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Restoring Trust in Sustainable Finance

The Role of Active Supervision in Greenwashing Scandals

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Publication date

2024

[Link to publication](#)

Citation for published version (APA):

Schultz, A., Senn, M., & van 't Klooster, J. (2024). *Restoring Trust in Sustainable Finance: The Role of Active Supervision in Greenwashing Scandals*. Finanzwende. <https://www.finanzwende.de/the-cost-of-greenwashing-how-active-supervision-can-restore-trust-in-sustainable-finance>

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RESTORING TRUST IN SUSTAINABLE FINANCE: THE ROLE OF ACTIVE SUPERVISION IN GREENWASHING SCANDALS

Alison Schultz, Magdalena Senn & Jens van't Klooster



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INTRODUCTION

Green finance aims to channel funds into activities essential for the socio-ecological transition. As more consumers and institutional investors direct their money towards environmentally and climate-relevant activities and divest from destructive businesses, proponents of sustainable finance hope that the funding costs of sustainable businesses will decrease, and their competitiveness will be enhanced. Similarly, funding should become more costly for the most destructive companies and industries, accelerating the shift towards a liveable future. However, this mechanism only works if consumers and investors are well-informed about the companies they are supporting when they choose to invest sustainably.

Greenwashing, defined as “a practice where sustainability-related statements, declarations, actions or communications do not clearly and fairly reflect the underlying sustainability profile of an entity, a financial product or financial services” (European Securities and Markets Authority 2023) undermines this mechanism of green finance. **When consumers and investors cannot distinguish between investments that genuinely support the socio-ecological transition and those merely labelled as green, the enthusiasm for sustainable investment goes to waste. Even money that is invested with the best intentions then continues to fund destructive businesses instead of financing urgently needed economic and societal changes.**

Greenwashing has hence been a growing concern for consumers, investors, regulators and civil society alike. Debates on the topic have reached the media and the public, with reports showing that more than 50 per cent of consumers are sceptical about corporate sustainability claims (Kantar 2023). In recent years, whistle-blowers have exposed numerous cases of greenwashing. Several reports have highlighted the fossil contents of purportedly green financial products, and the first supervisory actions and lawsuits have been seen.

But has the debate reached those responsible for the most serious cases of greenwashing? Have there been any consequences for the largest banks and asset managers whose involvement in greenwashing was exposed, publicly discussed and prosecuted?

In this study, we examine to what extent banks and asset managers face financial consequences when accused of greenwashing practices and identify the factors that affect the severity of these consequences. To this end, we investigate how stock prices reacted to 90 systematically collected greenwashing events that occurred between 2021 and 2024, distinguishing between the effects of reported greenwashing incidents, activism in response to greenwashing, official complaints with financial and other authorities, actions taken by supervisory bodies and lawsuits. The use of an event study methodology allows us to isolate the effects of each specific event from the stock price movements we would have otherwise expected for the company, given the company and market conditions.

Evidence that greenwashing events result in a decline in the stock prices of the respective financial services companies would indicate that these events are associated with the selling of the company's shares and a decrease in its value, which in turn reflects the company's expected profitability. **Accordingly, the threat of falling stock prices in response to greenwashing incidents should deter managers from greenwashing.**

Our analysis shows that the largest banks and asset managers do indeed suffer consequences from greenwashing scandals. In our sample, the stock prices of the involved companies dropped by 0.9 per cent in the three days surrounding the event, controlling for all stock price movements that could have been expected had these events not occurred. However, the revelation of allegations and the ensuing public debate are not enough to bring about these consequences. Instead, **a significant decline in a greenwasher's stock price is only visible once supervisory authorities intervene.** Investigations by supervisory authorities are associated with a significant 6.5 per cent decline in stock value, and being raided by a financial supervisor results in a stock price decline of 5.3 per cent, controlling for all other factors that should determine the stock value. By contrast, activism, official claims, lawsuits and reports on greenwashing incidents alone do not result in significantly lower stock values. This difference in market responses cannot be solely explained by the fact that the greenwashing scandals leading to investigations or raids are the more serious cases. Indeed, even for the very same greenwashing allegations, we find no effects for the initial scandal, but strong negative effects for subsequent supervisory action. These findings suggest that, in most cases, financial managers currently feel able to ignore such revelations - as long as the revelations do not have regulatory consequences.

Our results reconcile two seemingly contradictory findings in the literature. On the one hand, limited effects of greenwashing have been reported by the European Securities and Market Authority (ESMA) (2023), which found no clear and systematic stock market effects of greenwashing controversies for large European companies between 2020 and 2021. While the ESMA study takes into consideration various unspecified greenwashing controversies from several sectors, our research provides specific insights into how different types of controversies affect financial institutions in particular. This is relevant for understanding the mechanisms behind the financial consequences faced by each company, especially as there are good reasons to believe that greenwashing is associated with different consequences in different sectors. On the other hand, Du (2015) reported that greenwashing allegations had strong negative effects on expected stock prices for the Chinese markets in 2011 and 2012, and Ghitti (2024) found a negative effect on the value of companies measured by Tobin's Q.¹ The present study extends these findings by offering a comprehensive global assessment of financial services companies for the

¹ Tobin's Q is a ratio that compares the market value of a company to the replacement cost of its assets. It is commonly used as an indicator of company value.

years 2021 to 2024 and hints at the potential reasons for the divergence of effects: **greenwashing has financial repercussions, but only if investors expect supervisory consequences.**

These findings are in line with established literature on other types of controversies that are known to have supervisory consequences. Reported incidents and allegations of balance sheet fraud are consistently found to have significant negative direct and indirect effects (Ahmad et al. 2021; Numata and Takeda 2010; Wang, Ashton, and Jaafar 2019). For these instances, the effect occurs immediately, even before the supervisor intervenes. This indicates that, for balance sheet fraud, investors are well aware that supervisory action will often follow. If financial supervisors were to make it clear that the same applies to greenwashing, we could expect to see earlier financial effects – i.e., when the first signs of greenwashing emerge.

Our results show that the intervention of financial supervisors is crucial in fighting greenwashing. Their rigorous enforcement actions are essential for re-establishing a system where investors can actually do good – without being misled by false claims.

One example illustrating the core mechanism is the DWS case, where a major asset manager was found to be significantly overstating its ESG commitments. While the initial revelation of massive greenwashing by a whistle-blower did not result in any significant stock market reaction, the company's value plummeted by 17.0 per cent over a window of five days surrounding the announcement that the U.S. regulator SEC and the German regulator BaFin were investigating the issue; as always, compared to the stock price movements we would have expected had these announcements not been made. **The company lost another 12.6 per cent of its value when BaFin first raided the offices of the asset manager,** and an additional 1.0 per cent when it was forced to pay a fine of US\$19 million² – the highest penalty for greenwashing in the financial sector to date.

In the following sections, we will outline the data and methodology used in this study and present the results of different greenwashing events, and delve into the details of the DWS case. The final section concludes that active financial supervision is one of the most crucial mechanisms for curbing greenwashing.

² The stock market reaction on the fine was insignificant and should therefore be interpreted with caution.

DATA AND METHODS

In this section, we will first explain our rationale for using an event study, then provide detailed data on greenwashing events and stock price reactions and, finally, elaborate on the exact methodology used.

Why investigate stock market reactions to greenwashing events?

In this study, we use the event study methodology to investigate the impact of greenwashing events on the stock prices of banks and asset managers. This approach allows us to capture the immediate investor reaction to news related to greenwashing, such as public revelations, supervisory actions and lawsuits.

What can we learn from focusing on stock market reactions? The stock price of a company should usually reflect the collective assessment of investors regarding the company's future cash flows and risks. When news about a company's greenwashing activities emerges, it can affect investors' perceptions of the company's reputation, the associated regulatory risks and, consequently, the company's future profitability. If investors think that the greenwashing activities will have negative financial consequences, we should see a decline in the stock price as investors reassess the company's value (Fama 1970).

Analysing stock price movements allows us to determine whether greenwashing allegations have financial consequences for the companies involved and actual consequences for their management. For a company's management, the stock value is usually the main evaluation metric. Managers will be judged according to the stock price movements of the managed companies, and their compensation is often linked to specific return thresholds (O'Connell and Ward 2023). Managers are thus highly sensitive to stock price decreases – if greenwashing involves the risk of such losses, they will have incentives to ban it internally.

To assess investors' stock price reactions, we look at the "abnormal returns" of a company, namely the returns deviating from what we would expect given the company and market conditions, around different greenwashing events. In other words, **we separate the impact of an event on a company's stock price from other factors like overall market conditions and the company's response to these conditions.** In the following sections, we provide information about the events, outline the associated stock price and return data and explain how we estimate abnormal returns.

Greenwashing events

We have compiled a list of 105 company-specific greenwashing events associated with 48 separate listed financial services companies.³ We systematically identified these specific events by searching Factiva and Google News for articles using the term “greenwashing” combined with the name of any of the largest 100 banks and asset managers⁴ over the past five years. We included each event linked to a greenwashing suspicion, allegation or their consequences in our sample. For events that were linked to several financial companies – for instance a report claiming that several asset managers were involved in greenwashing – we include one event per affected company.⁵

We then group these events into categories and subcategories, as depicted in Table 1. The categories broadly follow the trajectory of most cases that we observe in our data. First, greenwashing incidents are reported by whistle-blowers or exposed through systematic assessments and studies. Such revelations can lead to activism, and claims might be filed with the relevant supervisory authorities. Supervisory authorities may then decide to act upon allegations. Finally, greenwashing allegations can be brought to court and result in convictions. This classification helps us understand the different contexts in which greenwashing events occur and their potential impacts on companies.

Table 1: Greenwashing event categories

This table outlines the different event categories and subcategories. Details and references for all cases are given in Table A 1 in the Appendix.

Category	Subcategories	Example
Reported greenwashing incident	Whistle-blowing	Former DWS Group Sustainability Officer reports that DWS seriously overstated sustainability efforts.
	Reports / Studies	The Carbon Tracker Initiative states that asset managers have invested US\$376 billion in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. BlackRock, Amundi, State Street, Capital Group, Northern Trust, UBS and abrdn are mentioned in the report and its media coverage.

³ As will be explained in the next section, we can only use 90 of these events affecting 40 companies in our analysis. For the remaining cases, we either do not have sufficient stock return data or we had to exclude them due to overlapping events that were unrelated to greenwashing. For details about the reasons a specific event was excluded, see Table A 2 in the Appendix. Events of unlisted companies cannot be considered in the analysis, as the event study methodology investigates changes in stock returns.

⁴ We selected the 100 largest banks by total assets and the 100 largest asset managers by assets under management.

⁵ Few events should affect a larger number of financial services companies, such as the SEC’s announcement of an enforcement task force focused on climate and ESG issues. We assume that such events impact any company in our sample that is targeted by these announcements. In this example, it would include any company that has faced greenwashing allegations, is active in the U.S. and is therefore subject to the SEC’s jurisdiction and actions. Details about all included events are given in Table A 1 in the Appendix.

Activism in response to greenwashing	Activism in response to greenwashing	Climate protest in front of Deutsche Bank, highlighting greenwashing: "Deutsche Bank - Greenwashing kills; get out of coal, oil and gas."
Greenwashing complaint filed with authority	Complaint filed with financial supervisor	Activists file complaint against Canadian banks over green-finance claims. The complaint with the Ontario Securities Commission and Quebec's Autorité des Marchés Financiers specifically named Royal Bank of Canada, Toronto-Dominion Bank, Bank of Nova Scotia, Bank of Montreal and Canadian Imperial Bank of Commerce.
	Complaint filed with competition authority	Ecojustice files complaint to Canada's Competition Bureau, accusing RBC of greenwashing its climate impact.
Supervisory action against greenwashing	Investigation by financial supervisor	SEC investigation of Goldman Sachs for its misleading ESG claims.
	Investigation by competition authority	Competition Bureau Canada launches investigation into RBC over greenwashing allegations.
	Raid	Raid at DWS as part of an investigation of greenwashing allegations.
	Fine	DWS pays US\$25 million to settle charges over misstatements regarding its environmental, social and governance (ESG) investing (US\$19 million of the settlement was for greenwashing).
	Notice from financial supervisor	ASIC issues infringement notice to Northern Trust Asset Management for greenwashing.
	Advertising ban issued by advertising authority	ASA ruling on HSBC UK Bank plc; HSBC climate change adverts banned by UK watchdog.
Greenwashing lawsuit	Announcement / Initiation of lawsuit	A regional German consumer protection bureau filed a claim with the Regional Court of Stuttgart against Commerz Real Fund Management and argued that the advertising statements were misleading after the defendant themselves had massively relativised in other places.
	Loss of lawsuit	Commerzbank AG lost a German lawsuit over green advertising claims against its investment arm as regulators and courts clamp down on efforts from the financial services industry to make money from sustainability-linked products.

We excluded from our analysis any events that were "contaminated", meaning other significant company events occurred either at the same time or one day before or after the greenwashing incident. In these cases, it is difficult to isolate the stock price impact of the greenwashing event. For example, if a greenwashing allegation was tied to a bank's recently published annual report, we excluded that event because the report likely contained other important information that could have influenced investor reactions.

Our final sample includes 90 events from 41 listed companies. Figure 1 provides an overview of these events, broken down by year and category. For detailed information on all included events,

refer to Table A 1 in the Appendix, and for details on excluded events and the reasons for their exclusion, see Table A 2 in the Appendix.

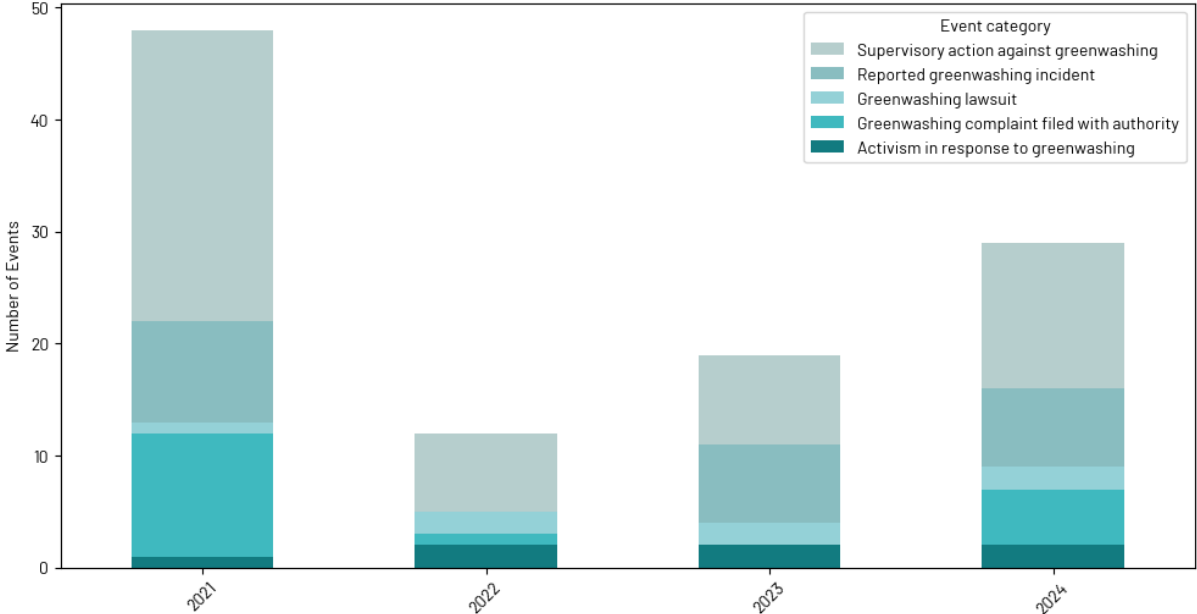


Figure 1: Events of different categories in our dataset

Data on stock prices and returns

We gathered daily market return data from Refinitiv Eikon. We looked at stock returns from the beginning of 2017 up to 23 July 2024. We collected data on stock returns for 40 of the 41 affected companies, as the stock returns for the Capital Group were unreliably reported by Refinitiv for the specified period (with gaps in reporting and implausibly high or low returns). By using the variable “total return” from Refinitiv Eikon, we obtained return data that had been adjusted for dividend payouts and stock splits. For companies that are not listed but a subsidiary of a listed company, we analysed the returns of the listed parent.

Event study methodology

We assessed stock price reactions related to each greenwashing event using an event study. Essentially, the methodology first estimates how we would expect a company’s returns to develop around a certain date and then compares this counterfactual development with actual stock price movements. The methodology is based on the following five steps (c.f. Kothari and Warner 2007).

1. Estimate normal returns

We estimate the normal returns for each bank and asset manager. To do this, we first determine the “estimation window”, which is the time frame used to estimate normal returns. Following the approach of similar studies (e.g. Sato et al. 2023), we use an estimation window of 740 trading days (around three years), ending 30 days before the event of interest.⁶ We use the company’s historical return data, market return data and data on other market characteristics to estimate what normal returns for the company look like, given the market returns and other characteristics.

In particular, we apply Fama-French’s (1996) three-factor model. This means that we regress a company’s returns over the estimation window on the market return, the size factor (which captures the preferential return situation of smaller companies) and the value factor (which captures the preferential return situation of companies with a higher book-to-market ratio). We obtain data for the factors from Kenneth French’s website (French 2024). The coefficients from this regression are then used to predict the returns we would have expected the company to have around the event date - had the greenwashing event not occurred.

2. Determine the event window

We identify the event window, i.e. the days directly surrounding the event. We use an event window of three days - from one day before until one day after the event. This window covers the period during which most investors should react to the event by buying or selling stock. The selection of this window is based on the assumption that some information about the event, such as a greenwashing report or a pending lawsuit, might be available starting one day before the official event and that some reactions might take a day to materialise. In line with current event study literature, we use a short event window, as this provides more reliable estimates. When reporting single events, we report longer event windows to be able to follow the stock price trajectories around such happenings (Kothari and Warner 2007). We provide robustness checks with other event windows in the Appendix.

3. Calculate abnormal returns for each day of the event window

We calculate abnormal returns for each day of the event window. We first calculate the normal returns based on the model specified in step 1. We then subtract the normal returns from the observed returns to obtain the abnormal returns.

⁶ We end our estimation window 30 days before the event, rather than 20 days as Sato et al. do, because some of our events may result from longer processes (such as studies on greenwashing that are eventually published). This approach helps ensure that our estimation window is not influenced by the event in any way.

4. Calculate the cumulative abnormal returns over the event window

To estimate the cumulative effect over several days, we add up all abnormal returns in the event window, i.e. the abnormal returns from one day before the event until one day after the event.

5. Estimate standard errors and test significance

We estimate the standard errors of the cumulative abnormal returns based on the abnormal returns calculated during the estimation window following Brown and Warner's (1980) crude dependence adjustment test. We provide significance tests (t-tests) and 95-per cent confidence intervals for all our results in the Appendix.

RESULTS

In this section, we first report stock market reactions to greenwashing events in the different categories and subcategories. We then provide more detailed information on one specific case, the greenwashing allegations against DWS and the events following these allegations.⁷

Stock market reactions to different greenwashing events

Figure 2 shows the estimates for the cumulative abnormal returns around different types of greenwashing events. The dots represent the cumulative abnormal returns averaged over all events of the same category. The horizontal line depicts the 95 per cent confidence interval. This interval indicates the range within which the actual effect of events from such category should lie with a 95% probability, assuming a normal distribution. An estimate whose confidence interval crosses the dashed zero-effect line can be considered as statistically insignificant and therefore not different from zero.

Figure 2 shows that effects from different events vary in direction and size. **On average, taking all events into consideration, the affected company's stock price declines by 0.9 per cent** (t-value: -2.08). However, effect sizes differ considerably between event types: the average cumulative abnormal returns around a lawsuit, a newly reported greenwashing incident, a complaint and activism are all insignificant: i.e. we cannot conclude that their true effect is anything different from zero. In contrast, **for regulatory action, we find not only a strong negative effect but also a significant negative effect: stock prices drop by 1.8 per cent more than we would expect had the supervisory action not occurred** (t-value of -2.39). In the following sections, we explore each category in greater detail.

⁷ The results for all abnormal returns, all cumulative abnormal returns and their significance levels are reported in Table A 3 to Table A 5 in the Appendix.

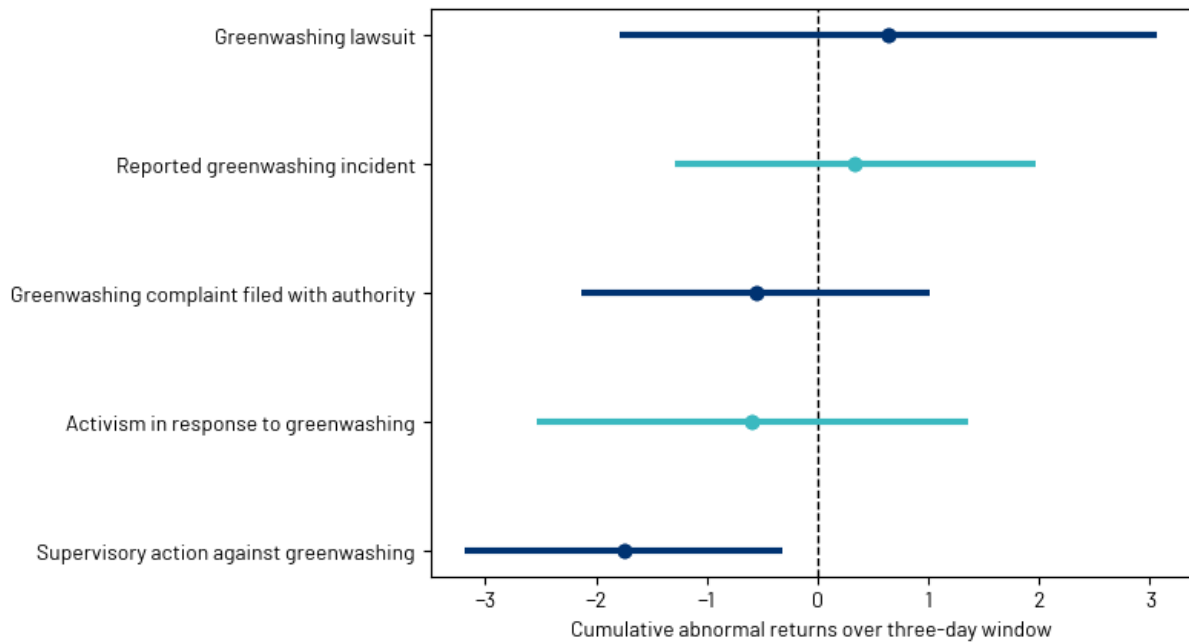


Figure 2: Cumulative abnormal returns around different greenwashing events (shown in order of effect size)

Stock market reactions to different reported greenwashing incidents and claims

Our sample includes two ways in which greenwashing incidents are reported: either a company-specific allegation is made by a whistle-blower from the company, or greenwashing is suggested by a research report or study that reveals questionable practices of green investment. As reported in Figure 3, we find insignificant effects for both types. The effect of whistle-blowers is particularly unclear, as we only have two such cases in our sample.

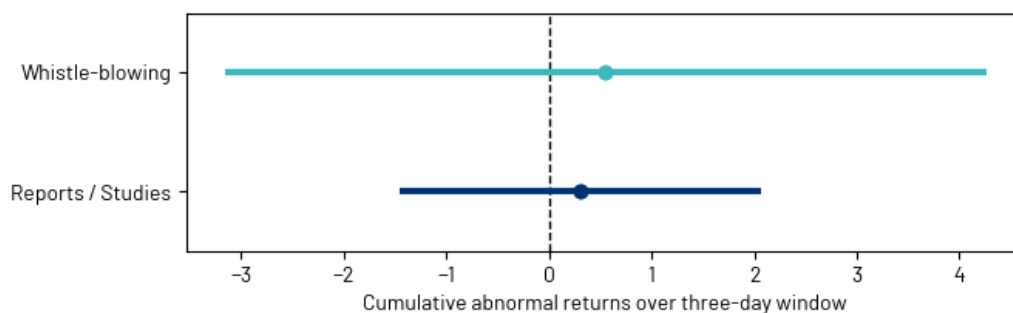


Figure 3: Cumulative abnormal returns around different types of reported incidents (shown in order of effect size)

We also do not find clear effects of greenwashing complaints that are filed with different authorities, as can be seen in Figure 4. While the coefficients for greenwashing complaints have negative values, they are also both insignificant.

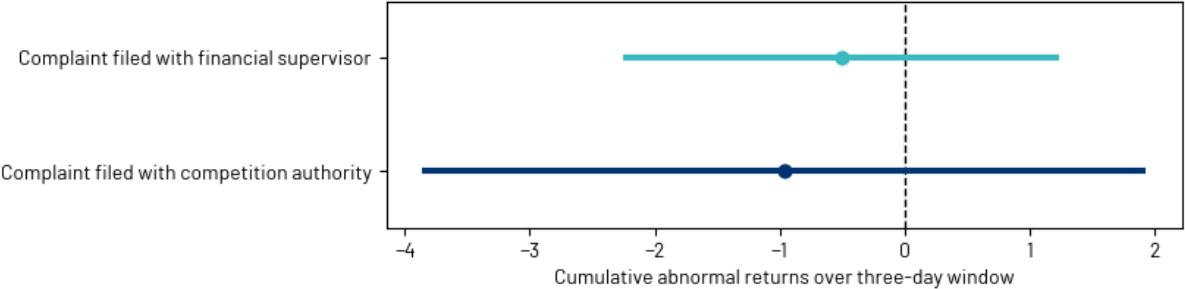


Figure 4: Cumulative abnormal returns around different types of greenwashing complaints (shown in order of effect size)

Stock market reactions to different supervisory actions

However, when an allegation or complaint is followed by supervisory action, stock market reactions are both strong and significant. As shown in Figure 5, **an official investigation tends to spark strong and significant negative reactions, reducing the company’s stock price and market capitalisation by 6.5 per cent. A potential raid following the official investigation is associated with an additional significant 5.3 per cent decrease in shareholder value.** The final regulatory consequences, such as fines, official regulatory notices or potential bans on greenwashing, result in only insignificant stock reactions – probably because they had been expected when investigations and raids were launched.

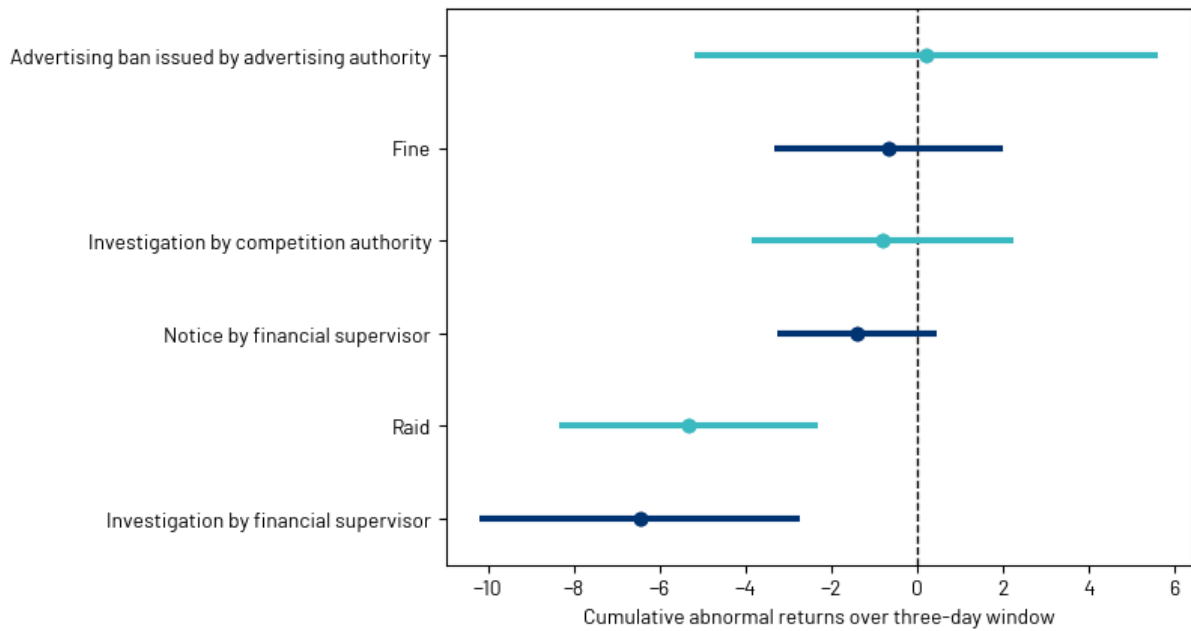


Figure 5: Cumulative abnormal returns around different types of supervisory action (shown in order of effect size)

Stock market reactions to lawsuits

Figure 6 illustrates investor reactions to various types of news related to lawsuits. Similar to the initial reporting of incidents and filed claims, no significant stock market effects were observed for the announcement, initiation or loss of lawsuits. Our event data does not include any cases of lawsuits that were won by the company.

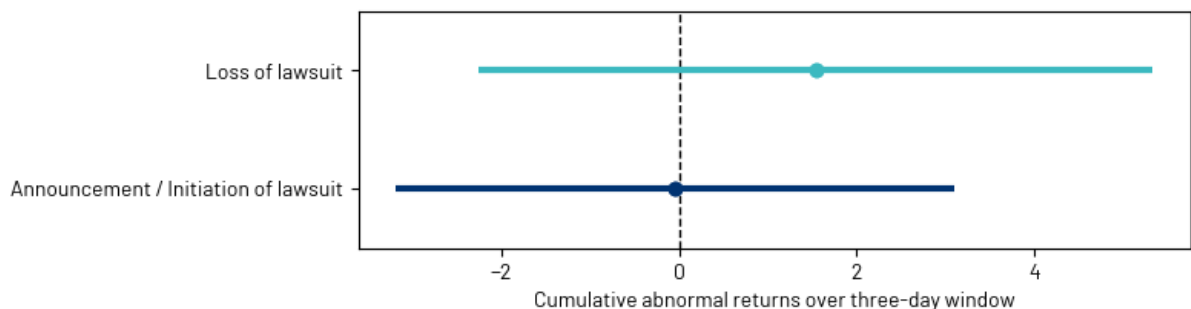


Figure 6: Cumulative abnormal returns around different stages of lawsuits (shown in order of effect size)

One might suspect that the stock market reaction to supervisory interventions is stronger owing to the severity of the respective cases: i.e. it is more likely for cases involving serious allegations of greenwashing to result in supervisory action. Accordingly, the strong reaction of the stock markets could merely be a result of the severity of these cases. However, if we limit our focus to the subset of events that involve several categories subsequently – for example, a greenwashing allegation that, after being reported, results in the filing of claims and, finally, action being taken

by the supervisory authority – it is evident that this is not the case.⁸ Instead, even when we look at the same case, meaning no variation in severity, we find a significant stock market response for serious supervisory actions, but not for the initial allegations or filed claims. The DWS case discussed below is one such instance where the very same allegations prompted significantly different stock market responses.

The DWS case

The pattern we find in our overall data – that greenwashing allegations alone are not followed by significant stock market reactions, but once the supervisor steps in, strong reactions are observed – is also true for one of the most well-known greenwashing cases in the financial world: the greenwashing allegations against Deutsche Bank’s asset manager DWS.

In 2021, DWS faced serious allegations from a whistle-blower who claimed that the company had significantly overstated its ESG (Environmental, Social and Governance) commitments. A former Group Sustainability Officer at DWS revealed that the company was heavily exaggerating the extent to which its investments were environmentally and socially responsible. These allegations prompted supervisory authorities, including the U.S. Securities and Exchange Commission (SEC) and Germany’s Federal Financial Supervisory Authority (BaFin), to launch investigations against the company, which denied any wrongdoing. These allegations and subsequent investigations brought significant media attention to DWS and are considered the financial sector’s most prominent case of greenwashing to date.

Figure 7 shows that the whistle-blower’s initial allegations published in the Wall Street Journal on 1 August 2021 did not spark any stock market reaction. Given the severity of the claims and the insider status of the whistle-blower, investors already had good reason to believe that there was indeed a greenwashing problem. However, the absence of a stock market reaction suggests that, aside from a media outcry, investors did not expect any further consequences.

⁸ Since most allegations have not led to supervisory action, our database unfortunately contains only five such cases, with the DWS case discussed below being the most notable. We hope to make stronger statements in the future as more greenwashing allegations prompt investigations by financial supervisors.

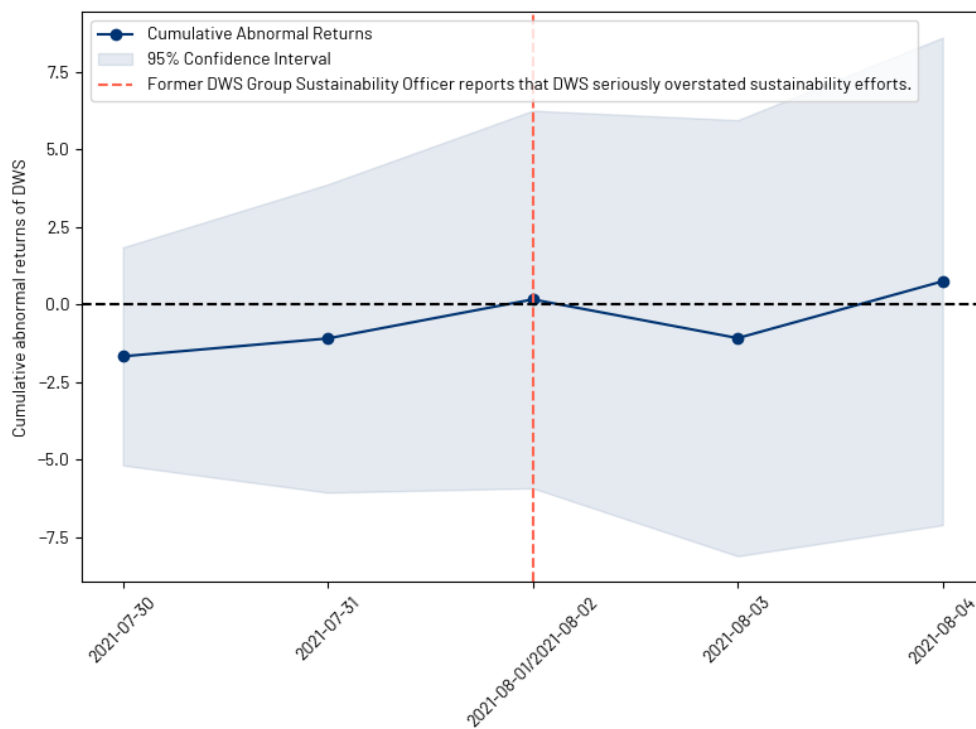


Figure 7: Former DWS Group Sustainability Officer reports that DWS seriously overstated sustainability efforts

Investors were proven wrong a few weeks later when both the SEC and BaFin launched investigations on 25 August 2021. As shown in Figure 8, investors started selling DWS shares once these investigations were made public. As a consequence, **the company lost 17.0 per cent of its market value, equivalent to US\$1.37 billion** given its market value of approximately US\$8 billion in August 2021.

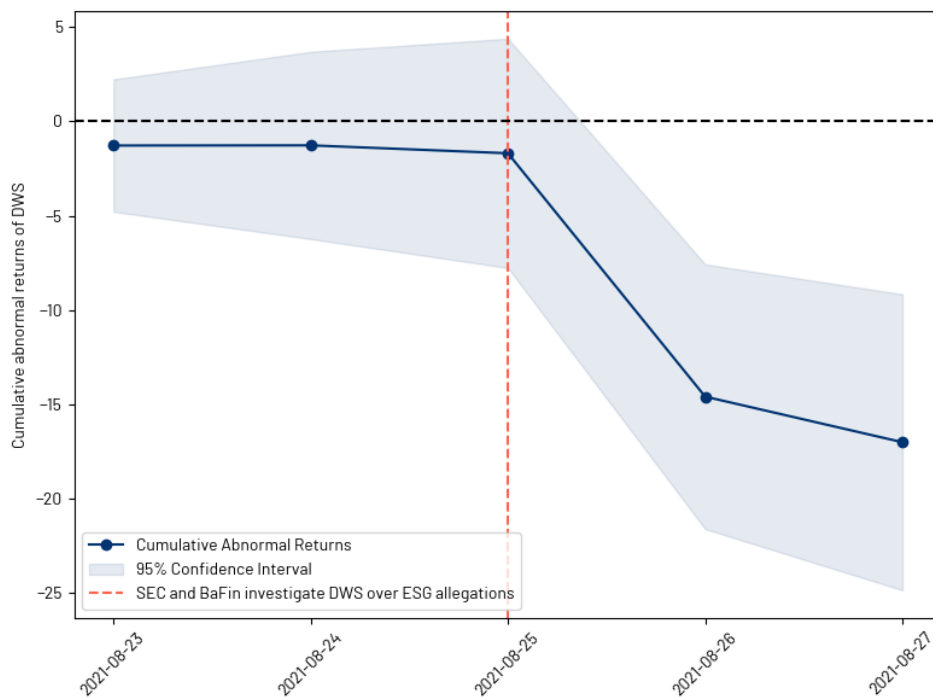


Figure 8: SEC and BaFin investigate DWS over ESG allegations

While a significant share of investors now seemed convinced that the greenwashing scandal would have financial consequences, others still considered it to be an overreaction. Analysts at Citigroup, for instance, claimed that the sell-off was “excessive”, arguing that there was little reason to suggest regulators would be able to prove the company had done anything wrong. Such convictions were based on the then-mainstream belief that sustainability was a poorly defined, subjective concept for which nobody could be held accountable – a common misperception among those who defend (or trivialise) greenwashing.

“We struggle to see how regulators can hold DWS to account, because sustainability requirements are subjective, making it hard to enforce, even if there was wrongdoing,” the Citi analysts wrote in a client note following the news about the investigations. “DWS should overcome this issue, and its strong ESG focus should pay off over the medium term” (Pensions & Investments 2021).

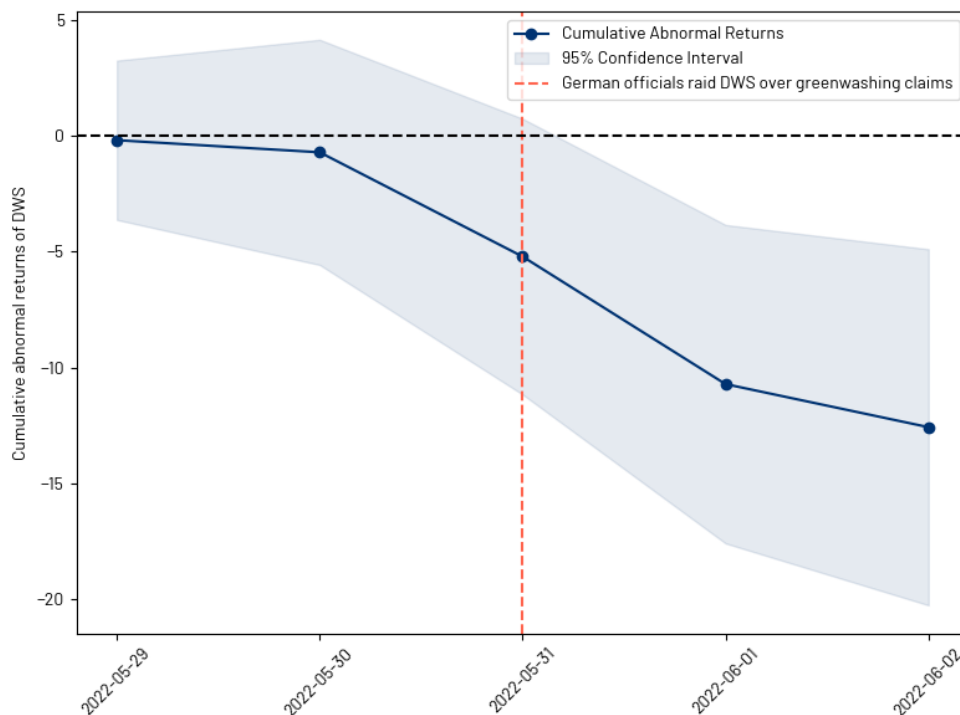


Figure 9: First raid at DWS

While the stock price had indeed slightly recovered after a few months, the announcement of the first raid in June 2022 by the German financial supervisor BaFin, the German Federal Criminal Police Office and the Public Prosecutor's Office in response to greenwashing allegations proved these voices wrong. **In reaction to the raid's announcement, DWS's stock plummeted by another 12.6 per cent, as shown in Figure 9.** This decrease led to an even lower overall valuation of the company and was followed by the resignation of DWS's then-chief executive, Asoka Wöhrmann.

In its quarterly report at the end of June 2023, DWS disclosed that it had set aside €27 million (US\$30 million) to cover potential settlements related to the allegations (Bloomberg 2023). This estimate proved fairly accurate when the SEC imposed a fine of US\$25 million on the asset manager in September 2023, including US\$19 million for greenwashing charges and US\$6 million for anti-money laundering violations. Owing to the fact that these fines had been anticipated, they did not significantly impact the stock price when announced, as shown by the lack of reaction in Figure 10.

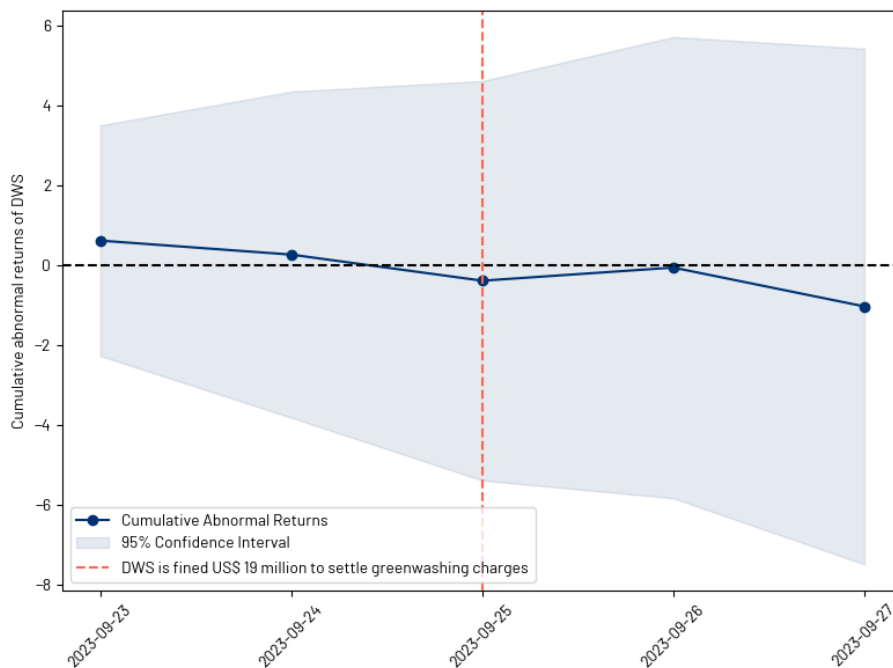


Figure 10: DWS is fined US\$19 million to settle greenwashing charges⁹

The DWS case demonstrates that greenwashing can have major consequences for the involved banks and asset managers. It also shows how actual consequences stem from a combination of factors. While supervisory action requires reliable information like the facts provided by the DWS whistle-blower, that information alone does not change the market’s expectations for the company’s future cash flows. **However, once the supervisor intervenes, the market reacts much more strongly than would be expected based on fines alone - the total loss in market value attributed to these events was significantly greater than US\$19 million.** Investors seemed to price in the broader implications of a shaky ESG strategy and the associated loss of trust with clients in the growing market of sustainable finance.

Similar to the aggregate analysis, the DWS case demonstrates that greenwashing can be effectively combated, but only if supervisors assume an active role. Despite the fact that the initial allegations had come from a well-informed insider and that investors had likely expected some truth to the claims, there was no significant reaction until the supervisory consequences became clear. Management would probably have preferred to ignore the whistle-blower’s allegations were it not for the intervention of the supervisory authorities. These findings underscore the critical role of regulatory bodies in enforcing transparency and accountability in sustainable finance.

⁹ In total, the fine was US\$25 million. This included a US\$6 million fine for anti-money laundering violations and a US\$19 million fine for misstatements regarding ESG investments.

CONCLUSION

This study investigated the stock market reactions to different greenwashing events associated with financial companies. It showed that greenwashing-related incidents have an overall negative effect on stock prices. However, this negative effect is driven by the strong, negative stock price reaction to companies that face supervisory consequences for greenwashing allegations. The study allows us to draw three key conclusions:

- Capital markets typically respond to greenwashing cases only when financial supervisory authorities intervene, investigate and potentially impose penalties. This fact clearly demonstrates that **active financial supervision is one of the most crucial mechanisms for curbing greenwashing.**
- Nevertheless, uncovering greenwashing through studies or journalistic investigation is both correct and important, even if immediate financial impacts are often not visible. Over time, such information influences the public perception of a company (“reputational risk”), and the information provided often serves as a basis or catalyst for supervisory action.
- Our findings underscore how important it is that financial supervisors take their role seriously, also when it comes to greenwashing. Financial supervisors must be vigilant in detecting greenwashing cases, thoroughly investigate all published allegations and promptly take action to sanction misconduct. Only through such measures can existing sustainable finance regulations be effective, ensuring that investors and consumers maintain trust in sustainable finance.

The legal provisions for green investments are in a process of adjustment at the moment of writing. In future, clearer requirements could also help investors to better identify and evaluate sustainable financial products and thus reduce greenwashing.

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APPENDIX

Table A 1: Events used in our analysis

Company	Date	Details	Category	Subcategory	Link
abrdn	05 May 2023	The Carbon Tracker Initiative states that asset managers have invested US\$376 billion in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. BlackRock, Amundi, State Street, Capital Group, Northern Trust, UBS and abrdn are mentioned in the report and its media coverage.	Reported greenwashing incident	Reports / Studies	https://www.theguardian.com/business/2023/may/14/sustainable-pension-funds-accused-of-greenwashing-over-billions-held-in-oil-and-gas-firms , https://carbontracker.org/asset-managers-invest-400bn-in-oil-gas-despite-climate-commitments/
abrdn	29 June 2023	Letter to heads of sustainable finance from FCA: Increasing and sometimes negative media coverage of the SLL market observed over the last year has highlighted potential market integrity concerns. These concerns are further corroborated by market intelligence received in the first quarter of 2023 from participants in the SLL market. These concerns include weak incentives, potential conflicts of interest, and suggestions of low ambition and poor design in some SLLs' Sustainable Performance Targets (SPTs) and Key Performance Indicators (KPIs). These may lead to accusations of greenwashing	Supervisory action against greenwashing	Notice by financial supervisor	https://www.fca.org.uk/publication/correspondence/sll-letter-june-2023.pdf
Allianz	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Allianz	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
AMP	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Amundi	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Amundi	05 May 2023	The Carbon Tracker Initiative states that asset managers have invested US\$376 billion in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. BlackRock, Amundi, State Street, Capital Group, Northern Trust, UBS and abrdn are mentioned in the report and its media coverage.	Reported greenwashing incident	Reports / Studies	https://www.theguardian.com/business/2023/may/14/sustainable-pension-funds-accused-of-greenwashing-over-billions-held-in-oil-and-gas-firms , https://carbontracker.org/asset-managers-invest-400bn-in-oil-gas-despite-climate-commitments/
Amundi	20 March 2024	Report on passive investors finds BlackRock, LGIM and Amundi among asset managers accused of greenwashing passive funds	Reported greenwashing incident	Reports / Studies	https://www.sustainableviews.com/blackrock-lgim-and-amundi-among-asset-managers-accused-of-greenwashing-passive-funds-d1c5af35/

Amundi	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
AXA	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
AXA	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
Axis Bank	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
Baillie Gifford	11 August 2023	An open letter signed by more than 50 authors of Edinburgh book festival including Zadie Smith, Ali Smith and Katherine Rundell calls for investment firm Baillie Gifford to be dropped as main sponsor for 2024. The authors threaten to not attend otherwise. This comes after climate activist Greta Thunberg pulled out of her scheduled appearance at the festival earlier this month, accusing Baillie Gifford of "greenwashing".	Activism in response to greenwashing	Activism in response to greenwashing	https://www.theguardian.com/books/2023/aug/11/authors-boycott-edinburgh-book-festival-sponsors-fossil-fuel-links
Baillie Gifford	15 May 2024	More than 200 authors including Naomi Klein, Sally Rooney and George Monbiot have signed a statement by Fossil Free Books (FFB), which puts increased pressure on investment management firm Baillie Gifford, sponsors of the Baillie Gifford prize for nonfiction. In August 2023, climate activist Greta Thunberg pulled out of her scheduled appearance at the Edinburgh international festival, accusing Baillie Gifford of "greenwashing".	Activism in response to greenwashing	Activism in response to greenwashing	https://www.theguardian.com/books/article/2024/may/15/authors-baillie-gifford-fossil-fuel
Baillie Gifford	30 May 2024	Edinburgh International Book Festival ends Baillie Gifford sponsorship, The Edinburgh International Book Festival has ended its 20-year funding partnership with sponsors Baillie Gifford, following pressure from climate campaigners. The letter came in the wake of climate activist Greta Thunberg pulling out of an appearance at last year's event after accusing Baillie Gifford of "greenwashing".	Activism in response to greenwashing	Activism in response to greenwashing	https://uk.news.yahoo.com/edinburgh-international-book-festival-ends-185535527.html
Bank of America	11 June 2024	A Report titled "Greenwashing in the Amazon" examines how the environmental and social risk management (ESRM) policies of the top banks financing oil and gas extraction in Amazonia fail to fully address the adverse impacts of their financing on people and nature. It finds that over the past 20 years, just six banks – Citigroup, JPMorgan Chase, Itaú Unibanco, Santander, Bank of America, and HSBC – are responsible for almost half (46%) of all direct financing for oil and gas operations in Amazonia	Reported greenwashing incident	Reports / Studies	https://exitamazonoilandgas.org/reports/#greenwashing
Bank of Montreal	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42

Bank of Montreal	10 March 2021	The NGO ReclaimFinance criticized several banks as being complicit in "shameless greenwashing" due to the following deal: Enbridge secured a three-year \$1.0 billion Sustainability Linked Credit Facility with CIBC, Scotiabank (Bank of Nova Scotia), Bank of Montreal (BMO Capital Markets), RBC Capital Markets and TD Securities.	Reported greenwashing incident	Reports / Studies	https://reclaimfinance.org/site/en/2021/03/10/enbridge-sustainable-credit-tar-sands-rights-violations/
Bank of Montreal	09 January 2024	Activists file complaint against Canadian banks over green-finance claims. The complaint with the Ontario Securities Commission and Quebec's Autorité des Marchés Financiers specifically named Royal Bank of Canada, Toronto-Dominion Bank, Bank of Nova Scotia, Bank of Montreal and Canadian Imperial Bank of Commerce.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.bloomberg.com/news/articles/2024-01-09/green-lending-by-canada-banks-subject-of-complaint-to-regulators
Bank of Nova Scotia	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Bank of Nova Scotia	10 March 2021	The NGO ReclaimFinance criticized several banks as being complicit in "shameless greenwashing" due to the following deal: Enbridge secured a three-year \$1.0 billion Sustainability Linked Credit Facility with CIBC, Scotiabank (Bank of Nova Scotia), Bank of Montreal (BMO Capital Markets), RBC Capital Markets and TD Securities.	Reported greenwashing incident	Reports / Studies	https://reclaimfinance.org/site/en/2021/03/10/enbridge-sustainable-credit-tar-sands-rights-violations/
Bank of Nova Scotia	09 January 2024	Activists file complaint against Canadian banks over green-finance claims. The complaint with the Ontario Securities Commission and Quebec's Autorité des Marchés Financiers specifically named Royal Bank of Canada, Toronto-Dominion Bank, Bank of Nova Scotia, Bank of Montreal and Canadian Imperial Bank of Commerce.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.bloomberg.com/news/articles/2024-01-09/green-lending-by-canada-banks-subject-of-complaint-to-regulators
Barclays	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Barclays	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
Barclays	14 November 2022	Climate activists have been arrested following an Extinction Rebellion protest in Belfast city centre, claiming "We're doing this to expose Barclays' greenwashing and raise awareness in public about how they are profiting from destroying the planet and people's lives". Paint was thrown over a bank at Castle Place during the incident on Monday afternoon	Activism in response to greenwashing	Activism in response to greenwashing	https://www.belfasttelegraph.co.uk/news/environment/watch-two-arrested-after-extinction-rebellion-activists-hold-protest-outside-barclays-bank-in-belfast/42142864.html
Barclays	29 June 2023	Letter to heads of sustainable finance from FCA: Increasing and sometimes negative media coverage of the SLL market observed over the last year has highlighted potential market integrity concerns. These concerns are further corroborated by market intelligence received in the first quarter of 2023 from participants in the SLL market. These concerns include weak incentives, potential conflicts of interest, and suggestions of low ambition and poor design in some SLLs' Sustainable Performance	Supervisory action against greenwashing	Notice by financial supervisor	https://www.fca.org.uk/publication/correspondence/sll-letter-june-2023.pdf

		Targets (SPTs) and Key Performance Indicators (KPIs). These may lead to accusations of greenwashing			
Blackrock	16 March 2021	Former BlackRock ESG manager writes letter that ESG is only greenwashing	Reported greenwashing incident	Whistle-blowing	https://www.bloomberg.com/opinion/articles/2021-03-23/former-blackrock-executive-tariq-fancy-blows-the-greenwashing-whistle , https://eu.usatoday.com/story/opinion/2021/03/16/wall-street-esg-sustainable-investing-greenwashing-column/6948923002/
BlackRock	27 August 2021	The ThingTank InfluenceMap found that more than half of 723 assessed equity funds marketed using environmental, social and governance (ESG) claims and climate-related key words fall short of the vision laid out in the Paris treaty. More than 70% of the funds with broader ESG goals were found to be misaligned with global climate targets. Responsible asset managers mentioned in the press coverage include UBS Group AG, BlackRock, and State Street.	Reported greenwashing incident	Reports / Studies	https://time.com/6095472/green-esg-investment-funds-greenwashing/ , https://influencemap.org/Report/Climate-Funds-Are-They-Paris-Aligned-3eb83347267949847084306dae01c7b0
BlackRock	05 May 2023	The Carbon Tracker Initiative states that asset managers have invested US\$376 billion in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. BlackRock, Amundi, State Street, Capital Group, Northern Trust, UBS and abrdn are mentioned in the report and its media coverage.	Reported greenwashing incident	Reports / Studies	https://www.theguardian.com/business/2023/may/14/sustainable-pension-funds-accused-of-greenwashing-over-billions-held-in-oil-and-gas-firms , https://carbontracker.org/asset-managers-invest-400bn-in-oil-gas-despite-climate-commitments/
BNP Paribas	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
BNP Paribas	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
BNY Mellon	23 May 2022	SEC imposed a fine of USD\$1,500,000 against BNY. The facts investigated by the SEC relate that BNY, during the period from July 2018 through September 2021, claimed that certain investments they were making met satisfactory standards and ratings associated with environmental, social and governance ("ESG") criteria. That is, BNY would have stated that certain ESG considerations and ratings were considered when making investments in funds that were not always rated or reviewed for ESG quality.	Supervisory action against greenwashing	Fine	https://cms.law/en/col/publication/greenwashing-practices-in-the-financial-sector-bny-mellon-investment-adviser-inc.-case
CIBC	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
CIBC	10 March 2021	The NGO ReclaimFinance criticized several banks as being complicit in "shameless greenwashing" due to the following deal: Enbridge secured a three-year \$1.0 billion Sustainability Linked Credit Facility with CIBC, Scotiabank (Bank of Nova Scotia), Bank of Montreal (BMO Capital Markets), RBC Capital Markets and TD Securities.	Reported greenwashing incident	Reports / Studies	https://reclaimfinance.org/site/en/2021/03/10/enbridge-sustainable-credit-tar-sands-rights-violations/
CIBC	09 January 2024	Activists file complaint against Canadian banks over green-finance claims. The complaint with the Ontario Securities Commission and Quebec's Autorité des Marchés Financiers specifically named Royal Bank	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.bloomberg.com/news/articles/2024-01-09/green-lending-by-canada-banks-subject-of-complaint-to-regulators

		of Canada, Toronto-Dominion Bank, Bank of Nova Scotia, Bank of Montreal and Canadian Imperial Bank of Commerce.			
Citigroup	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
Citigroup	08 May 2023	CITI wins "award" for greenwashing, Citi has been named the number 1 bank for greenwashing based on its outstanding record for failing to address climate change. The award is granted by a number of climate organizations including Stop the Money Pipeline, Climate Organizing Hubs, and Climate First	Activism in response to greenwashing	Activism in response to greenwashing	https://www.banktrack.org/article/citi_wins_prestigious_award_for_greenwashing
Citigroup	11 June 2024	A Report titled "Greenwashing in the Amazon" examines how the environmental and social risk management (ESRM) policies of the top banks financing oil and gas extraction in Amazonia fail to fully address the adverse impacts of their financing on people and nature. It finds that over the past 20 years, just six banks – Citigroup, JPMorgan Chase, Itaú Unibanco, Santander, Bank of America, and HSBC – are responsible for almost half (46%) of all direct financing for oil and gas operations in Amazonia	Reported greenwashing incident	Reports / Studies	https://exitamazonoilandgas.org/reports/#greenwashing
Commerzbank	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Commerzbank	15 December 2021	A regional German consumer protection bureau filed a claim with the Regional Court of Stuttgart against Commerz Real Fund Management and argued that the advertising statements were misleading after the defendant themselves had massively relativised in other places.	Greenwashing lawsuit	Announcement / Initiation of lawsuit	https://climatecasechart.com/non-us-case/verbraucherzentrale-baden-wuerttemberg-ev-v-commerz-real-fund-management-sarl/
Commerzbank	31 January 2022	The Stuttgart (Germany) Regional Court has upheld a lawsuit by the German state of Baden-Württemberg's Consumer Protection Bureau, prohibiting Commerz Real from claiming a direct link between a specific investment amount and a defined alleged reduction in an individual's carbon dioxide (CO2) footprint	Greenwashing lawsuit	Loss of lawsuit	https://www.cash-online.de/a/commerz-real-verliert-rechtsstreit-gegen-verbraucherzentrale-585328/ , https://climatecasechart.com/non-us-case/verbraucherzentrale-baden-wuerttemberg-ev-v-commerz-real-fund-management-sarl/
Commerzbank	23 February 2024	Commerzbank AG lost a German lawsuit over green advertising claims against its investment arm as regulators and courts clamp down on efforts from the financial services industry to make money from sustainability-linked products.	Greenwashing lawsuit	Loss of lawsuit	https://www.bloomberg.com/news/articles/2023-02-23/commerzbank-s-investment-arm-loses-greenwashing-suit-in-germany
Commonwealth Bank	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Credit Agricole	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42

Credit Agricole	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
Credit Suisse	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Credit Suisse	26 July 2021	Climate activists from Rise Up For Change 2021 publicly read a letter to all Swiss financial institutions in front of Credit Suisse headquarters.	Activism in response to greenwashing	Activism in response to greenwashing	https://www.20min.ch/fr/story/credit-suisse-ne-dialogue-que-par-la-repression-462344515047
DBS	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
Deutsche Bank	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Deutsche Bank	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
Deutsche Bank	28 June 2022	<u>Climate protest in front of Deutsche Bank, highlighting greenwashing: "Deutsche Bank - Greenwashing kills; get out of coal, oil and gas."</u>	Activism in response to greenwashing	Activism in response to greenwashing	https://www.alamy.com/28-june-2022-hessen-frankfurtmain-deutsche-bank-greenwashing-kills-get-out-of-coal-oil-and-gas!-reads-a-poster-put-up-by-environmental-activists-from-fridays-for-future-in-front-of-deutsche-banks-headquarters-photo-boris-roesslerdpa-image473824702.html
Deutsche Bank	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
DWS	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
DWS	01 August 2021	Former DWS Group Sustainability Officer reports that DWS seriously overstated sustainability efforts.	Reported greenwashing incident	Whistle-blowing	https://www.wsj.com/articles/fired-executive-says-deutsche-banks-dws-overstated-sustainable-investing-efforts-11627810380
DWS	25 August 2021	SEC and Bafin investigate DWS over ESG allegations	Supervisory action against greenwashing	Investigation by financial supervisor	https://www.wsj.com/articles/u-s-authorities-probing-deutsche-banks-dws-over-sustainability-claims-11629923018
DWS	31 May 2022	Raid at DWS as part of an investigation of greenwashing allegations.	Supervisory action against greenwashing	Raid	https://www.reuters.com/business/german-police-raid-deutsche-banks-dws-unit-2022-05-31/

DWS	24 October 2022	The German state Baden-Württemberg's Consumer Protection Bureau sues DWS, on suspicion of greenwashing, alleging "misleading advertising."	Greenwashing lawsuit	Announcement / Initiation of lawsuit	https://www.tagesschau.de/wirtschaft/verbraucher/greenwashing-verbraucherzentrale-klage-dws-101.html
DWS	25 September 2023	DWS pays US\$25 million to settle charges over misstatements regarding its environmental, social and governance (ESG) investing (US\$19 million of the settlement was for greenwashing).	Supervisory action against greenwashing	Fine	https://www.reuters.com/legal/dws-pay-25-mln-over-us-charges-over-esg-misstatements-other-violations-2023-09-25/
DWS	13 November 2023	DWS ESG bonus scheme 'a new form of greenwashing', Greenpeace Report warns.	Reported greenwashing incident	Reports / Studies	https://www.etfstream.com/articles/dws-esg-bonus-scheme-a-new-form-of-greenwashing-greenpeace-report-warns , https://www.greenpeace.de/publikationen/Report_DWS_Remuneration_System.pdf
DWS	24 January 2024	Second Raid at DWS: DWS is been visited by police and prosecutors for the second time due to greenwashing investigations.	Supervisory action against greenwashing	Raid	https://citywire.com/selector/news/public-prosecutor-visits-dws-again-over-greenwashing-concerns/a2434677 , https://www.ecoreporter.de/artikel/greenwashing-vorw%C3%BCrfe-erneut-razzia-bei-der-dws/
DWS	01 February 2024	Third Raid at DWS: Police pulled up at the fund subsidiary DWS just as the parent company Deutsche Bank was unveiling its results for 2023. Allegations of greenwashing have surfaced yet again.	Supervisory action against greenwashing	Raid	https://www.finews.com/news/english-news/61234-dws-raid-greenwashing , https://www.handelsblatt.com/finanzen/banken-versicherungen/fondstochter-der-deutschen-bank-ermittler-durchsuchen-erneut-die-dws/100012117.html?utm_source=sf&utm_medium=nl&utm_campaign=hb-financebriefing&utm_content=02022024&key=0031t00000dOPcFAAW
DWS	07 March 2024	DWS issues a cease-and-desist declaration regarding misleading advertising with excessive sustainability promises following a warning from the Consumer Protection Bureau of the German State of Baden-Württemberg for greenwashing.	Greenwashing lawsuit	Loss of lawsuit	https://climatecasechart.com/non-us-case/dws-greenwashing/ , https://www.verbraucherzentrale-bawue.de/presse-meldungen/presse-bw/nach-abmahnung-wegen-greenwashing-dws-gibt-unterlassungserklaerung-ab-82173
DWS	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
Emirates NBD	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
Goldman Sachs	11 June 2022	SEC investigation of Goldman Sachs for its misleading ESG claims.	Supervisory action against greenwashing	Investigation by financial supervisor	https://www.ft.com/content/5812ab1f-c2d4-4681-a6be-45f0befd92df
Goldman Sachs	22 November 2022	Goldman Sachs to pay \$4mn penalty over ESG fund claims	Supervisory action against greenwashing	Fine	https://www.reuters.com/world/us/sec-charges-goldman-sachs-asset-management-not-following-esg-investments-2022-11-22/

HSBC	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
HSBC	16 September 2021	Complaint filed against HSBC's Great Barrier Reef ad	Greenwashing complaint filed with authority	Complaint filed with competition authority	https://climatecasechart.com/non-us-case/complaint-to-standards-on-hsbc-great-barrier-reef-ad/
HSBC	19 October 2022	ASA ruling on HSBC UK Bank plc; HSBC climate change adverts banned by UK watchdog.	Supervisory action against greenwashing	Advertising ban issued by advertising authority	https://www.bbc.com/news/business-63309878
HSBC	19 October 2022	<u>UK ad regulator the Advertising Standards Authority (ASA) rules that ads by HSBC highlighting the bank's climate-focused actions were misleading, as they omitted information about HSBC's continued financing activities for emissions-intensive industries and businesses.</u>	Supervisory action against greenwashing	Advertising ban issued by advertising authority	https://www.esgtoday.com/regulator-bans-hsbc-ads-highlighting-green-activities-as-misleading/
HSBC	29 June 2023	Letter to heads of sustainable finance from FCA: Increasing and sometimes negative media coverage of the SLL market observed over the last year has highlighted potential market integrity concerns. These concerns are further corroborated by market intelligence received in the first quarter of 2023 from participants in the SLL market. These concerns include weak incentives, potential conflicts of interest, and suggestions of low ambition and poor design in some SLLs' Sustainable Performance Targets (SPTs) and Key Performance Indicators (KPIs). These may lead to accusations of greenwashing	Supervisory action against greenwashing	Notice by financial supervisor	https://www.fca.org.uk/publication/correspondence/sll-letter-june-2023.pdf
HSBC	11 June 2024	A Report titled "Greenwashing in the Amazon" examines how the environmental and social risk management (ESRM) policies of the top banks financing oil and gas extraction in Amazonia fail to fully address the adverse impacts of their financing on people and nature. It finds that over the past 20 years, just six banks – Citigroup, JPMorgan Chase, Itaú Unibanco, Santander, Bank of America, and HSBC – are responsible for almost half (46%) of all direct financing for oil and gas operations in Amazonia	Reported greenwashing incident	Reports / Studies	https://exitamazonoilandgas.org/reports/#greenwashing
Itau	11 June 2024	A Report titled "Greenwashing in the Amazon" examines how the environmental and social risk management (ESRM) policies of the top banks financing oil and gas extraction in Amazonia fail to fully address the adverse impacts of their financing on people and nature. It finds that over the past 20 years, just six banks – Citigroup, JPMorgan Chase, Itaú Unibanco, Santander, Bank of America, and HSBC – are responsible for almost half (46%) of all direct financing for oil and gas operations in Amazonia	Reported greenwashing incident	Reports / Studies	https://exitamazonoilandgas.org/reports/#greenwashing
JP Morgan	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sr/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links

		by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.			
JP Morgan	11 June 2024	A Report titled "Greenwashing in the Amazon" examines how the environmental and social risk management (ESRM) policies of the top banks financing oil and gas extraction in Amazonia fail to fully address the adverse impacts of their financing on people and nature. It finds that over the past 20 years, just six banks – Citigroup, JPMorgan Chase, Itaú Unibanco, Santander, Bank of America, and HSBC – are responsible for almost half (46%) of all direct financing for oil and gas operations in Amazonia	Reported greenwashing incident	Reports / Studies	https://exitamazonoilandgas.org/reports/#greenwashing
Julius Baer	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
LGEN	20 March 2024	Report on passive investors finds BlackRock, LGIM and Amundi among asset managers accused of greenwashing passive funds	Reported greenwashing incident	Reports / Studies	https://www.sustainableviews.com/blackrock-lgim-and-amundi-among-asset-managers-accused-of-greenwashing-passive-funds-d1c5af35/
Mizuho	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
MMC	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
MMC	28 February 2023	ASIC has launched its first court action against alleged greenwashing conduct, commencing civil penalty proceedings in the Federal Court against Mercer Superannuation (Australia) Limited (Mercer) for allegedly making misleading statements about the sustainable nature and characteristics of some of its superannuation investment options.	Greenwashing lawsuit	Announcement / Initiation of lawsuit	https://asic.gov.au/about-asic/news-centre/find-a-media-release/2023-releases/23-043mr-asic-launches-first-court-proceedings-alleging-greenwashing/
MMC	28 February 2023	ASIC sues Mercer Superannuation (Australia) Limited (Mercer) for allegedly making misleading statements about the sustainable nature and characteristics of some of its superannuation investment options, commencing civil penalty proceedings in the Federal Court.	Greenwashing lawsuit	Announcement / Initiation of lawsuit	https://asic.gov.au/about-asic/news-centre/find-a-media-release/2023-releases/23-043mr-asic-launches-first-court-proceedings-alleging-greenwashing/
MMC	28 March 2024	Australia's financial services regulator, ASIC, has put the asset management sector on notice after securing victory in its civil greenwashing case against Vanguard.	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sustainableviews.com/australian-regulator-posts-greenwashing-warning-following-victory-against-vanguard-000343e1/
MUFG	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links

Northern Trust Corporation	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Northern Trust Corporation	05 May 2023	The Carbon Tracker Initiative states that asset managers have invested US\$376 billion in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. BlackRock, Amundi, State Street, Capital Group, Northern Trust, UBS and abrdn are mentioned in the report and its media coverage.	Reported greenwashing incident	Reports / Studies	https://www.theguardian.com/business/2023/may/14/sustainable-pension-funds-accused-of-greenwashing-over-billions-held-in-oil-and-gas-firms , https://carbontracker.org/asset-managers-invest-400bn-in-oil-gas-despite-climate-commitments/
Northern Trust Corporation	19 December 2023	ASIC issues infringement notice to Northern Trust Asset Management for greenwashing.	Supervisory action against greenwashing	Notice by financial supervisor	https://asic.gov.au/about-asic/news-centre/find-a-media-release/2023-releases/23-344mr-asic-issues-infringement-notices-to-northern-trust-asset-management-for-greenwashing/
Northern Trust Corporation	28 March 2024	Australia's financial services regulator, ASIC, has put the asset management sector on notice after securing victory in its civil greenwashing case against Vanguard.	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sustainableviews.com/australian-regulator-posts-greenwashing-warning-following-victory-against-vanguard-000343e1/
RBC	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
RBC	06 October 2022	Ecojustice files complaint to Canada's Competition Bureau, accusing RBC of greenwashing its climate impact.	Greenwashing complaint filed with authority	Complaint filed with competition authority	https://ecojustice.ca/wp-content/uploads/2022/07/2022-06-10-Complaint-to-Competition-Bureau-re-RBC-climate-representations-Final.pdf
RBC	12 October 2022	Competition Bureau Canada launches investigation into RBC over greenwashing allegations.	Supervisory action against greenwashing	Investigation by competition authority	https://www.reuters.com/world/americas/canadas-watchdog-launches-investigation-into-rbc-over-climate-complaints-2022-10-12/
RBC	09 January 2024	Activists file complaint against Canadian banks over green-finance claims. The complaint with the Ontario Securities Commission and Quebec's Autorité des Marchés Financiers specifically named Royal Bank of Canada, Toronto-Dominion Bank, Bank of Nova Scotia, Bank of Montreal and Canadian Imperial Bank of Commerce.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.bloomberg.com/news/articles/2024-01-09/green-lending-by-canada-banks-subject-of-complaint-to-regulators
Santander	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Santander	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
Santander	11 June 2024	A Report titled "Greenwashing in the Amazon" examines how the environmental and social risk management (ESRM) policies of the top banks financing oil and gas extraction in Amazonia fail to fully address the adverse impacts of their financing on people and nature. It finds that over the past 20 years, just six banks – Citigroup, JPMorgan Chase, Itaú Unibanco, Santander, Bank of America, and HSBC – are responsible for almost half (46%) of all direct financing for oil and gas operations in Amazonia	Reported greenwashing incident	Reports / Studies	https://exitamazonoilandgas.org/reports/#greenwashing

Schroders	29 June 2023	Letter to heads of sustainable finance from FCA: Increasing and sometimes negative media coverage of the SLL market observed over the last year has highlighted potential market integrity concerns. These concerns are further corroborated by market intelligence received in the first quarter of 2023 from participants in the SLL market. These concerns include weak incentives, potential conflicts of interest, and suggestions of low ambition and poor design in some SLLs' Sustainable Performance Targets (SPTs) and Key Performance Indicators (KPIs). These may lead to accusations of greenwashing	Supervisory action against greenwashing	Notice by financial supervisor	https://www.fca.org.uk/publication/correspondence/sll-letter-june-2023.pdf
Societe Generale	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Societe Generale	05 June 2024	European regulators urge stronger supervision to combat greenwashing in financial sector	Supervisory action against greenwashing	Notice by financial supervisor	https://esgnews.com/european-regulators-urge-stronger-supervision-to-combat-greenwashing-in-financial-sector/
Standard Chartered	21 October 2021	An NGO has filed a complaint at the US Securities and Exchange Commission, accusing the lead managers of Adani Electricity's sustainability-linked bond, issued in July, of securities fraud for failing to disclose properly its links with coal power. The bond was lead managed by MUFG, Axis Bank, Barclays, Citigroup, DBS Bank, Deutsche Bank, Emirates NBD, JP Morgan, Mizuho, and Standard Chartered.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.globalcapital.com/article/297sitz2boxhpl0ffm29s/sri/banks-hit-by-fraud-complaint-to-sec-over-adani-slb-coal-links
Standard Chartered	29 June 2023	Letter to heads of sustainable finance from FCA: Increasing and sometimes negative media coverage of the SLL market observed over the last year has highlighted potential market integrity concerns. These concerns are further corroborated by market intelligence received in the first quarter of 2023 from participants in the SLL market. These concerns include weak incentives, potential conflicts of interest, and suggestions of low ambition and poor design in some SLLs' Sustainable Performance Targets (SPTs) and Key Performance Indicators (KPIs). These may lead to accusations of greenwashing	Supervisory action against greenwashing	Notice by financial supervisor	https://www.fca.org.uk/publication/correspondence/sll-letter-june-2023.pdf
State Street	27 August 2021	Report on Paris Alignment of ESG Funds	Reported greenwashing incident	Reports / Studies	https://time.com/6095472/green-esg-investment-funds-greenwashing/ , https://influencemap.org/Report/Climate-Funds-Are-They-Paris-Aligned-3eb83347267949847084306dae01c7b0
State Street	05 May 2023	The Carbon Tracker Initiative states that asset managers have invested US\$376 billion in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. BlackRock, Amundi, State Street, Capital Group, Northern Trust, UBS and abrdn are mentioned in the report and its media coverage.	Reported greenwashing incident	Reports / Studies	https://www.theguardian.com/business/2023/may/14/sustainable-pension-funds-accused-of-greenwashing-over-billions-held-in-oil-and-gas-firms , https://carbontracker.org/asset-managers-invest-400bn-in-oil-gas-despite-climate-commitments/
Toronto Dominion Bank	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
Toronto Dominion Bank	10 March 2021	The NGO ReclaimFinance criticized several banks as being complicit in "shameless greenwashing" due to the following deal: Enbridge secured a three-year \$1.0 billion Sustainability Linked Credit Facility with CIBC,	Reported greenwashing incident	Reports / Studies	https://reclaimfinance.org/site/en/2021/03/10/enbridge-sustainable-credit-tar-sands-rights-violations/

		Scotiabank (Bank of Nova Scotia), Bank of Montreal (BMO Capital Markets), RBC Capital Markets and TD Securities.			
Toronto Dominion Bank	09 January 2024	Activists file complaint against Canadian banks over green-finance claims. The complaint with the Ontario Securities Commission and Quebec's Autorité des Marchés Financiers specifically named Royal Bank of Canada, Toronto-Dominion Bank, Bank of Nova Scotia, Bank of Montreal and Canadian Imperial Bank of Commerce.	Greenwashing complaint filed with authority	Complaint filed with financial supervisor	https://www.bloomberg.com/news/articles/2024-01-09/green-lending-by-canada-banks-subject-of-complaint-to-regulators
UBS	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42
UBS	27 August 2021	Report on Paris Alignment of ESG Funds	Reported greenwashing incident	Reports / Studies	https://time.com/6095472/green-esg-investment-funds-greenwashing/ , https://influencemap.org/Report/Climate-Funds-Are-They-Paris-Aligned-3eb83347267949847084306dae01c7b0
UBS	05 May 2023	The Carbon Tracker Initiative states that asset managers have invested US\$376 billion in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. BlackRock, Amundi, State Street, Capital Group, Northern Trust, UBS and abrdn are mentioned in the report and its media coverage.	Reported greenwashing incident	Reports / Studies	https://www.theguardian.com/business/2023/may/14/sustainable-pension-funds-accused-of-greenwashing-over-billions-held-in-oil-and-gas-firms , https://carbontracker.org/asset-managers-invest-400bn-in-oil-gas-despite-climate-commitments/
Westpac	04 March 2021	SEC Announces Enforcement Task Force Focused on Climate and ESG Issues	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sec.gov/newsroom/press-releases/2021-42

Table A 2: Events that were excluded from the analysis

Firm	Date	Details	Category	Subcategory	Link	Reason for exclusion from analysis
All U.S. fund providers	20 July 2023	Study suggests that US funds used windowdressing to improve morningstar esg ratings	Reported greenwashing incident	Reports / Studies	https://www.responsible-investor.com/study-suggests-us-funds-used-window-dressing-to-boost-morningstar-esg-ratings/	The study is quite general and criticizes U.S. funds in their entirety. As the allegations cannot be traced back to specific banks or asset managers, we do not include the case
Blackrock	20 March 2024	Report on passive investors finds BlackRock, LGIM and Amundi among asset managers accused of greenwashing passive funds	Reported greenwashing incident	Reports / Studies	https://www.sustainableviews.com/blackrock-lgim-and-amundi-among-asset-managers-accused-of-greenwashing-passive-funds-d1c5af35/	The event is included for affected asset managers, except for Blackrock. BlackRock announced its first Crypto Fund (Ethereum based fund) on March 21, 2024, which should lead to investor reactions, contaminating the greenwashing event.

Capital Group	05 May 2023	Carbon Tracker Initiative said that asset managers have invested \$376bn (£295bn) in oil and gas companies, despite publicly pledging to back efforts to limit global temperature rises to 1.5C. The environmental thinktank based in London and New York found that more than 160 funds with a green label held \$4.6bn in 15 companies including ExxonMobil, Chevron and TotalEnergies. BlackRock, Amundi, State Street. Capital Group, Northern Trust, UBS, and abrdn are mentioned	Reported greenwashing incident	Reports / Studies	https://www.theguardian.com/business/2023/may/14/sustainable-pension-funds-accused-of-greenwashing-over-billions-held-in-oil-and-gas-firms , https://carbontracker.org/asset-managers-invest-400bn-in-oil-gas-despite-climate-commitments/	Refinitiv Eikon return data is implausible for Capital Group during the estimation window.
Citi	14 December 2023	High seas swindle: Citi slammed for chairing bank group to decarbonize shipping while funding deepwater drillships	Reported greenwashing incident	Reports / Studies	https://stand.earth/press-releases/citibank-shipping-greenwashing/	The info stems from Annual Report, which includes all kinds of other information as well.
MSCI, FTSE Russell and S&P Dow Jones Indices	15 February 2024	ESG investing giants under scrutiny for fueling rights abuses in Myanmar MSCI, FTSE Russell and S&P Dow Jones Indices are giants of the “responsible investing” industry, but according to complaints filed with the US, UK and Dutch governments, the firms are violating OECD guidelines for responsible business conduct by helping direct investments labeled “ESG” to dozens of companies linked to Myanmar’s military.	Greenwashing complaint filed with authority	Complaint filed with National Contact Points for Responsible Business Conduct	https://www.inclusivedevelopment.net/esg/esg-investing-giants-under-scrutiny-for-fueling-rights-abuses-in-myanmar/	The complaint addressed ESG indices, rather than banks or asset managers. While this is still a relevant greenwashing case in the financial sector, it is not comparable to the other analysed events.
RBC	10 March 2021	The NGO ReclaimFinance criticized several banks as being complicit in "shameless greenwashing" due to the following deal: Enbridge secured a three-year \$1.0 billion Sustainability Linked Credit Facility with CIBC, Scotiabank (Bank of Nova Scotia), Bank of Montreal (BMO Capital Markets), RBC Capital Markets and TD Securities.	Reported greenwashing incident	Reports / Studies	https://reclaimfinance.org/site/en/2021/03/10/enbridge-sustainable-credit-tar-sands-rights-violations/	RBC Global Financial Institutions Conference 2021 took place at the same date.
Active Super	28 March 2024	Australia’s financial services regulator, ASIC, has put the asset management sector on notice after securing victory in its civil greenwashing case against Vanguard.	Supervisory action against greenwashing	Notice by financial supervisor	https://www.sustainableviews.com/australian-regulator-posts-greenwashing-warning-following-victory-against-vanguard-000343e1/	The firm is not listed
Active Super	11 August 2023	Australian watchdog sues superfund for greenwashing, Australian financial watchdog ASIC initiated the case in August 2023, alleging that Active Super had exposed its members to investments it claimed to restrict or eliminate through “ESG misrepresentations” on its website, various social media pages and in disclosure documents	Greenwashing lawsuit	Announcement / Initiation of lawsuit	https://www.responsible-investor.com/australian-watchdog-sues-super-fund-for-greenwashing-over-misleading-exclusion-claims/	The firm is not listed
Future Super	02 May 2023	The Australian Securities & Investments Commission (ASIC) Australia’s corporate, markets, and financial services regulator, announced today that it issued an infringement notice to superannuation fund promoter, Future Super, over alleged greenwashing by the company in a social media post.	Supervisory action against greenwashing	Notice by financial supervisor	https://asic.gov.au/about-asic/news-centre/find-a-media-release/2023-releases/23-110mr-asic-issues-infringement-notice-to-superannuation-fund-promoter-for-greenwashing/	The firm is not listed
PSP Investments	06 April 2021	PSP and Trinitas Accused of Greenwashing Hawaiian ESG Investment	Reported greenwashing incident	Reports / Studies	https://www.institutionalinvestor.com/article/2b5wr1a0jiri9a78py0hs/portfolio/psp-and-trinitas-accused-of-greenwashing-	The firm is not listed

					hawaiian-esg-investment, https://mauiessgproject.org/wp-content/uploads/2021/04/Mahi-Pono-Responsible-Markets-Case-Study-040521-2021.pdf	
TIAA	19 October 2022	Trillion-Dollar Pension Fund TIAA Faces Climate-Washing Complaint Brought by Hundreds of Professors and Scientists	Greenwashing complaint filed with authority	Complaint with Principles for Responsible Investment	https://www.ciel.org/news/tiaa-faces-climate-washing-complaint-brought-by-academics/	The firm is not listed
Vanguard Investments	25 July 2023	ASIC commences greenwashing case against Vanguard Investments Australia	Greenwashing lawsuit	Announcement / Initiation of lawsuit	https://asic.gov.au/about-asic/news-centre/find-a-media-release/2023-releases/23-196mr-asic-commences-greenwashing-case-against-vanguard-investments-australia/	The firm is not listed
Vanguard Investments	28 March 2024	ASIC wins first greenwashing civil penalty against Vanguard	Greenwashing lawsuit	Loss of lawsuit	https://asic.gov.au/about-asic/news-centre/find-a-media-release/2024-releases/24-061mr-asic-wins-first-greenwashing-civil-penalty-action-against-vanguard/	The firm is not listed

Table A 3: Event study results per category for different event windows

Event category	Days to event	Average abnormal return (AAR)	Standard error AAR	T-value AAR	Three-day event window (-1 to +1)			Five-day event window (-2 to +2)			Seven-day event window (-3 to +3)		
					Cumulative abnormal average return (CAAR)	Standard error CAAR	T-value CAAR	CAAR	Standard error CAAR	T-value CAAR	CAAR	Standard error CAAR	T-value CAAR
All events	-3	-0.31	0.25	-1.23							-0.31	0.25	-1.23
	-2	0.06	0.25	0.24				0.06	0.25	0.24	-0.25	0.35	-0.70
	-1	-0.11	0.25	-0.45	-0.11	0.25	-0.45	-0.05	0.35	-0.15	-0.36	0.43	-0.83
	0	-0.33	0.25	-1.33	-0.44	0.35	-1.26	-0.39	0.43	-0.89	-0.69	0.50	-1.38
	1	-0.46	0.25	-1.83	-0.90	0.43	-2.08	-0.84	0.50	-1.69	-1.15	0.56	-2.06
	2	-0.23	0.25	-0.92				-1.07	0.56	-1.92	-1.39	0.61	-2.27
	3	0.00	0.25	0.00							-1.39	0.66	-2.10
Activism in response to greenwashing	-3	-0.91	0.57	-1.59							-0.91	0.57	-1.59
	-2	-0.01	0.57	-0.03				-0.01	0.57	-0.03	-0.93	0.81	-1.14
	-1	-0.16	0.57	-0.28	-0.16	0.57	-0.28	-0.18	0.81	-0.22	-1.09	0.99	-1.10
	0	-0.17	0.57	-0.29	-0.33	0.81	-0.41	-0.34	0.99	-0.35	-1.26	1.15	-1.10

	1	-0.27	0.57	-0.46	-0.59	0.99	-0.60	-0.61	1.15	-0.53	-1.52	1.28	-1.19
	2	-0.71	0.57	-1.24				-1.33	1.28	-1.04	-2.47	1.40	-1.76
	3	-1.01	0.57	-1.77							-3.49	1.52	-2.30
Greenwashing complaint filed with authority	-3	0.11	0.46	0.24							0.11	0.46	0.24
	-2	-0.16	0.46	-0.35				-0.16	0.46	-0.35	-0.05	0.66	-0.07
	-1	-0.13	0.46	-0.29	-0.13	0.46	-0.29	-0.29	0.66	-0.45	-0.18	0.80	-0.23
	0	-0.25	0.46	-0.54	-0.38	0.66	-0.58	-0.54	0.80	-0.68	-0.43	0.93	-0.46
	1	-0.18	0.46	-0.38	-0.56	0.80	-0.70	-0.72	0.93	-0.78	-0.61	1.04	-0.59
	2	-0.78	0.46	-1.68				-1.50	1.04	-1.45	-1.39	1.14	-1.22
	3	0.23	0.46	0.49							-1.16	1.23	-0.95
Greenwashing lawsuit	-3	0.58	0.72	0.81							0.58	0.72	0.81
	-2	0.13	0.72	0.18				0.13	0.72	0.18	0.71	1.01	0.70
	-1	-0.39	0.72	-0.54	-0.39	0.72	-0.54	-0.26	1.01	-0.26	0.32	1.24	0.26
	0	0.28	0.72	0.39	-0.11	1.01	-0.11	0.02	1.24	0.01	0.60	1.43	0.42
	1	0.75	0.72	1.05	0.64	1.24	0.51	0.77	1.43	0.54	1.34	1.60	0.84
	2	-0.69	0.72	-0.96				0.08	1.60	0.05	0.65	1.75	0.37
	3	1.28	0.72	1.78							1.93	1.89	1.02
Reported greenwashing incident	-3	-0.08	0.48	-0.18							-0.08	0.48	-0.18
	-2	-0.41	0.48	-0.85				-0.41	0.48	-0.85	-0.49	0.68	-0.73
	-1	-0.10	0.48	-0.20	-0.10	0.48	-0.20	-0.50	0.68	-0.74	-0.59	0.83	-0.71
	0	0.20	0.48	0.43	0.11	0.68	0.16	-0.30	0.83	-0.36	-0.38	0.96	-0.40
	1	0.23	0.48	0.48	0.34	0.83	0.41	-0.07	0.96	-0.07	-0.15	1.07	-0.14
	2	0.10	0.48	0.22				0.03	1.07	0.03	-0.05	1.17	-0.04
	3	-0.20	0.48	-0.41							-0.25	1.27	-0.19
Supervisory action against greenwashing	-3	-0.59	0.42	-1.39							-0.59	0.42	-1.39
	-2	0.30	0.42	0.72				0.30	0.42	0.72	-0.28	0.60	-0.47
	-1	-0.06	0.42	-0.14	-0.06	0.42	-0.14	0.24	0.60	0.41	-0.34	0.73	-0.47
	0	-0.67	0.42	-1.58	-0.73	0.60	-1.22	-0.42	0.73	-0.58	-1.01	0.85	-1.20
	1	-1.02	0.42	-2.41	-1.75	0.73	-2.39	-1.44	0.85	-1.71	-2.03	0.95	-2.15
	2	0.01	0.42	0.02				-1.44	0.95	-1.52	-2.02	1.04	-1.95

	3	-0.09	0.42	-0.20							-2.11	1.12	-1.88
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Table A 4: Event study results per subcategory, three-days event window

Event category	Event subcategory	Days to event	Average abnormal return (AAR)	Standard error AAR	T-value AAR	Three-day event window (-1 to +1)			Five-day event window (-2 to +2)			Seven-day event window (-3 to +3)			
						Cumulative abnormal average return (CAAR)	Standard error CAAR	T-value CAAR	CAAR	Standard error CAAR	T-value CAAR	CAAR	Standard error CAAR	T-value CAAR	
Activism in response to greenwashing	Activism in response to greenwashing	-3	-0.91	0.57	-1.59							-0.91	0.57	-1.59	
		-2	-0.01	0.57	-0.03				-0.01	0.57	-0.03	-0.93	0.81	-1.14	
		-1	-0.16	0.57	-0.28		-0.16	0.57	-0.28	-0.18	0.81	-0.22	-1.09	0.99	-1.10
		0	-0.17	0.57	-0.29		-0.33	0.81	-0.41	-0.34	0.99	-0.35	-1.26	1.15	-1.10
		1	-0.27	0.57	-0.46		-0.59	0.99	-0.60	-0.61	1.15	-0.53	-1.52	1.28	-1.19
		2	-0.71	0.57	-1.24					-1.33	1.28	-1.04	-2.47	1.40	-1.76
		3	-1.01	0.57	-1.77								-3.49	1.52	-2.30
Greenwashing complaint filed with authority	Complaint filed with competition authority	-3	-0.77	0.85	-0.90							-0.77	0.85	-0.90	
		-2	-0.58	0.85	-0.68				-0.58	0.85	-0.68	-1.35	1.21	-1.12	
		-1	-0.49	0.85	-0.58		-0.49	0.85	-0.58	-1.08	1.21	-0.89	-1.84	1.48	-1.25
		0	-1.12	0.85	-1.31		-1.62	1.21	-1.34	-2.20	1.48	-1.49	-2.96	1.71	-1.74
		1	0.65	0.85	0.76		-0.96	1.48	-0.65	-1.54	1.71	-0.91	-2.31	1.91	-1.21
		2	-2.71	0.85	-3.18					-4.26	1.91	-2.23	-5.02	2.09	-2.40
		3	-1.05	0.85	-1.23								-6.07	2.26	-2.69
	Complaint filed with financial supervisor	-3	0.23	0.51	0.45								0.23	0.51	0.45
		-2	-0.10	0.51	-0.20				-0.10	0.51	-0.20	0.12	0.73	0.17	
		-1	-0.08	0.51	-0.16		-0.08	0.51	-0.16	-0.19	0.73	-0.26	0.04	0.89	0.05
		0	-0.13	0.51	-0.26		-0.22	0.73	-0.30	-0.32	0.89	-0.36	-0.09	1.03	-0.09
		1	-0.29	0.51	-0.56		-0.51	0.89	-0.57	-0.61	1.03	-0.60	-0.38	1.15	-0.33
		2	-0.52	0.51	-1.02					-1.13	1.15	-0.99	-0.90	1.26	-0.72
		3	0.40	0.51	0.77							-0.51	1.36	-0.37	
		-3	0.17	0.93	0.18							0.17	0.93	0.18	

		0	1.54	1.59	0.97	0.10	2.25	0.04	1.83	2.75	0.66	2.63	3.18	0.83
		1	0.13	1.59	0.08	0.23	2.75	0.08	1.96	3.18	0.62	2.76	3.55	0.78
		2	-0.38	1.59	-0.24				1.58	3.55	0.44	2.38	3.89	0.61
		3	-1.04	1.59	-0.66							1.34	4.21	0.32
	Fine	-3	0.22	0.78	0.28							0.22	0.78	0.28
		-2	0.21	0.78	0.27				0.21	0.78	0.27	0.43	1.11	0.38
		-1	0.49	0.78	0.63	0.49	0.78	0.63	0.70	1.11	0.64	0.92	1.36	0.68
		0	-0.84	0.78	-1.07	-0.34	1.11	-0.31	-0.13	1.36	-0.10	0.08	1.56	0.05
		1	-0.32	0.78	-0.41	-0.66	1.36	-0.49	-0.45	1.56	-0.29	-0.24	1.75	-0.14
		2	-0.46	0.78	-0.58				-0.91	1.75	-0.52	-0.69	1.92	-0.36
		3	0.39	0.78	0.50							-0.31	2.07	-0.15
	Investigation by competition authority	-3	-1.64	0.90	-1.82							-1.64	0.90	-1.82
		-2	-2.74	0.90	-3.04				-2.74	0.90	-3.04	-4.38	1.27	-3.44
		-1	-1.77	0.90	-1.96	-1.77	0.90	-1.96	-4.51	1.27	-3.54	-6.14	1.56	-3.94
		0	0.80	0.90	0.88	-0.97	1.27	-0.76	-3.71	1.56	-2.38	-5.35	1.80	-2.97
		1	0.17	0.90	0.19	-0.80	1.56	-0.51	-3.54	1.80	-1.97	-5.18	2.01	-2.57
		2	1.39	0.90	1.55				-2.15	2.01	-1.07	-3.78	2.20	-1.72
		3	-0.44	0.90	-0.49							-4.22	2.38	-1.77
	Investigation by financial supervisor	-3	-0.61	1.10	-0.55							-0.61	1.10	-0.55
		-2	-0.82	1.10	-0.74				-0.82	1.10	-0.74	-1.43	1.56	-0.92
		-1	-0.22	1.10	-0.20	-0.22	1.10	-0.20	-1.04	1.56	-0.67	-1.65	1.91	-0.86
		0	-1.32	1.10	-1.20	-1.54	1.56	-0.99	-2.36	1.91	-1.24	-2.97	2.20	-1.35
		1	-4.91	1.10	-4.46	-6.46	1.91	-3.38	-7.27	2.20	-3.30	-7.88	2.46	-3.20
		2	-1.25	1.10	-1.14				-8.53	2.46	-3.46	-9.14	2.70	-3.39
		3	0.95	1.10	0.87							-8.18	2.91	-2.81
	Notice by financial supervisor	-3	-0.74	0.55	-1.35							-0.74	0.55	-1.35
		-2	0.40	0.55	0.73				0.40	0.55	0.73	-0.34	0.77	-0.44
		-1	0.01	0.55	0.02	0.01	0.55	0.02	0.41	0.77	0.53	-0.33	0.95	-0.35
		0	-0.50	0.55	-0.91	-0.49	0.77	-0.63	-0.09	0.95	-0.10	-0.83	1.09	-0.76
		1	-0.90	0.55	-1.64	-1.39	0.95	-1.46	-0.99	1.09	-0.91	-1.72	1.22	-1.41

		2	0.11	0.55	0.20				-0.88	1.22	-0.72	-1.61	1.34	-1.21
		3	-0.15	0.55	-0.28							-1.77	1.44	-1.22
	Raid	-3	-0.32	0.89	-0.36							-0.32	0.89	-0.36
		-2	0.20	0.89	0.23				0.20	0.89	0.23	-0.12	1.26	-0.09
		-1	0.21	0.89	0.24	0.21	0.89	0.24	0.41	1.26	0.33	0.09	1.54	0.06
		0	-3.90	0.89	-4.39	-3.69	1.26	-2.94	-3.49	1.54	-2.27	-3.81	1.78	-2.14
		1	-1.64	0.89	-1.84	-5.33	1.54	-3.46	-5.13	1.78	-2.88	-5.44	1.99	-2.74
		2	-0.01	0.89	-0.01				-5.14	1.99	-2.59	-5.46	2.18	-2.51
		3	0.25	0.89	0.28							-5.21	2.35	-2.22

Table A 5: Event study results of all individual events, cumulative abnormal returns for different event windows

Company	Event date	Three-day event window			Five-day event window (-2 to +2)			Seven-day event window (-3 to +3)		
		Cumulative abnormal return (CAR)	Standard error CAR	T-Value CAR	CAR	Standard error CAR	T-Value CAR	CAR	Standard error CAR	T-Value CAR
abrdn	05 May 2023	1.80	3.18	0.57	-0.23	4.11	-0.06	-0.20	4.86	-0.04
abrdn	29 June 2023	2.28	3.05	0.75	4.42	3.94	1.12	3.85	4.66	0.83
Allianz	04 March 2021	-2.26	2.13	-1.06	1.35	2.75	0.49	-0.15	3.25	-0.05
AMP	04 March 2021	0.59	4.53	0.13	2.12	5.85	0.36	-2.24	6.92	-0.32
Amundi	04 March 2021	-0.57	2.85	-0.20	1.46	3.68	0.40	0.55	4.36	0.13
Amundi	05 May 2023	1.13	2.61	0.43	1.72	3.37	0.51	1.22	3.99	0.31
Amundi	20 March 2024	1.93	2.40	0.80	2.77	3.10	0.89	3.71	3.67	1.01
AXA	04 March 2021	-0.96	2.19	-0.44	0.90	2.83	0.32	1.93	3.34	0.58
AxisBank	21 October 2021	1.51	4.57	0.33	3.12	5.90	0.53	4.36	6.98	0.62
BaillieGifford	11 August 2023	-1.47	1.85	-0.79	-3.51	2.38	-1.47	-4.72	2.82	-1.67
BaillieGifford	15 May 2024	0.15	1.78	0.08	-0.45	2.30	-0.19	0.05	2.73	0.02
BaillieGifford	30 May 2024	-0.20	1.78	-0.11						
BankofMontreal	04 March 2021	-2.68	1.88	-1.43	-2.62	2.43	-1.08	-2.78	2.87	-0.97
BankofMontreal	10 March 2021	0.00	1.89	0.00	-1.25	2.43	-0.51	-2.63	2.88	-0.91
BankofMontreal	09 January 2024	-1.97	1.28	-1.54	-2.30	1.65	-1.40	-2.67	1.95	-1.37

BankofNovaScotia	04 March 2021	-2.40	1.67	-1.44	-2.03	2.15	-0.94	-1.69	2.54	-0.66
BankofNovaScotia	10 March 2021	1.24	1.67	0.74	-0.10	2.15	-0.04	-1.46	2.55	-0.57
BankofNovaScotia	09 January 2024	0.40	1.31	0.31	-0.62	1.70	-0.37	0.15	2.01	0.07
Barclays	04 March 2021	-0.64	2.99	-0.21	-0.58	3.86	-0.15	-2.04	4.57	-0.45
Barclays	21 October 2021	-1.39	3.14	-0.44	-1.05	4.05	-0.26	1.47	4.79	0.31
Barclays	14 November 2022	0.08	3.32	0.02	-2.38	4.29	-0.55	1.53	5.08	0.30
Barclays	29 June 2023	3.17	3.05	1.04	3.47	3.94	0.88	1.57	4.66	0.34
Blackrock	16 March 2021	0.51	2.14	0.24	0.33	2.76	0.12	-0.15	3.27	-0.05
BNPParibas	04 March 2021	-4.53	2.46	-1.85	-2.93	3.17	-0.92	-5.46	3.75	-1.45
BNYMellon	23 May 2022	-0.43	2.34	-0.19	-0.08	3.02	-0.03	0.41	3.57	0.12
CIBC	04 March 2021	-0.87	1.82	-0.48	-0.89	2.35	-0.38	-0.82	2.78	-0.29
CIBC	10 March 2021	0.19	1.82	0.11	-0.91	2.35	-0.39	-2.47	2.78	-0.89
CIBC	09 January 2024	-0.84	1.46	-0.57	-2.16	1.89	-1.14	-2.51	2.24	-1.12
Citigroup	21 October 2021	-2.06	2.39	-0.86	-3.62	3.09	-1.17	-4.69	3.65	-1.28
Citigroup	08 May 2023	1.10	2.45	0.45	1.40	3.16	0.44	2.03	3.74	0.54
Commerzbank	04 March 2021	-7.22	3.86	-1.87	-5.93	4.98	-1.19	-8.67	5.90	-1.47
Commerzbank	15 December 2021	-1.69	3.99	-0.42	-1.67	5.15	-0.32	-0.31	6.10	-0.05
Commerzbank	31 January 2022	3.05	3.94	0.77	4.31	5.08	0.85	11.59	6.02	1.93
Commerzbank	23 February 2024	1.35	4.13	0.33	0.82	5.34	0.15	0.09	6.31	0.01
CommonwealthBank	04 March 2021	1.95	2.59	0.75	2.96	3.34	0.89	4.59	3.96	1.16
CreditAgricole	04 March 2021	-3.77	2.58	-1.46	-3.02	3.33	-0.91	-4.45	3.94	-1.13
CreditSuisse	04 March 2021	-6.42	1.99	-3.23	-12.64	2.57	-4.92	-12.50	3.04	-4.12
CreditSuisse	26 July 2021	0.43	2.25	0.19	0.32	2.90	0.11	-2.81	3.43	-0.82
DBS	21 October 2021	0.31	2.10	0.15	2.76	2.71	1.02	3.33	3.20	1.04
DeutscheBank	04 March 2021	-3.63	3.61	-1.01	-2.05	4.66	-0.44	-4.78	5.52	-0.87
DeutscheBank	21 October 2021	0.90	3.64	0.25	0.16	4.70	0.03	3.00	5.56	0.54
DeutscheBank	28 June 2022	-4.24	3.83	-1.11	-3.37	4.95	-0.68	-16.99	5.86	-2.90
DWS	04 March 2021	-0.69	3.14	-0.22	3.77	4.05	0.93	2.44	4.80	0.51
DWS	02 August 2021	0.59	3.10	0.19	0.75	4.01	0.19	0.76	4.74	0.16
DWS	25 August 2021	-13.30	3.10	-4.29	-17.00	4.00	-4.25	-16.43	4.73	-3.47

DWS	31 May 2022	-10.53	3.04	-3.47	-12.57	3.92	-3.21	-10.36	4.64	-2.23
DWS	24 October 2022	0.93	3.14	0.30	-0.89	4.05	-0.22	3.41	4.79	0.71
DWS	25 September 2023	-0.67	2.55	-0.26	-1.03	3.29	-0.31	0.43	3.89	0.11
DWS	13 November 2023	-0.89	2.48	-0.36	0.68	3.20	0.21	2.37	3.79	0.63
DWS	24 January 2024	-0.08	2.46	-0.03	1.76	3.17	0.55	0.50	3.75	0.13
DWS	01 February 2024	-5.38	2.47	-2.18	-4.61	3.19	-1.45	-5.78	3.77	-1.53
DWS	07 March 2024	0.22	2.43	0.09	-0.51	3.13	-0.16	1.46	3.71	0.39
EmiratesNBD	21 October 2021	1.57	3.27	0.48	-1.22	4.22	-0.29	-0.23	4.99	-0.05
GoldmanSachs	10 June 2022	0.39	2.17	0.18	-0.05	2.80	-0.02	0.06	3.31	0.02
GoldmanSachs	22 November 2022	-0.88	2.21	-0.40	-1.63	2.86	-0.57	-1.76	3.38	-0.52
HSBC	04 March 2021	-1.64	2.39	-0.69	0.54	3.09	0.18	-2.36	3.65	-0.65
HSBC	16 September 2021	1.44	2.49	0.58	-2.41	3.22	-0.75	-2.70	3.81	-0.71
HSBC	19 October 2022	0.23	2.75	0.08	1.58	3.55	0.44	1.34	4.21	0.32
HSBC	19 October 2022	0.23	2.75	0.08	1.58	3.55	0.44	1.34	4.21	0.32
HSBC	29 June 2023	0.89	2.67	0.33	1.09	3.45	0.32	0.35	4.09	0.09
JPMorgan	21 October 2021	0.37	1.80	0.21	0.25	2.32	0.11	0.41	2.74	0.15
JuliusBaer	04 March 2021	-1.20	2.82	-0.43	0.55	3.64	0.15	-0.16	4.31	-0.04
Mizuho	21 October 2021	-0.67	2.14	-0.31	-2.37	2.76	-0.86	-2.22	3.26	-0.68
MMC	04 March 2021	1.57	1.78	0.88	1.08	2.29	0.47	-0.59	2.72	-0.22
MMC	28 February 2023	0.30	1.90	0.16	-0.77	2.45	-0.31	-1.37	2.90	-0.47
MMC	28 February 2023	0.30	1.90	0.16	-0.77	2.45	-0.31	-1.37	2.90	-0.47
MMC	28 March 2024	-0.11	1.51	-0.08	-0.10	1.94	-0.05	-0.14	2.30	-0.06
MUFG	21 October 2021	-0.44	2.33	-0.19	-2.78	3.01	-0.92	-2.23	3.57	-0.63
NorthernTrustCorporation	04 March 2021	-2.72	2.28	-1.19	-5.32	2.95	-1.80	-3.83	3.49	-1.10
NorthernTrustCorporation	05 May 2023	-1.25	2.36	-0.53	-3.41	3.04	-1.12	-4.72	3.60	-1.31
NorthernTrustCorporation	19 December 2023	-2.45	2.36	-1.04	-2.61	3.05	-0.86	-0.65	3.61	-0.18
NorthernTrustCorporation	28 March 2024	1.24	2.36	0.53	1.76	3.04	0.58	1.80	3.60	0.50
RBC	04 March 2021	0.33	1.50	0.22	0.89	1.94	0.46	0.47	2.29	0.21

RBC	06 October 2022	-3.37	1.55	-2.17	-6.11	2.00	-3.05	-9.45	2.37	-3.99
RBC	12 October 2022	-0.80	1.56	-0.51	-2.15	2.01	-1.07	-4.22	2.38	-1.77
RBC	09 January 2024	0.06	1.14	0.05	-0.58	1.47	-0.39	-1.37	1.74	-0.79
Santander	04 March 2021	-4.27	2.82	-1.52	-7.14	3.64	-1.96	-9.34	4.31	-2.17
Schroders	29 June 2023	0.15	2.44	0.06	-1.02	3.15	-0.32	-1.55	3.72	-0.42
SocieteGenerale	04 March 2021	-5.14	2.86	-1.80	-5.64	3.69	-1.53	-7.70	4.37	-1.76
StandardChartered	21 October 2021	-1.93	2.98	-0.65	-1.99	3.85	-0.52	-0.08	4.55	-0.02
StandardChartered	29 June 2023	0.42	3.36	0.13	1.46	4.33	0.34	0.39	5.13	0.08
StateStreet	27 August 2021	1.15	2.75	0.42	4.83	3.55	1.36	5.07	4.20	1.21
StateStreet	05 May 2023	-1.01	2.63	-0.39	-2.00	3.39	-0.59	-1.17	4.02	-0.29
TorontoDominionBank	04 March 2021	-2.32	1.60	-1.45	-1.85	2.07	-0.89	-2.00	2.45	-0.82
TorontoDominionBank	10 March 2021	0.68	1.60	0.42	0.52	2.07	0.25	0.14	2.45	0.06
TorontoDominionBank	09 January 2024	-3.43	1.31	-2.61	-4.57	1.70	-2.69	-4.32	2.01	-2.15
UBS	04 March 2021	-4.54	2.26	-2.00	-2.03	2.92	-0.70	-4.01	3.46	-1.16
UBS	27 August 2021	-1.37	2.27	-0.60	-0.82	2.93	-0.28	-0.68	3.47	-0.20
UBS	05 May 2023	0.39	2.66	0.15	-2.37	3.43	-0.69	-3.48	4.06	-0.86
Westpac	04 March 2021	2.76	2.97	0.93	1.62	3.84	0.42	1.66	4.54	0.37