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Climate change is one of the main sources of public concern worldwide, making it a major subject for policymakers. For economic actors, the fight against climate change is also a significant challenge, as illustrated by a recent study from the UN Global Compact – France Network, showing that combating climate change is the primary concern of French companies in terms of sustainable development goals. Companies are adapting to this new landscape of risks and opportunities, just as they have adapted to all technical, political, and social evolutions in their context. However, modern societies now expect more from companies, especially the largest ones. They expect that large companies, including institutional investors, become actors in the fight against climate change.

This evolution marks a turning point for these institutional investors towards incorporating environmental considerations alongside traditional financial indicators in risk analysis and investment decisions. In this context, the following issue needs to be addressed: To what extent can institutional investors be key players in the fight against climate change while preserving their financial performance objectives?

To explore this crucial question, our thesis will consist of three parts. We will first trace the history of institutional investments, examining how their evolution has influenced markets over time. We will then define climate risk and its potential impacts on financial markets, before detailing the regulatory and normative framework that shapes climate-related investment decisions. We will analyze the perception and management of climate risk by institutional investors, considering how they assess and manage this risk. An examination of sustainable investment strategies will also be conducted, followed by case studies illustrating the integration of climate risk into investment decisions.

Finally, we will assess the impact of climate risk on financial performance and discuss the role that institutional investors can play in the ecological transition. We will explore the main challenges and future opportunities that present themselves to institutional investors in the realm of responsible investments in the face of climate issues. This study aims to demonstrate that well-informed and strategically engaged institutional investors can not only mitigate climate risks but also act as levers of change towards a sustainable economy, thus representing a driving force in the fight against climate change while aiming for optimal financial performance.

CONTEXT AND THEORIES

Institutional investments have long been a driver of growth and stability for global financial markets. However, in the era of accelerating climate change, these investments are now scrutinized through the lens of their sustainability and environmental impact. Institutional investments, which encompass financial placements orchestrated by major market players such as banks, insurance companies, pension funds, and sovereign wealth funds, have historically played a central role in structuring and energizing financial markets worldwide. These entities, with their capacity to mobilize and allocate huge volumes of capital, have been key players in economic growth, directing not only investment flows but also shaping corporate policies and strategies on a large scale. Initially, the primary goal of these institutional investors was the maximization of financial returns, a relentless pursuit of profit that led them to invest in sectors and companies offering the best prospects for gain. However, over time and in the face of a changing global environment, these actors began to integrate into their analysis more nuanced and complex risk considerations, encompassing not only traditional risks related to economic cycles and market fluctuations but also geopolitical, social, and increasingly, environmental risks.

This evolution reflects a growing awareness of global interdependencies and the need to adopt a more informed and sustainable investment approach. The history of financial markets shows that changes in institutional investment strategies have often been precursors to or have accompanied major transformations in the global economy, profoundly influencing investment trends, altering capital structures, and redirecting financial flows on an international scale. A notable example of this dynamic is the investment strategy evolution of the Norwegian pension fund, the Government Pension Fund Global. Known as one of the largest sovereign wealth funds in the world, this fund initially invested heavily in the fossil fuel industries, in line with its pursuit of returns. Yet, over time, recognizing the climate emergency and the need for a transition to a less carbon-intensive economy, it undertook a profound transformation of its investment strategy. The fund gradually reduced its stake in fossil fuels and increased its investments in greener alternatives, such as wind and solar energy. This strategic realignment is not only a reflection of a change in institutional investment priorities but also serves as a barometer for future market trends, signaling a shift towards more sustainable and responsible investments. This pivot exemplifies the ability of institutional investors to influence market directions and underscores their crucial role in the transition towards a greener and more sustainable global economy.

Climate risk, increasingly common in the financial universe, refers to the potential exposure that financial investments must face due to various effects induced by climate changes. This exposure encompasses not only extreme weather events, such as hurricanes, floods, and heatwaves, but also extends to the necessary transition towards a low-carbon economy and regulatory developments in environmental matters. These risks can have both direct and indirect impacts on asset valuation, negatively influencing investment returns and thus posing a risk to overall financial stability. For instance, companies operating in sectors with high greenhouse gas intensity are particularly exposed to unfavorable revaluations, resulting from carbon pricing policies or a shift in consumer preferences towards more environmentally friendly products and services.

The reality of climate risk and its ubiquity were starkly highlighted by devastating natural disasters, as demonstrated by Hurricane Katrina. This event not only shed light on the physical vulnerability of investments in high-risk areas but also inflicted significant financial losses on insurance companies, challenging traditional risk assessment models. At the same time, the meteoric rise of Tesla, driven by its commitment to sustainable technologies and electric vehicle innovation, serves as a vivid example of how transition risks, when properly understood, can turn into colossal opportunities for visionary investors. This dichotomy between risks and opportunities underscores the crucial importance for investors to develop a deep understanding of the changing climate landscape and its potential implications on financial markets.

Faced with increasing climate risks, which pose a threat not only to the environment but also to overall economic and social stability, an international regulatory and normative framework is beginning to crystallize with renewed vigor, specifically aimed at steering financial flows towards more sustainable and responsible investments. This sophisticated and increasingly integrated framework includes major international agreements, like the Paris Climate Agreement, which marked a decisive turn in the global commitment against global warming, as well as diverse national regulations and increasingly demanding environmental, social, and governance (ESG) reporting standards. These regulations and standards are designed not only to encourage but also to require institutional investors and other financial actors to integrate climate risks into their analysis and decision-making process, to proactively invest in green assets such as renewable technologies and energy efficiency projects, and to play a leading role in contributing to the global transition towards a low-carbon economy.

The importance of this regulatory and normative framework is more crucial as it reflects a collective awareness of the need to reconfigure traditional financial practices to make them compatible with climate imperatives. In this context, initiatives such as the Principles for Responsible Investment (PRI), the Task Force on Climate-related Financial Disclosures (TCFD), and the Network for Greening the Financial System (NGFS) emerge as key components of this framework, providing guidelines and benchmarks for the effective integration of climate considerations into investment strategies.

However, the challenges of implementing these regulations and standards remain significant and manifold. They include, among others, the harmonization of standards on a global scale to ensure consistent and fair application across different jurisdictions, and the accurate measurement of the climate impact of investments, an area that requires sophisticated methodologies and reliable data to assess the actual carbon footprint of financial assets. Additionally, there is a critical need for financial innovation to develop new instruments and financing mechanisms that can effectively mobilize capital towards key sectors and technologies for the energy transition.

A striking example of the adoption of these regulatory and normative frameworks by financial institutions is the announcement made in 2019 by the European Investment Bank, the investment arm of the European Union, declaring its intention to stop financing fossil fuel projects by 2021. This decision marks a significant step in aligning banking practices with the climate goals of the Paris Agreement and underscores the growing pressure on financial institutions to take concrete and meaningful action in favor of environmental sustainability. The commitment of the European Investment Bank serves as an example and a catalyst for other financial institutions around the world, demonstrating that reconfiguring investment portfolios to exclude fossil fuels and favor sustainable investments is not only possible but also imperative to align the financial sector with sustainable development trajectories.



INSTITUTIONAL INVESTORS FACING CLIMATE RISK

Institutional investors have heightened their vigilance towards climate risk, fully understanding that the consequences of climate change represent a systemic risk that can affect the overall performance of financial markets. Indeed, entities such as BlackRock, the world's largest asset manager, have publicly affirmed the necessity of integrating climate considerations into investment processes. They have taken proactive measures such as excluding high-carbon intensity companies from some of their portfolios, thereby demonstrating a resolved and strategic approach in managing climate risk. This stance is reinforced by cutting-edge research and analysis initiatives that allow for a precise and nuanced assessment of long-term climate-related risks across different sectors and regions.

In the realm of sustainable investment strategies, the example of the Caisse des Dépôts et Consignations (CDC) in France is particularly instructive. As a public financial institution dedicated to serving the public interest and economic development, the CDC has developed a responsible investment charter centered around demanding ESG criteria. This charter guides the CDC in the meticulous selection of companies and projects to invest in, favoring those that have a positive impact on the environment and are aligned with sustainable development goals. For instance, the CDC has invested in green infrastructure projects, such as wind parks and solar farms, and supported innovative clean technologies that contribute to the energy transition. It has also played an active role as a responsible investor by using its influence to encourage portfolio companies to adopt sustainable practices, through constructive dialogues with management and by exercising its voting rights at general meetings to favor resolutions promoting sustainability.

Furthermore, the CDC has undertaken to measure the carbon footprint of its investments and to publish this information, providing unprecedented transparency that illustrates its commitment to sustainability. This approach is complemented by investments in funds dedicated to environmental innovation, particularly in venture capital, thus supporting startups engaged in creating sustainable mobility solutions or in improving energy efficiency. This comprehensive strategy of the CDC underscores the role of financial institutions as drivers of sustainable investment promotion, not only by avoiding environmentally damaging industries but also by fostering a flow of capital towards activities that generate environmental and social benefits.

Integrating climate risk into investment strategies is not limited to excluding polluting industries or merely complying with regulatory standards. Insurance companies like AXA have taken pioneering steps by committing to decarbonize their investment portfolios, with clear exclusion policies and substantial investments in renewable energies and energy efficiency projects. These actions, although costly and complex to implement, are seen as essential investments for the future, not only for AXA but for the entire financial industry, aiming to promote a climate-resilient global economy.

Similarly, banks such as Société Générale have taken the initiative to develop new sustainable financial instruments, such as green bonds, to meet the growing demand for financial assets that

generate environmental benefits. These green bonds have been used to finance a wide range of sustainable projects, proving that financial institutions can be vectors of positive change, directing investments towards solutions that benefit the environment and society. Through these green bonds, Société Générale contributes to initiatives such as the construction of high-energy-efficiency buildings, the development of clean public transportation, as well as the implementation of advanced recycling and water treatment technologies, demonstrating its commitment to combating climate change and reducing the ecological footprint.

Sectoral initiatives, such as the Net-Zero Banking Alliance, bring together financial institutions from around the world around a common commitment: to align their investment portfolios with carbon neutrality objectives. This involves not only implementing emission reduction strategies for existing assets but also developing innovative financial products and financing cutting-edge sustainability solutions. By joining such alliances, banks like Société Générale, AXA, and other members make public commitments that push them towards continuous action and regular assessment of their progress towards these ambitious goals.

These case studies illustrate that the consideration of climate risk has become an intrinsic component of institutional investment, transcending traditional approaches, and catalyzing a movement towards more conscious and thoughtful investments. They reveal a trend where sustainability and climate responsibility are not only integrated into investment practices but also valued as essential criteria for long-term performance.

The adoption of these innovative approaches by major players in the financial sector underscores a significant evolution of the industry, marking a shift towards climate responsibility and resilience. This transformation, although gradual and requiring continuous adjustment, shows that financial institutions not only recognize their role in mitigating climate risks but also their capacity to positively influence the environmental and social trajectory of the global economy. By investing in sustainable solutions and promoting environmentally friendly practices, these institutions prove that finance can and must be a lever for ecological transition and a driving force for sustainable prosperity.



IMPACTS AND CHALLENGES

This final section of the thesis seeks to delve deeply into the significant impact that climate risk has on the financial performance of companies and markets. It is now acknowledged that the effects of climate change are not confined to ecological and social dimensions but extend forcefully into the economic and financial arena. Changes in environmental regulations, the increased frequency of extreme weather events, and the transition towards a low-carbon economy are vectors of risks and opportunities that influence asset value and investment profitability. Thus, this part will focus on the necessity for institutional investors to integrate these considerations actively and strategically into their investment decisions, not only to mitigate risks but also to harness opportunities for sustainable growth.

Concurrently, it is imperative to discuss the central role that institutional investors play, and must continue to play, in accelerating the ecological transition. Their influence can catalyze significant changes in corporate strategies and business models, promoting practices that support sustainable development goals and abandoning those that harm the environment. This proactive role entails a redefinition of corporate governance and a reconsideration of performance criteria to include sustainability measures.

We will also explore the many challenges faced by institutional investors in adopting responsible investments. These challenges include the difficulty of integrating ESG criteria into traditional analyses, the need to overcome regulatory barriers and market inertia, and the lack of standardized data to accurately assess the environmental impact of investments. However, these challenges are accompanied by a multitude of opportunities, notably the emergence of new markets such as renewable energies, energy efficiency, and the circular economy, which offer new avenues for innovative and profitable investments.

Finally, this part will discuss the importance of a collaborative approach, where institutional investors, regulators, companies, and other stakeholders work tirelessly to create a financial framework that genuinely supports global climate goals. This cooperation is essential to unlock the full potential of responsible investments and to ensure that financial markets can be effective levers of environmental progress. By recognizing and acting on the fact that long-term financial health is inherently linked to environmental sustainability, institutional investors can pave the way for a new era of shared prosperity and environmental responsibility.

Market studies and contemporary economic analyses provide tangible evidence that companies proactively implementing sustainable development strategies in their business operations and governance structure often achieve a higher stock market valuation. Take, for example, the sustainable technology and consumer multinational Philips, which has integrated sustainability into its core strategy, earning significant recognition in financial markets and a leadership position in sustainability indices. These companies are often favored by institutional investors for their long-term vision, which translates into an increased ability to anticipate and adapt to changing environmental regulations, minimize operational risks through more effective resource management, and stand out through innovation in the creation of eco-designed products and services. Moreover, companies like Tesla, previously mentioned, have revolutionized the

automotive industry by focusing on electric vehicles and renewable energies, capturing consumer and investor interest while benefiting from significant tax advantages and accessing capital on favorable terms.

Meanwhile, the instability of commodity prices, notably due to the consequences of climate change such as droughts and floods disrupting agriculture, has a material impact on companies' costs and margins. This is illustrated by the fluctuations in coffee prices, where companies like Starbucks must navigate cost volatilities while maintaining their commitment to sustainable sourcing. Similarly, a shift in consumption habits towards sustainable products and services highlights companies like Beyond Meat, capitalizing on the growing demand for meat alternatives and demonstrating the necessity for investors to recognize emerging consumption trends to remain competitive.

The evolution of environmental regulations also represents a critical aspect for companies; some perceive these changes as additional constraints, while others, like the renewable energy company Orsted, see them as an opportunity to reinvent and thrive. Proactive regulation anticipation and adaptation are crucial for companies seeking to maintain and enhance their market position. Institutional investors, aware of these trends, are increasingly incorporating regulatory analyses and public policy forecasts into their risk evaluations. They understand that a company's ability to adapt to the regulatory environment not only reduces risks but can also open the door to sustainable competitive advantages.

In summary, institutional investors recognize that incorporating sustainable development practices and understanding regulatory dynamics are not just risk management measures but also strategic differentiation factors in the market. By positioning themselves as committed partners in sustainability, they foster an investment ecosystem that rewards innovation, resilience, and environmental commitment, while contributing to the creation of long-term value for shareholders and society.

As major asset holders and influential financial market players, institutional investors have a unique lever to encourage companies and industries at large to adopt environmentally friendly practices. Through the rigorous application of investment criteria focused on environmental, social, and governance (ESG) performances and the adoption of targeted exclusion policies, they exert constructive pressure on companies to minimize their ecological impact, such as reducing their carbon footprint, and to encourage innovation in sustainability.

By actively engaging in dialogue with company management, through voting at general meetings or shareholder engagement campaigns, institutional investors can influence corporate strategy and promote the integration of sustainable considerations into business models. This interaction can lead companies to rethink their operations, optimize their use of resources, and invest in clean technologies that reduce their environmental impact. Moreover, these investors play a crucial role in financing the energy transition, allocating funds to renewable energy projects, energy efficiency, and green infrastructures, which are essential for achieving a low-carbon economy. They also support the development and dissemination of innovative technologies, such as energy storage, carbon capture and storage, and electric vehicles, which are crucial for mitigating the effects of climate change and facilitating societies' adaptation to these new environmental challenges.

Beyond their direct impact on the companies and projects they finance, institutional investors also can influence market norms and expectations regarding sustainability. By promoting high standards of ESG reporting, they encourage greater transparency and accountability of companies

regarding their environmental and social impact. This not only allows for a better assessment of sustainability-related risks and opportunities by the entire market but also stimulates positive competition towards greener business practices.

Finally, by collaborating with regulators, non-governmental organizations, and other stakeholders, institutional investors can help shape a regulatory and policy environment that facilitates ecological transition. Their influence can aid in the adoption of policies favorable to sustainable investment, such as incentives for clean energies, environmental performance standards for industries, and ESG disclosure requirements for listed companies. In doing so, institutional investors are not just responding to climate challenges; they are actively participating in creating a more sustainable future, leveraging their financial power to steer the global economy towards a greener and more resilient trajectory.

The main challenges faced by institutional investors in the field of sustainable investment are multiple and complex, requiring a sophisticated and nuanced approach for their management. One of the most significant obstacles lies in the difficulty of effectively integrating environmental, social, and governance (ESG) data, which are often heterogeneous, non-standardized, and sometimes incomplete, into climate risk assessment and investment decision-making. This task is complicated by the absence of uniform methodologies for measuring environmental impact and the lack of transparency in companies' reporting on their sustainable practices. Moreover, as public awareness and media attention on climate issues increase, institutional investors face growing pressure not only to integrate ESG criteria into their investment decisions but also to concretely demonstrate their positive impact on the environment and society. They are called to account for how their capital allocations contribute to combating climate change, preserving biodiversity, and promoting sustainable socio-economic development.

Nonetheless, this transition period also offers unprecedented opportunities for institutional investors. The growing demand for renewable energies, clean technologies, and sustainable infrastructures reveals promising horizons for sustainable investment. Sectors such as wind, solar, green hydrogen, and electric mobility are booming, offering long-term growth prospects and potentially higher returns for visionary investors. Furthermore, innovation in carbon capture and storage technologies, green building materials, and sustainable agriculture opens new investment fields that can generate significant financial and environmental benefits. By positioning themselves as leaders in sustainable finance, institutional investors have a unique opportunity to shape the economic future towards a more resilient and environmentally friendly model while securing attractive risk-adjusted returns for their portfolios.

Moreover, engaging in collaborative initiatives, such as investor coalitions for climate and ESG information exchange platforms, allows institutional investors to share best practices, develop common tools for climate risk assessment, and increase their influence on companies and markets. This type of cooperation strengthens their ability to promote high standards of sustainability and to exert effective pressure for an accelerated transition to a low-carbon economy.

In summary, although the challenges are considerable, they should not overshadow the vast opportunities that the climate crisis presents for institutional investors. By adopting a proactive approach and leveraging technological advancements, financial innovations, and favorable market dynamics, they can not only successfully navigate the complex landscape of climate risk but also play a decisive role in building a sustainable future for generations to come. This approach requires investors to rethink their investment strategies, actively engage with the companies they

invest in, and explore new green drivers of growth and innovation.	investment	areas,	thus	transforming	climate	challenges	into



In conclusion, the paramount role of institutional investors in the fight against climate change cannot be underestimated. With their unprecedented capacity to mobilize significant capital and influence the policies and strategies of the companies they invest in, they stand as indispensable actors in the global movement towards sustainability and environmental resilience. This ability to steer investments towards greener and more sustainable practices is crucial for catalyzing the transformations needed to achieve a sustainable global economy. However, to fully leverage this influence, it is imperative to adopt an integrated and collaborative approach, involving a synergy of actions among investors, companies, regulators, and civil society.

The commitment of institutional investors to sustainable and responsible finance proves to be a powerful lever for accelerating the ecological transition. By systematically integrating ESG criteria into their investment decisions, promoting dialogue with companies on sustainability issues, and exercising constructive shareholder activism, these investors can induce a profound evolution in business practices. This dynamic is not limited to reducing negative environmental impacts but also encompasses the exploration and exploitation of innovative economic opportunities that emerge from the energy and ecological transition.

Nevertheless, the path towards full integration of sustainability in the financial sector is strewn with challenges. These challenges include the need to overcome regulatory barriers, standardize ESG performance measures, and develop financial instruments that can effectively channel investments towards sustainable projects. Despite these obstacles, the potential to create a positive impact on the environment while generating stable and attractive financial returns remains an enticing and achievable proposition for institutional investors.

Furthermore, the importance of cooperation and collaboration cannot be overstated. Institutional investors must work in concert with governments, businesses, non-governmental organizations, and citizens to develop regulatory frameworks and economic incentives that promote green investments. By cultivating an investment ecosystem where transparency, innovation, and accountability are valued and rewarded, it is possible to build an economy that respects the limits of our planet while offering prosperity and financial security.

By actively adopting and promoting investment practices that consider environmental and social impacts, institutional investors have the opportunity to position themselves as leaders in building a sustainable future. By guiding the allocation of capital towards companies and projects that support a transition to a low-carbon economy, reducing climate risks, and exploring sustainable development opportunities, they can not only contribute to mitigating the devastating effects of climate change but also pave the way for a new era of sustainable economic growth. This growth,

rooted in the principles of sustainability, equity, and respect for the environment, is essential to ensure the well-being of current and future generations.

In summary, by embracing their role as catalysts for change, institutional investors can play a decisive role in steering the global economy towards a greener and more sustainable trajectory. In doing so, they not only contribute to mitigating climate risks but also pave the way for a future where finance acts as a major force for the common good, stimulating the achievement of sustainable development goals and ensuring shared and lasting prosperity for all.



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