement in terms of climate policy at the federal and state/regional levels.

Declaration of competing interest

None.

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Data availability

Data will be made available on request.

References

Ahmed, S., Hasan, M. M., Hossain, A. T., & Saadi, S. (2025). The comeback effect: Market responses to trump's 2024 election victory. *Economics Letters, 247*, Article 112170.
Ahmed, S., Hasan, M. M., & Kamal, M. R. (2023). Russia–Ukraine crisis: The effects on the European stock market. *European Financial Management, 29*(4), 1078–1118.
Antoniuk, Y., & Leirvik, T. (2024). Climate change events and stock market returns. *Journal of Sustainable Finance & Investment, 14*(1), 42–67.
Asian Development Bank. (2024). Catalyzing Finance and Policy Solutions. Asia-Pacific Climate Report. Available here https://www.adb.org/sites/default/files/publication/1008086/asia-pacific-climate-report-2024.pdf.
Bansal, R., Ochoa, M. & Kiku, D. (2017). Climate Change and Growth Risks. National Bureau of Economic Research. Working-Paper 23009.
Barnett, M. D. (2019). *A Run on Oil: Climate Policy, Stranded Assets, and Asset Prices.* Doctoral Dissertation. The University of Chicago.
Bash, A., & Al-Awadhi, A. M. (2023a). Central Bank Independence and stock market outcomes: An event study on Borsa Istanbul. *Cogent Economics & Finance, 11*(1), Article 2186032.
Bash, A., & Al-Awadhi, A. M. (2023b). Presidential elections and stock market outcomes: An event-study on the effect of Turkey's presidential elections on Borsa Istanbul. *Cogent Economics & Finance, 11*(2), Article 2265659.
Batten, S., Sowerbutts, R., & Tanaka, M. (2016). *Let's Talk About the Weather: The Impact of Climate Change on Central Banks Bank of England Staff Working Paper no. 603.* London: Bank of England.
Battiston, S., Monasterolo, I., Riahi, K., & van Ruijven, B. J. (2021). Accounting for finance is key for climate mitigation pathways. *Science, 372*(6545), 918–920.
Birindelli, G., & Chiappini, H. (2021). Climate change policies: Good news or bad news for firms in the European Union? *Corporate Social Responsibility and Environmental Management, 28*(2), 831–848.
Birindelli, G., Miazza, A., Paimanova, V., & Palea, V. (2023). Just "blah blah blah"? Stock market expectations and reactions to COP26. *International Review of Financial Analysis, 88*, Article 102699.
Bolton, P., & Kacperczyk, M. (2021). Do Investors care about carbon risk? *Journal of Financial Economics, 142*(2), 517–549.
Brown, S. J., & Warner, J. B. (1980). Measuring security Price performance. *Journal of Financial Economics, 8*(3), 205–258.
Caldecott, B. (2017). Introduction to special issue: Stranded assets and the environment. *Journal of Sustainable Finance & Investment, 7*(1), 1–13.
Corrado, C. J. (1989). A nonparametric test for abnormal security-Price performance in event studies. *Journal of Financial Economics, 23*(2), 385–395.
Diaz-Rainey, I., Gehricke, S. A., Roberts, H., & Zhang, R. (2021). Trump vs. Paris: The impact of climate policy on US listed oil and gas firm returns and volatility. *International Review of Financial Analysis, 76*, Article 101746.
Forbes. (2024). How Trump's Victory Will Impact the Energy Sector, 6 November, 2024. Available here https://www.forbes.com/sites/rrapier/2024/11/06/how-trumps-victory-will-impact-the-energy-sector/.
Goldman Sachs. (2024). Carbonomics: The GS Net Zero Carbon Scenarios – A Reality Check. Goldman Sachs Equity Research Report. https://www.goldmansachs.com/pdfs/insights/goldman-sachs-research/carbonomics-the-gs-net-zero-carbon-scenarios/Report.pdf.
Gourdel, R., Monasterolo, I., Dunz, N., Mazzocchetti, A., & Parisi, L. (2024). The double materiality of climate physical and transition risks in the euro area. *Journal of Financial Stability, 71*, Article 101233.
Griffin, P. A., Jaffe, A. M., Lont, D. H., & Dominguez-Faus, R. (2015). Science and the stock market: Investors' recognition of unburnable carbon. *Energy Economics, 52*, 1–12.
Gupta, S., & Goldar, B. (2005). Do stock markets penalize environment-unfriendly behaviour? Evidence from India. *Ecological Economics, 52*(1), 81–95.
Hsu, P. H., Li, K., & Tsou, C. Y. (2023). The pollution premium. *The Journal of Finance, 78*(3), 1343–1392.
Ilhan, E., Sautner, Z., & Vilkov, G. (2021). Carbon Tail Risk. *The Review of Financial Studies, 34*(3), 1540–1571.
Kuang, W. (2021). Which clean energy sectors are attractive? A portfolio diversification perspective. *Energy Economics, 104*, Article 105644.
MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of Economic Literature, 35*(1), 13–39.
Monasterolo, I., & De Angelis, L. (2020). Blind to carbon risk? An analysis of stock market reaction to the Paris agreement. *Ecological Economics, 170*, Article 106571.
Mukanjari, S., & Sterner, T. (2024). Do Markets trump politics? Fossil and renewable market reactions to major political events. *Economic Inquiry, 62*(2), 805–836.
Nerger, G. L., Huynh, T. L. D., & Wang, M. (2021). Which industries benefited from trump environmental policy news? Evidence from industrial stock market reactions. *Research in International Business and Finance, 57*, Article 101418.
Nguyen, Q., Diaz-Rainey, I., Kuruppuarachchi, D., McCarten, M., & Tan, E. K. (2023). Climate transition risk in US loan portfolios: Are all banks the same? *International Review of Financial Analysis, 85*, Article 102401.
Pástor, L., & Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The Journal of Finance, 67*(4), 1219–1264.
Pástor, L., & Veronesi, P. (2013). Political uncertainty and risk Premia. *Journal of Financial Economics, 110*(3), 520–545.
Pham, H., Nguyen, V., Ramiah, V., Saleem, K., & Moosa, N. (2019). The effects of the Paris climate agreement on stock markets: Evidence from the German stock market. *Applied Economics, 51*(57), 6068–6075.
Quintana-García, C., Marchante-Lara, M., & Benavides-Chicón, C. G. (2022). Towards sustainable development: Environmental innovation, cleaner production performance, and reputation. *Corporate Social Responsibility and Environmental Management, 29*(5), 1330–1340.
Ramelli, S., Wagner, A. F., Zeckhauser, R. J., & Ziegler, A. (2021). Investor rewards to climate responsibility: Stock-Price responses to the opposite shocks of the 2016 and 2020 US elections. *The Review of Corporate Finance Studies, 10*(4), 748–787.
Ramiah, V., Pichelli, J., & Moosa, I. (2015). Environmental regulation, the Obama effect and the stock market: Some empirical results. *Applied Economics, 47*(7), 725–738.

Rogge, K. S., & Dütschke, E. (2018). What makes them believe in the low-carbon energy transition? Exploring corporate perceptions of the credibility of climate policy mixes. *Environmental Science & Policy, 87*, 74–84.

Rozenberg, J., Vogt-Schilb, A., & Hallegatte, S. (2014). Transition to clean capital, irreversible investment and stranded assets. *World Bank Policy Research, 6859*.

Seltzer, L. H., Starks, L., & Zhu, Q. (2022). *Climate Regulatory Risk and Corporate Bonds*. National Bureau of Economic Research. Working-paper No. w29994.

Serra, A. P. (2004). Event study tests: A brief survey. *Management.Org-Electronic Journal of Organizational Management, 2*(3), 248–255.

Takeda, F., & Tomozawa, T. (2008). A change in market responses to the environmental management ranking in Japan. *Ecological Economics, 67*(3), 465–472.

Wagner, A. F., Zeckhauser, R. J., & Ziegler, A. (2018). Company stock Price reactions to the 2016 election shock: Trump, taxes, and trade. *Journal of Financial Economics, 130*(2), 428–451.

Xie, A. (2024). How China is Becoming the Saudi Arabia of Renewables. Climate Change-China Opinion, 19 Available here https://www.scmp.com/opinion/china-opinion/article/3278889/how-china-becoming-saudi-arabia-renewables.