THE LIMITS OF SUSTAINABLE FINANCE

How the financial system can become a more powerful lever for a sustainable economy

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TRANSFORMATIVE RESPONSES TO THE CRISIS

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INTRODUCTION

Everyone is talking about sustainable finance, and more and more financial capital is being channelled into "sustainable" investments. In Germany there are more than €580 billion in investment funds that are marketed as sustainable, and more than one in every six newly invested euros is being channelled into investment products of this kind.[1] New European and national rules are needed for supporting and guiding the sustainable restructuring of financial markets.

A great deal of hope is being placed on the greening of the financial system. The idea is that the rerouting of capital, supported by green financial market regulations, would help achieve the climate goals of the Paris Agreement. This argumentation was also used by the European Commission in its Strategy for Financing the Transition to a Sustainable Economy.[2] In the words of former Finance Minister and German Chancellor Olaf Scholz, "The financial market [...] can move trillions of euros towards climate protection and sustainability."[3] Larry Fink, CEO of the world's largest asset management company, BlackRock, sees the restructuring of the financial sector in accordance with ESG criteria as a "tectonic shift"[4] for the transition. However, the issue is anything but uncontroversial: The political conflict surrounding the classification of gas and nuclear power as "sustainable" has shown that, when it comes to sustainable finance, the stakes for individual stakeholders are incredibly high.[5]

However, regardless of how sustainable our financial system is, the fact is that financial market participants only make investments that are profitable. The financial market will not be able to fix this problem by itself. Therefore, the use of the financial system as a lever for the transition to a more sustainable economy can only be complementary to a real transition policy that creates the right conditions and sets the direction through clear price signals and public investment.

The consideration of environmental and social issues and good corporate governance (in short: ESG) in the context of sustainable finance should help ensure that companies will make the economy and society more sustainable in a broad sense.[6] For many, the term *sustainable finance* also raises hopes for a better financial system that, as such, works in a sound and financially

[1] Bundesverband Investment und Management e.V., (2021), Der Nachhaltige Fondsmarkt Im Vierten Quartal 2021. (https://www.bvi.de/uploads/tx_bvibcenter/Fokus_Nachhaltigkeit__Q4_2021__web.pdf)
[2] Financial Stability, Financial Services and Capital Markets Union, (06/07/2021), Strategy for Financing the Transition to a Sustainable Economy. (https://ec.europa.eu/info/publications/210706-sustainable-finance-strategy_en)
[3] Bundesfinanzministerium, (05/05/2021), Weichenstellung für die Finanzwirtschaft: Klimaschutz und Nachhaltigkeit als Leitmotiv. (https://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2021/05/2021-05-05-deutsche-sustainable-finance-strategie.html)
[4] Fink, L., (2022), The Power of Capitalism. (https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter)
[5] Finke, B. (2022), Werden Ökofonds bald Atomkraftwerke fördern?, Süddeutsche Zeitung from 02/01/2022. (https://www.sueddeutsche.de/politik/taxonomie-atomkraft-gas-eu-1.5499412?reduced=true)
[6] I.e. Janus Henderson Investors, (11/2019), ESG und warum es uns wichtig ist. (https://www.janushenderson.com/de-de/investor/article/what-is-esg-and-why-do-we-care/)

sustainable manner.[7] However, as we will demonstrate, this expectation goes far beyond the sustainable finance approaches that have been developed to date.[8]

The reorientation of the financial system towards sustainable criteria is essential but not sufficient for driving the transition. This is where the current trend towards sustainable finance reaches its limits. The positive effects of this reorientation are blocked by various obstacles. These obstacles lie both in the elaboration of the sustainable-finance regulations themselves and in the fundamental problems associated with the way our financial system works. The latter applies, for example, to the large volume of investment-seeking capital that is still creating favourable financing conditions, even for fossil investments with a less promising future. As a result, the process of phasing out financing for coal and petroleum is being hindered. The financial markets' primary focus on short-term returns also stands in the way of a long-term sustainable economy. Other problems include the greenwashing of financial products and the flaws in financial sales and advisory services, which prevent investors from investing in products that are in line with their preferences and directing their savings towards projects that support the transition.

This report considers two questions that have arisen in the current debate surrounding sustainable finance. First: Which of the existing challenges can be overcome through a greening of the financial system? And second: Even if the perfect, green financial market regulations were introduced, what flaws in our financial system would still stand in the way of the transition? We hope that the critical financial-market perspective provided in this report will advance the current debate surrounding sustainable finance, as the integration of sustainability into the financial sector can only make a relevant contribution to the social-environmental transition if the challenges that are specific to financial markets are taken into consideration – and solved.

[7] Remer, S., (08/04/2020), Sustainable Finance, Gabler Banklexikon. (https://www.gabler-banklexikon.de/definition/sustainable-finance-99711/version-377154)
[8] In the context of this paper, we define a sustainable financial system as all financial flows and participants in the financial system, as well as regulations, that are geared towards the consideration of sustainability criteria and risks – in particular with respect to climate.

THE ABUNDANCE OF CAPITAL

There is no question that the transition to a sustainable economy will require enormous investment: For example, investments totalling US$275 trillion will be needed in order to achieve global climate neutrality by 2050. The actual volume of additional investments that will be required per year is equivalent to about US$1 trillion (approx. 1.18 per cent of the global gross domestic product for 2020).[9] It would be easy to assume that, owing to their magnitude, these sums would be nearly impossible to finance. However, the capital is there. It is precisely the prevalent abundance of financial capital that should make it easier to finance the required investments.

We are in a situation characterised by large amounts of capital in search of profitable investment opportunities. For example, in early 2021 there were US$3.1 trillion in uninvested capital in the area *private markets* alone, which includes but is not limited to private equity and debt funds.[10] This situation is exacerbated by the loose monetary policy of the central banks and the predominant low-interest-rate environment. In general, financial market participants are constantly searching for suitable investment objects, and banks are creating new money through lending.[11] In theory, there is therefore no scarcity in terms of financing. The potentially forthcoming turnaround on interest rates will not fundamentally change this lack of scarcity, as it is built into the current system. Therefore, projects that have a risk/return ratio that is understandable and attractive for financial investors and a structure that makes them suitable as financial investments generally also find financing opportunities. However, not all investments that are sensible or necessary for the transition have the risk/return profile that investors are looking for. This is why financing constraints[12] occur in spite of the abundance of capital, particularly for smaller companies.[13]

However, a successful transition will require not only sustainable investments, but also, and at the same time, a drastic reduction in climate-damaging activities. Even if more capital flows into green investment projects, it does not necessarily mean that less money will be available for harmful projects. For example, from January 2019 to December 2021 alone, commercial banks

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[9] Burkart, K., (17/02/2022), No, McKinsey, it will not cost $9 trillion per year to solve climate change, Climate & Capital Media. (https://www.climateandcapitalmedia.com/no-mckinsey-it-will-not-cost-9-trillion-per-year-to-solve-climate-change/)

[10] Mercer LLC, (2021), Dry powder meets low interest rates – Time for a private market boom or bust?. (https://www.mercer.com/content/dam/mercer/attachments/global/investments/gl-2021-dry-powder-in-private-markets.pdf)

[11] Bundesbank, Wie entsteht Geld? – Teil II: Buchgeld. (https://www.bundesbank.de/de/service/schule-und-bildung/erklaerfilme/wie-entsteht-geld-teil-ii-buchgeld-613628)

[12] Almeida, H., Campello, M. (09/2007), Financial Constraints, Asset Tangibility, and Corporate Investment, The Review of Financial Studies, Volume 20, Issue 5, September 2007, Pages 1429–1460. (https://doi.org/10.1093/rfs/hhm019)

[13] Ciaran D. and Muñoz-Bugarin, J. (01/2019), Financial constraints on investment: Effects of firm size and the financial crisis, Research in International Business and Finance, Volume 47, Pages 441-457. (https://www.sciencedirect.com/science/article/pii/S027553191730658X)

pumped over US$1.5 trillion into the coal industry worldwide.[14] Therefore, the achievement of climate targets will require a shift of financing towards climate-friendly and away from climate-damaging companies. The International Energy Agency (IEA) has also argued that no further investments should be made in fossil energies.[15]

Example: Aramco IPO

A good example of the ongoing investment in fossil fuels was the IPO of the Saudi Arabian oil company Aramco. Although the unrealistic expectations of the Saudi royal family were not met, the IPO still turned out to be the largest in history, and Aramco dethroned Apple as the world's most valuable company,[16] in spite of the fact that Aramco is from one of the industries most responsible for harmful carbon emissions. This situation is proof that no adequate shift towards climate-friendly investments has occurred and that, instead, massive investments are still being made in projects that are incompatible with the transition.

Monetary policy is one reason for the ongoing investment in carbon-intensive activities. The European Central Bank (ECB), for example, follows the principle of market neutrality in its purchases of bonds, in particular corporate bonds: i.e. the ECB purchases corporate bonds in proportion to a company's relative market share. However, only bonds from large corporations meet the requirements set by the ECB for bond purchases. And these corporations, in turn, make a significant contribution to carbon emissions, which is why the bond purchases are distorted in favour of carbon-intensive companies (carbon bias) – a dilemma that the ECB is also aware of. This bias has caused disproportionately lower refinancing costs for many climate-damaging companies.[17] This is why ECB President Christine Lagarde has questioned the self-regulation of the markets in this context: "In the face of what I call market failures, we have to ask ourselves whether market neutrality should be the actual principle that drives our monetary policy portfolio."[18] In our view, the use of the term *neutrality* in this context should generally be questioned if it refers to an economy that is incompatible with planetary boundaries and favours large companies over small ones.

[14] Seizov, O. & Louvel, Y., (15/02/2021), Who Is Still Financing the Global Coal Industry? New Research Reveals Banks and Investors Behind the World's Worst Climate Offenders. Urgewald. (https://www.coalexit.org/sites/default/files/download_public/GCEL.Finance.Research_urgewald_Media.Briefing_20220209%20%281%29.pdf)

[15] IEA, (2021), Net Zero by 2050. (https://www.iea.org/reports/net-zero-by-2050)

[16] Only approx. five per cent of the Saudi Aramco shares are listed. The rest are still state-owned. (https://www.marketscreener.com/quote/stock/SAUDI-ARABIAN-OIL-COMPANY-103505448/company/)

[17] Dafermos, Yannis, Gabor, Daniela, Nikolaidi, Maria, Pawloff, Adam and van Lerven, Frank (2020), Decarbonising is easy - Beyond market neutrality in the ECB's corporate QE, New Economics Foundation. (https://neweconomics.org/2020/10/decarbonising-is-easy)

[18] Siedenbiedel, C., (15/10/2020), EZB-Chefin stellt zentrales Prinzip in Frage. (https://www.faz.net/aktuell/finanzen/ezb-chefin-lagarde-stellt-zentrales-prinzip-in-frage-17003513.html)

When it lends central bank money to commercial banks, the ECB accepts as collateral the same bonds that it acquires through bond purchases. Then a certain percentage of the collateral value, also called haircut, is deducted, depending on the credit rating; the better the rating, the lower the haircut. Many innovative, green companies do not have a high enough credit rating in the beginning because they are taking new approaches beyond the fossil-fuel-based economy. As a result, they do not profit from the bond purchases. In contrast, many companies that produce carbon-intensive products have a positive credit rating owing to their performance indicators from previous years. For example, as collateral, the ECB accepts securities issued by companies that are active in carbon-based industries, like Endesa, Repsol or ArcelorMittal S.A.[19]

The ECB's programmes and criteria support favourable financing conditions for high-risk, climate-damaging companies and reduce their financing costs. This is one reason why they are maintain their position in the market. However, this situation is slowing the transition of the real economy towards climate neutrality.

But can better regulations ensure that climate-damaging companies will stop profiting from favourable financing conditions and that large amounts of capital will be channelled away from carbon-intensive industries? Our answer is: only to some extent. The disclosure of climate risks by financial market participants, along with climate stress tests by supervisory authorities, can help make climate risks more transparent, ensuring that financial market participants will price in these risks to an increasing extent. However, transparency is not the only issue in this context: factors like networks, power and perceived risk ensure that large, climate-damaging corporations will continue to access capital at favourable terms, while young companies with innovative technologies remain at a disadvantage. This is why a dismantling of information asymmetries, an aim of sustainable finance regulations, would not entirely end structural disadvantages.[20]

The European legislator could make climate-damaging investments more expensive by requiring banks and insurers to build specific capital buffers according to their climate-related risks, enabling the institutions to absorb losses on fossil-fuel-related assets themselves.[21]

In addition, central banks can create further incentives through the consideration of sustainability factors. For example, in 2021 the Bank of England presented plans for how it intended to correct the carbon bias in its corporate bond purchases.[22] **The aim of the ECB's new**

[19] Europäische Zentralbank, (2022), Verzeichnis notenbankfähiger marktfähiger Sicherheiten, last accessed on: 18/03/2022. (https://www.ecb.europa.eu/paym/coll/assets/html/list-MID.de.html)
[20] Golka, P. & Krahe, M., (17/06/2021), Sustainable Finance: Gelenkte Märkte statt Lenkung durch Märkte, Makronom. (https://makronom.de/sustainable-finance-gelenkte-maerkte-statt-lenkung-durch-maerkte-39555)
[21] Symon, J. (23/11/2021), A silver bullet against green swans - Incorporating climate risk into prudential rules, Finance Watch. (https://www.finance-watch.org/wp-content/uploads/2021/11/A-Silver-Bullet-Against-Green-Swans-capital-requirements-climate-risk.pdf)
[22] Bank of England, (05/11/2021), Greening our Corporate Bond Purchase Scheme (CBPS). (https://www.bankofengland.co.uk/markets/greening-the-corporate-bond-purchase-scheme)

action plan[23] is to better incorporate climate change considerations into its price stability mandate. However, no measures have been proposed for actively contributing to the EU's climate objectives through changes in monetary policy programmes. The important levers available to central banks in this context include the rules on eligible collateral and purchase programmes, the internal credit ratings for collateral and asset purchases and the consideration of climate-related risks in their refinancing operations (in particular, TLTROs).[24] These levers could be used for ending the carbon bias and even creating incentives for green investments.

All of the aforementioned options could be used for making climate-damaging projects more expensive to invest in and less attractive for financial institutions. Once sustainability risks are appropriately priced, the investment returns and financing costs for green and damaging investments will change accordingly. If the resulting effects were strong enough, individual carbon-intensive investments would no longer be profitable and would therefore not be made, while individual green investments would be able to cross the profitability threshold and therefore be made. The fact is that, as long as it is profitable to invest in fossil-fuel and other climate-damaging projects, investors will continue to finance them. And if public pressure prevents banks, insurers and other more transparent and strongly regulated stakeholders from investing in these types of projects, then the less regulated private equity and hedge funds will simply pick up the slack.

In contrast, the proper regulation of the real activities would immediately make fossil-fuel-related projects and other brown investments unprofitable. The most important levers for this change are policy frameworks that would make the exploitation and use of fossil fuels uneconomical, e.g. using carbon taxes and other instruments. Levers like these are always more effective than indirect incentives on the financial market.

Divestment as a solution?

Divestment refers to the selling of investments in certain companies and organisations that profit directly or indirectly from fossil fuels like coal, oil and gas. In this context, an increasing number of public investors, pension funds and listed companies are responding to pressure from environmental organisations and pulling out of investments in fossil fuel projects.

This kind of divestment is a welcome development, as it delivers a political message for the phasing out of fossil fuel use and production. However, with regard to the financial markets, other impacts must be taken into consideration. On the one hand, divestment could negatively impact shareholder value, creating less favourable financing

[23] European Central Bank, (08/07/2021), ECB Presents Action Plan to Include Climate Change Considerations in its Monetary Policy Strategy. (https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210708_1~f104919225.en.html)
[24] Barmes, D. & Livingstone, Z. (2021) The Green Central Banking Scorecard: How Green Are G20 Central Banks And Financial Supervisors? Positive Money. (https://positivemoney.org/publications/green-central-banking-scorecard)

conditions for the affected companies in the medium term, while on the other hand, the divested and reduced-value assets would attract other, less strictly regulated investors who would continue to make profits with the fossil fuel assets.[25] Nevertheless, the initial results of a recent study have begun to offer hope that investment fund decarbonisation would also cause the affected companies to reduce their emissions, thereby having a direct impact as well.[26]

In this context, it is not only the shares (e.g. in fossil fuel companies) that change ownership, but also the respective fossil fuel assets, such as the exploitation rights for oil fields. Stock-market-listed oil companies sell them off when they are under pressure to improve their sustainability performance, while private or state-owned companies that are subject to fewer transparency requirements buy them up and sometimes even increase the scale of the respective exploitation.[27] This problem is not limited to divestment strategies, but also applies to sustainable investment approaches on the whole.

Divestment strategies aimed at a withdrawal from fossil-fuel-financing operations and the selling of fossil fuel assets by oil companies can only support the transformation to a limited extent. Nevertheless, they also make it possible to use the financing lever to influence companies that have not been subject to sufficient environmental regulation. However, as long as the exploitation of fossil resources remains profitable, some companies will continue to exploit them, and others will finance these projects. Change can only be effected through significantly more extensive sustainable-finance regulations in combination with the right policy frameworks.

[25] Fletcher, L., (07/10/2021), Hedge Funds Cash In as Green Investors Dump Energy Stocks, Financial Times. (https://www.ft.com/content/ed11c971-be02-47dc-875b-90762b35080e)
[26] Rohleder, M., Wilkens, M. & Zink, J., (01/2022), The effects of mutual fund decarbonization on stock prices and carbon emissions, Journal of Banking & Finance, Volume 134. (https://www.sciencedirect.com/science/article/abs/pii/S0378426621003034?via%3Dihub)
[27] Raval, A., (06/07/2021), A $140bn Asset Sale: The Investors Cashing In on Big Oil's Push to Net Zero. (https://www.ft.com/content/4dee7080-3a1b-479f-a50c-c3641c82c142)

INSUFFICIENT DATA AND AMBIGUOUS RATINGS

If sustainability considerations are to be integrated into financial decision-making, much information will be required that is not yet sufficiently available. The patchy availability of sustainability data, along with its inconsistent quality, has been an obstacle to a sustainable financial system.[28] These information gaps can be filled to some extent through corporate sustainability reporting and the work of rating agencies.

Sustainability reporting

In the EU to date, only large and listed corporations have been required[29] to divulge information on sustainability. The associated reports include key performance indicators on sustainability, e.g. carbon and other greenhouse gas emissions. However, there has been little if any standardisation of the information found in these reports. As a result, the breadth and quality of the information varies significantly, making it almost impossible to compare data.[30] Moreover, the reporting obligations vary greatly between the member states of the European Union: While France already enjoys access to higher-quality data thanks to its strict implementation of European and national regulations,[31] Germany's weak implementation has led to setbacks in the availability of sustainability data. In addition, sustainability report data – unlike the data published in financial reports – is not checked by an external auditor, meaning that it is not very reliable. For small and medium-sized companies, even fewer performance indicators are available. Although data from larger companies is also collected and processed by rating agencies specialising in sustainability, this information is not made available free of charge.

Credit ratings

Credit ratings are an assessment of the economic situation and creditworthiness of a company or state and are traditionally prepared by rating agencies. They serve as the basis for numerous decisions that are made on the financial markets. Traditional credit ratings play a key role in the refinancing of companies: They affect not only the interest rates charged on loans, but also the expected interest coupon for self-issued bonds. In order to

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[28] London Stock Exchange Group, (2022), Can Better Corporate Disclosure Boost Sustainable Investment?, Financial Times. (https://www.ft.com/partnercontent/london-stock-exchange-group/can-better-corporate-disclosure-boost-sustainable-investment.html?utm_source=TW&utm_medium=investing&utm_content=paid&twclid=11499012900257767424)

[29] All listed companies, banks and insurance companies (so-called "public interest entities") with an average number of employees in excess of 500 during the financial year and a balance sheet total exceeding €20 million or a net turnover exceeding €40 million.
Directive 2014/95/EU (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095)
Scholz & Friends Reputation, (09/03/2017), Die CSR-Richtlinie kompakt erklärt. (https://nachhaltigkeitsberatung-sfr.de/nachhaltigkeitsberatung/csr-berichte/die-csr-richtlinie-kompakt-erklaert/)

[30] European Financial Reporting Advisory Group, (2021), Final Report: Proposals for a Relevant and Dynamic EU Sustainability Reporting Standard-Setting. (https://www.efrag.org/Lab2#subtitle2)

[31] Loi Grenelle 2 (12/07/2010). (https://www.legifrance.gouv.fr/loda/id/JORFTEXT000022470434/)

remain solvent in the long term, companies will require business models that are resilient to the climate crisis. The large rating agencies have become aware of this fact.

As early as 2019 the rating agency *S&P* described climate-related risks as a "challenge to the stability of the financial system".[32] In July 2019 *Moody's* acquired a majority stake in Four Twenty Seven, a provider of data related to climate risks.[33] *Fitch Ratings* has predicted that global warming will revolutionise how banks define risk.[34] The catch is that it is unclear to what extent the large rating agencies have begun to take climate-change risks into consideration in their ratings.

The central banks are facing the same question. For example, in a 2021 speech, former German central bank president Jens Weidmann argued that, if the rating agencies did not take climate risks into account in their bond ratings quickly enough, the central bank could limit the maturities or the quantity of bonds from certain sectors or issuers.[35] In other words: The ECB would not be able to buy more "green" bonds, but it could buy fewer "damaging" ones – or to be exact, bonds that have higher financial risks associated with climate change.

Sustainability ratings

Another obstacle for a sustainable financial system is the current situation surrounding sustainability ratings. The sole purpose of these ratings is to measure the sustainability of a company and make it possible to compare the results with those of other companies, which is what differentiates them from credit ratings. However, it is often unclear how these ratings are determined, and the results are hard to understand or compare. For example, the ratings provider *Sustainalytics* gave Tesla an *ESG risk rating* of *medium* and Peugeot an *ESG risk rating* of *low*.[36]

Even more astonishing are comparisons of ratings from different providers. A comparison of relevant sustainability ratings by *MSCI ESG*, *RobecoSAM* and *Sustainalytics* revealed that a total of 235 different companies had been named among the 100 top-rated companies by the three providers.[37] Only 11 companies appeared on the top-100 lists of all three agencies. Studies

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[32] Holtermann, F., Maisch, M. (17/09/2019), Klimaschäden sind ein unbewertetes Risiko für die Banken, Handelsblatt. (https://www.handelsblatt.com/finanzen/banken-versicherungen/banken/bilanzen-klimaschaeden-sind-ein-unbewertetes-risiko-fuer-die-banken/25020332.html)
[33] PlaceTech., (26/07/2019), Moody's kauft Klimarisikodatennalyst. (https://placetech.net/de/news/moodys-buys-climate-risk-data-analyst/)
[34] See Money.com, (28/05/2021), Fitch: Erwärmung stellt die Risikodefinition der Banken auf den Kopf. (https://www.institutional-money.com/news/regulierung/headline/fitch-erwaermung-stellt-die-risikodefinition-der-banken-auf-den-kopf-207246/)
[35] Siedenbiedel, C. (06/06/2021), EZB vor „grünen" Kriterien für ihre Anleihekäufe, Frankfurter Allgemeine Zeitung. (https://www.faz.net/aktuell/finanzen/finanzmarkt/ezb-vor-gruenen-kriterien-fuer-ihre-anleihekaeufe-17373337.html)
[36] Sustainalytics, (2022), Company ESG Risk Rating, last accessed on: 21/03/2022. (https://www.sustainalytics.com/esg-rating)
[37] Flossbach von Storch Research Institute, (28/11/2019), Nachhaltig? Ja...Nein...Vielleicht! Zur mangelnden Vergleichbarkeit von ESG-Ratings. (https://www.flossbachvonstorch-researchinstitute.com/de/studien/nachhaltig-janeinvielleicht-zur-mangelnden-vergleichbarkeit-von-esg-ratings/)

attribute this lack of consistency to the fact that the providers place different weights on the individual components E, S and G and even include different attributes.[38] However, when the ratings from different providers vary significantly, it is difficult for investors to use them as an orientation for their investment decisions. This difficulty is well illustrated by the comparison of ratings for various automotive manufacturers (see Fig. 1).

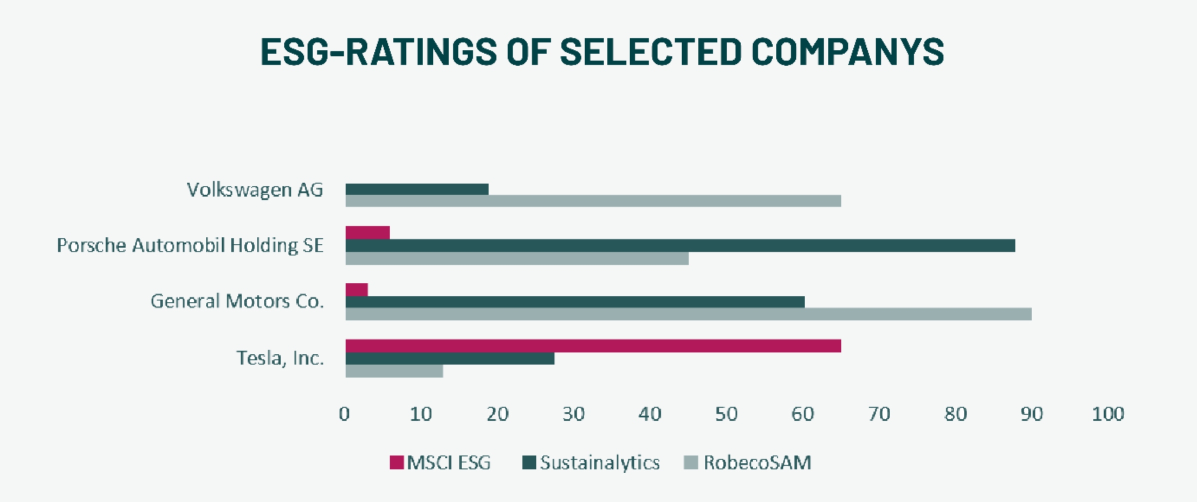

Figure 1 Based on MSCI ESG Ratings, Bloomberg, Flossbach von Storch Research Institute, as of November 2019. Ratings on a scale of 0 to 100, with 100 being the highest rating.

Furthermore, sustainability ratings that were calculated in the past are even being changed by the providers retroactively, which further undermines their credibility.[39] In addition, it recently came to light that, for its sustainability ratings, the large ratings provider *MSCI* only assesses how sustainability factors can affect a company's success – not how the company's activities affect the environment and society.[40] This fact is problematic because many providers of sustainable financial products who rely on such ratings promise their customers an investment that will have a positive effect on the environment and society.

The major differences in the results and methodologies of sustainability ratings cast doubt on their validity. In the end, this means that many investment decisions that were based on these ratings may not be advancing the transition to the anticipated extent.

Which of these obstacles could be overcome by better sustainable finance regulations? The availability of sustainability data could be improved by standardising sustainability reports and extending the respective reporting obligations to a larger group of companies.[41] In addition, key

[38] Dimson, E., Marsh, P. & Staunton, M., (11/2020), Divergent ESG Ratings, The Journal of Portfolio Management. (https://jpm.pm-research.com/content/47/1/75.short)
[39] Berg, F., Fabisik, K. and Sautner, Z., (08/2021), Is History Repeating Itself? The (Un)Predictable Past of ESG Ratings, European Corporate Governance Institute – Finance Working Paper 708/2020. (https://ssrn.com/abstract=3722087)
[40] Kishan, S., Rathi, A. & Simpson, C., (09/12/2021), The ESG Mirage: MSCI, the largest ESG rating company, doesn't even try to measure the impact of a corporation on the world, It's all about whether the world might mess with the bottom line. (https://www.bloomberg.com/graphics/2021-what-is-esg-investing-msci-ratings-focus-on-corporate-bottom-line/)
[41] The new International Sustainability Standards Board (ISSB) in Frankfurt am Main has been working on this since January 2022. (https://finanzen.hessen.de/presse/vereinbarungen-zum-international-sustainability-standards-board-issb-in-frankfurt-unterzeichnet)

sustainability data from these reports could, in the future, be reviewed by external auditors, like key financial figures, in order to make them reliable and comparable. The European legislator is currently working on these issues in the context of its proposal for a CSR Directive to amend the current Non-Financial Reporting Directive (NFRD), which covers these reporting obligations.[42] The main aim of this amendment is to set uniform reporting standards in the European internal market in order to improve comparability.

The consideration of sustainability risks should be subject to uniform regulations for credit ratings as well so that they reliably incorporate the associated climate and sustainability risks. In the future, sustainability ratings should be required to disclose their methodologies in order to provide clarity as to which factors influence the results and in what manner. Some degree of standardisation for sustainability ratings could improve their comparability. In its recently published Sustainable Finance Roadmap, the European Securities and Markets Authority (ESMA) listed credit and sustainability ratings as an area of focus, confirming the need for action.[43] The results could create legislative impetus at European level.

However, there are two fundamental problems that cannot be solved by improved sustainable finance regulations like those described above. Ratings suffer from an inherent conflict of interest associated with the fact that the rated entity pays for its own "scores". Ratings providers have little incentive to give poor ratings if, as a result, they could lose customers to their competitors. This constellation was partially responsible for the great financial crisis of 2007/2008.[44] In order to solve the problem, consideration would have to be given to a fundamental reform of the ratings market and the establishment of a public rating agency. However, neither of these changes were implemented after the last big financial crisis, and there are no current plans for their implementation.

Furthermore, we cannot expect comparable ratings or comprehensive and transparent sustainability information to prevent short-term and purely profit-oriented investors from investing in companies that profit from the destruction of the planet.

[42] European Commission, (2021), Corporate sustainability reporting: EU rules require large companies to publish regular reports on the social and environmental impacts of their activities. (https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en#overview)
[43] European Securities and Markets Authority, (11/02/2022), ESMA Prioritises the Fight Against Greenwashing in its New Sustainable Finance Roadmap. (https://www.esma.europa.eu/press-news/esma-news/esma-prioritises-fight-against-greenwashing-in-its-new-sustainable-finance)
[44] Hans-Böckler-Stiftung, (07/2010), Fehlanreize für Ratingagenturen. (https://www.boeckler.de/de/boeckler-impuls-fehlanreize-fuer-ratingagenturen-7686.htm)

GREENWASHING

More and more people are interested in using their investments to help advance the transition to a more sustainable economy, or at least prevent further damage. They avoid climate-damaging or other controversial investments, or invest in especially sustainable companies. However, greenwashing – i.e. the practice of falsely marketing financial products as green or sustainable – is a widespread problem. Today, the word *sustainable* can be used for describing forward-looking projects, such as wind energy, or the restructuring of industries that have traditionally been damaging to the climate and environment. A study of 114 equity funds available in Germany that claim to invest in a selection of exemplary companies showed that, overall, the financial investments of the "sustainable" funds differed very little from the investments of conventional funds (Fig. 2).[45] The problem is that, if the investment practices of sustainable funds do not differ greatly from those of conventional funds, then they cannot bring about any funding advantage for particularly exemplary companies and can therefore not develop a transformative effect.

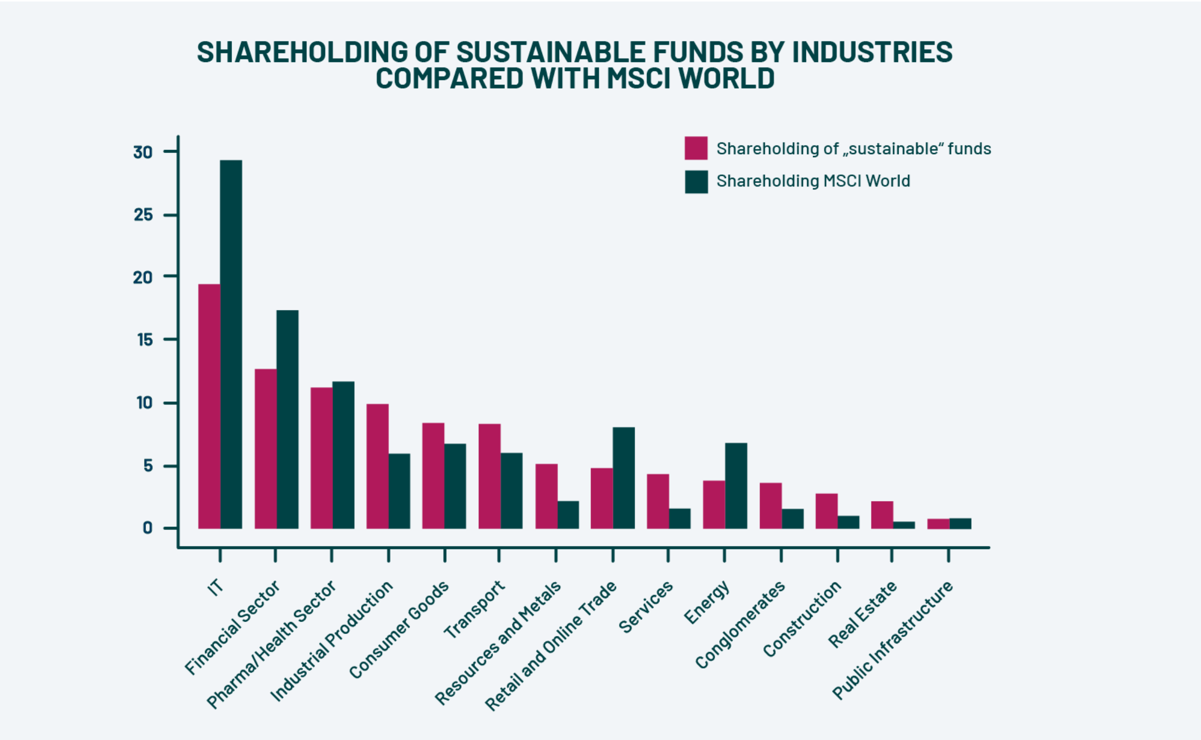

Figure 2 Source: Morningstar Direct

The allegations that DWS, an asset manager subsidiary of Deutsche Bank, was listing too many of its investments as sustainable[46] would be a further example of large-scale greenwashing if the current investigations were to confirm the suspicions.

[45] See Schultz, A. and Senn, M. (2021), Greenwashing im großen Stil. Wie "nachhaltige" Fonds die Klimakrise befeuern, korrupte Vorstände finanzieren und die Verletzung von Arbeitnehmerrechten tolerieren, Finanzwende Recherche. (https://www.finanzwende-recherche.de/unsere-themen/nachhaltige-finanzmaerkte/greenwashing-im-grossen-stil/)
[46] Hoyer, N. & Schwerdtfeger, H., (27/08/2021), Fondsgesellschaft DWS unter Greenwashing-Verdacht, Wirtschaftswoche. (https://www.wiwo.de/finanzen/geldanlage/nachhaltige-geldanlage-fondsgesellschaft-dws-unter-greenwashing-verdacht/27555326.html)

Green funds investing in oil and gas

The DWS fund *Europe Energy ESG Screened ETF* can already be described as an example of greenwashing. The fund is advertised as being sustainable in spite of the fact that it invests 100 per cent of its funds in petroleum and natural gas operations, along with the associated industries. The criterion listed by the asset manager as an explanation for its sustainability label is the exclusion of weapons, tobacco, coal mining and the extraction of oil from oil sands.[47] The only excluded sector that is relevant, i.e. has something to do with the focus of the fund (petroleum and natural gas operations), is oil extraction from oil sands. An investment in a "sustainable" fund like this is diametrically opposed to the objectives of the transition.

Due to greenwashing, the funds of individuals who want to invest sustainably could, in the worst case, even end up in investments that actually fuel the climate crisis. This situation is particularly disastrous in light of the fact that large amounts of private capital are required to fund the transition to a sustainable economy.

Neither the European Disclosure Regulation, which groups sustainable financial products into two categories with various degrees of stringency, nor the "ESG" mark offers investors the assurance that their money will in fact be invested in sustainable projects. The providers have a strong interest in classifying as many products as possible as sustainable, because more and more investors are interested in investing their money in projects that are in compliance with ESG requirements. A classification according to the EU regulation is easy to market because it has the same effect as a public product label, which it is not: The aim of the regulation, as its name indicates, is disclosure, not a qualitative assessment of how sustainable a fund's holdings actually are. In general, only a detailed analysis of the fund constituents can reveal to what extent it is in fact sustainable. One reason why greenwashing has become so prevalent on the financial markets is because there is still no universal definition of sustainability.[48]

The new EU classification system for sustainable economic activities, also known as the EU taxonomy, offers a uniform standard that would be a good instrument for combating greenwashing. The taxonomy covers a total of 13 sectors that account for some 80 per cent of the EU's greenhouse gas emissions. Economic activities are described as sustainable if they contribute to one of the six European environmental objectives and, at the same time, do no significant harm to any of the six environmental objectives.[49]

The aim of the EU taxonomy is to create transparency by requiring funds to disclose the percentage of their investments that can be considered sustainable under the taxonomy's

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[47] See DWS, (31/08/2021), Xtrackers MSCI Europe Energy ESG Screened UCITS ETF. (https://etf.dws.com/de-de/AssetDownload/Index/9fea496e-a760-46e4-a49a-8397380a2de9/Offenlegung-gemaess-Artikel-10-Absatz-1-der-Verordnung-(EU)-2019-2088.pdf/)
[48] Schreiber, M. (17/11/2021), Nachhaltige Finanzprodukte: Zu viel des Grünen, Süddeutsche Zeitung. (https://www.sueddeutsche.de/kolumne/finanzindustrie-gruene-fonds-greenwashing-1.5465103)
[49] European Commission, (2022), EU Taxonomy for Sustainable Activities. (https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en)

definition. However, in early 2022, under pressure from the energy lobby and national interests, the European Commission submitted a proposal that would also make it possible for nuclear power and natural gas projects to be defined as "sustainable" in the context of the taxonomy.[50] Unless a majority votes in opposition to this proposal in the European Parliament or Council of Ministers by the summer of 2022, the taxonomy will be significantly weakened by the inclusion of nuclear power and natural gas, a criticism that has been expressed by many stakeholders from the financial sector.[51] This weaker version of the taxonomy would lack credibility, making it possible for various standards to co-exist and creating a fertile ground for the continued prevalence of greenwashing.[52]

Greenwashing at portfolio level

Frequent inconsistencies have also been found in the information provided by financial operators with respect to the emissions caused by their portfolios. For example, Mark Carney, in his role as vice chair of Brookfield Asset Management, recently announced that the managed portfolio of US$600 billion had already achieved net-zero status. However, this statement turned out to be incorrect. The company had been greenwashing its investments: For example, fictional "avoided emissions" had been calculated for the company's investment in a wind farm, with the reasoning that these emissions would have been produced if they had invested in coal-fired generation instead of wind energy.[53] Carney responded to the ensuing criticism by walking back his statements. The truth of the matter is that, ultimately, the use of creative accounting to make emissions seem lower than they are only serves to cover up the real need for change. Approaches like these prevent the financial sector from becoming a true lever for the real economy's transition to sustainability.

Could better sustainable finance regulations prevent greenwashing and ensure that investor capital would actually be channelled into economic activity that supports the economy's transition to sustainability?

The starting point for this process, according to numerous experts, would be a strict and universal definition of sustainability in the form of a science-based and credible taxonomy that excludes nuclear power and natural gas. A group of experts in the EU have developed the framework for this taxonomy. As has already been planned, the taxonomy should be expanded

[50] European Commission, (2022), Taxonomy Regulation Delegated Act. (http://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-delegated-act-2022-631_en.pdf)
[51] Net Zero Banking Alliance Germany (11/2021), EU Taxonomie: Messgröße für positive Beiträge zur Klimatransformation. (https://gsfc-germany.com/wp-content/uploads/2022/02/211130_EUTaxonomie_NZBAG_Erklaerstueck.pdf)
[52] Senn, M., (21/01/2022), Atomkraft und Gas untergraben Glaubwürdigkeit, Börsen-Zeitung. (https://www.boersen-zeitung.de/banken-finanzen/atomkraft-und-gas-untergraben-glaubwuerdigkeit-93bf62a6-7202-11ec-a3e7-6cac331b8e0a#:~:text=Die%20EU%2DKommission%20untergr%C3%A4bt%20mit,der%20Verein%20B%C3%BCrgerbewegung%20Finanzwende%20argumentiert)
[53] Rathi, A. & Shanklemann, J., (26/02/2021), Mark Carney Walks Back Brookfield Net-Zero Claim After Criticism. (https://www.bloomberg.com/news/articles/2021-02-25/mark-carney-s-brookfield-net-zero-claim-confounds-climate-experts)

to include the social dimension and the aspect of sustainable corporate governance in order to cover sustainability in a broad sense. Another building block, on the basis of this taxonomy, would be the introduction of a strict label for sustainable financial products that would enable consumers to differentiate between products at a glance. In combination, these two measures could provide the transparency and standardisation required for enabling even private investors to use their investments for making at least a small contribution to the transition towards a sustainable economy.

However, improved regulations will not prevent financial product providers from attempting to continue bending the rules and making themselves appear greener than they are. As a result, greenwashing will remain an issue for financial oversight and consumer protection groups – albeit at a significantly lower level than today once strict sustainable finance regulations and controls have been implemented.

SHORT-TERMISM[54]

Another fundamental dilemma is the short-termism that is endemic to the financial system and in conflict with the aim of limiting global warming to 1.5°C. As early as September 2015 Mark Carney, then chairman of the international Financial Stability Board (FSB), gave a talk on the "tragedy of the horizon", describing the limited forward-looking perspective of the financial sector and its implications for climate-related risks.[55] Financial services institutions continue to focus on short-term performance indicators, e.g. quarterly figures, while longer-term but critical developments, like the climate crisis, are given too little attention, and decisions that take into account the impacts of climate change are penalized by investors. The same is true for listed real economy companies. In addition, company reporting is based on historical data, which, for structural reasons, is unable to include climate change factors.

In general, the refinancing and risk horizons of banks[56] only take into consideration the next two to three years. In other words, in the next three years, the effects of climate change on the current business models of many banks will play little, if any, role. This is why the banks take a conservative approach when it comes to the consideration of climate risks. The German Banking Industry Committee, which serves as the voice of the German banking-sector associations, welcomed this year's climate stress test from the ECB while, at the same time, making it clear that the results should not lead to higher capital requirements.[57]

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[54] Parts of this section were first published in *Makronom*: Schick, G. & Wardenga, J., (23/11/2020), Können-und wollen- die Finanzmärkte das Klima retten? (https://makronom.de/koennen-und-wollen-die-finanzmaerkte-das-klima-retten-37628)

[55] Bank of England, (29/09/2015), Breaking the tragedy of the horizon - climate change and financial stability, Speech by Mark Carney. (https://www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability)

[56] This, of course, also depends on the respective business model of the respective bank and, in this respect, is not applicable, for example, to state-owned development banks. However, even banks with long-term financing, like ship mortgages, follow this pattern.

[57] Altendorf, Dr. K., (23/02/2022), Klimastresstest der EZB wegweisend für Banken und Aufsicht. (https://bankenverband.de/newsroom/presse-infos/klimastresstest-der-ezb-wegweisend-fur-banken-und-aufsicht/)

However, if banks and insurers were to integrate long-term factors into their risk management systems, as the European Commission is calling for in its strategy,[58] the situation would change: When the ECB asked banks to self-assess their practices relative to its supervisory expectations, 90 per cent of the banks reported that climate-related risks were not being reflected in their structures to the extent required by the ECB.[59] There are also many bank customers, on both the lending and investment side, that are not yet – or only very badly – prepared for the required transition process. This applies, for example, to numerous companies in the automotive and energy sectors. In basic terms, the situation is mirrored in current ratings trends: According to the rating agency *S&P*, 10 to 15 per cent of the rating changes in recent years have been directly linked to changing environmental factors.[60]

The consideration of a long-term perspective and forward-looking reporting will highlight the need for the transition. However, the banks are still reluctant to make the corresponding changes to their business models and shift more decidedly to a sustainable path. The reasons for this include not only the short-term earnings expectations of the capital market, but also the mostly short-term refinancing models between the financial market participants, e.g. through short-term repurchase agreements or derivatives. The expectations with respect to immediate business success compel banks to focus on "quarterly sprints" and "annual runs" and are an obstacle to longer-term changes. The competitive pressure, which is based on status-quo comparisons, and the high degree of comparability through traditionally established parameters can quickly lead to ratings changes and therefore to increases in refinancing costs. This is why banks are so afraid of the short-term negative impacts that long-term measures could have on their own balance sheets.[61]

The only areas where this short-term way of thinking is less dominant are mortgages and the issuing of bonds. For example, a slight trend can be observed towards "green" bonds, although there are still no common quality criteria for environmentally sustainable bonds. Nevertheless, it is surprising that, in the German financial sector's collective commitment to climate action,[62] only a general statement was made on the alignment of products with net-zero targets, with no mention of the issuing of such green bonds.

Even if a change in thinking were to gradually occur in the banking sector, and banks would begin to set new sustainability goals for themselves, the discrepancy between ambition and reality

[58] EU Commission, (2021), Strategy for Financing the Transition to a Sustainable Economy. (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0390#footnote46)
[59] Atzler, E. & Osman, Y., (21/02/2022), Die Aufsicht macht Druck: Banken sollen „grüner" werden, Handelsblatt. (https://www.handelsblatt.com/finanzen/banken-versicherungen/banken/nachhaltigkeit-die-aufsicht-macht-druck-banken-sollen-gruener-werden-/28059176.html?ticket=ST-10027282-zDjSHHLctATQFYBT2MYL-ap5)
[60] Luft, A.-B., (31/01/2020), Klimarisiken sind Kreditrisiken: Mit dem Klimawandel verbundene Risiken werden zu Rating-Herabstufungen vieler Unternehmen führen, Neue Zürcher Zeitung. (https://www.nzz.ch/finanzen/klimarisiken-sind-kreditrisiken-ld.1537639)
[61] EBA, (2019), EBA report on undue short-term pressure from the financial sector on corporations. (https://www.eba.europa.eu/sites/default/documents/files/document_library/Final%20EBA%20report%20on%20undue%20short-term%20pressures%20from%20the%20financial%20sector%20v2_0.pdf)
[62] Klimaschutz-Selbstverpflichtung des Finanzsektors, (30/06/2020). (https://www.klima-selbstverpflichtung-finanzsektor.de/#:~:text=30.06.2020%20%E2%80%93%2016%20Akteure%20des,Zielen%20des%20Pariser%20Klimaabkommens%20auszurichten.)

would remain great: For example, *Deutsche Bank* has announced the supposedly ambitious goal of facilitating "at least €200 billion in sustainable finance and investments by 2023",[63] which would be equivalent to only about 15 per cent of the bank's current total assets. Moreover, the bank failed to specify what this goal would mean in terms of the actual emissions produced by the financed projects. Banks still want to support their customers' transition paths in cooperation with them. In other words, the banks want to provide their customers with the necessary funds for the transformation, but the initiative should ideally come from the customers. However, if banks strive to keep their customers at any cost, regardless of how damaging their business models are to the climate, the sustainability impact of financial market participants on their real economy customers will be weakened.

The pressures of short-termism are also felt by listed real economy companies. Corporate managers are incentivised to increase the market value of the company in the short term and accept any negative consequences that could arise after they have left the company.[64] Following the shareholder-value approach, companies use their profits to benefit their shareholders or to build up cash reserves. This fact was highlighted once again by recent reports on the investment and distribution behaviour of large German and French corporations.[65] The findings of these studies showed, for example, that the two energy giants *RWE* and *E.ON* often paid out dividends in years when they showed net losses. And these dividends were paid out in spite of the fact that both of the companies will require major investments to support their green transition. These findings demonstrate how the systematic short-termism of the financial market compels companies to continuously pay out high dividends instead of making long-term investments in the future and advancing the transition.

Could better sustainable-finance rules resolve the contradiction between the short-term objectives of financial markets and the long-term focus of the transition? There are a few instruments that could help limit short-termism. For example, forward-looking reporting obligations and executive remuneration rules focused on longer-term goals could reduce the pressure for short-term profit maximisation. After the 2008 financial crisis, the EU adopted special rules for addressing the issue of executive bonuses. However, these rules have not produced the desired effect.[66] Additional bonuses linked to the achievement of sustainability targets have come under criticism due to the fact that they expand variable remuneration packages if the respective goals are achieved but do not reduce remuneration if they are not. The reporting obligations with respect to sustainability, as mentioned above, are currently being revised at European level.

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[63] Schreiber, M., (20/05/2021), Neue grüne Ziele. Süddeutsche Zeitung.
(https://www.sueddeutsche.de/wirtschaft/deutsche-bank-esg-ziele-nachhaltigkeit-1.5300211)
[64] Bancel, F., Garel, A. (2015), Managerial Myopia: Do Managers Privilege Short-term Decisions or Value Creation?, Bankers, Markets & Investors, ESKA Publishing, issue 135, pages 50-58.
(https://ideas.repec.org/a/rbq/journl/i135p50-58.html)
[65] Finanzwende Recherche & Oxfam Deutschland, (11/2021), Profit at the Expense of People and Planet.
(https://www.oxfamfrance.org/rapports/cac-40-des-profits-sans-lendemain/)
Oxfam France, (03/2021), Climat : CAC degrés de trop Le modèle insoutenable des grandes entreprises françaises.
(https://transformative-responses.org/the-project/challenge/financialisation-of-corporations/)
[66] Colonnello, S., Koetter, M. & Wagner, K. (2020), Compensation Regulation in Banking: Executive Director Behavior and Bank Performance After the EU Bonus Cap, Halle Institute for Economic Research (IWH). (https://ssrn.com/abstract=3104869)

An approach that could help combat short-termism in banks is the introduction of a system of longer-term risk assessment that extends beyond the current horizons. This approach should be taken into consideration in stress tests with forward-looking scenarios. This is also being worked on at European level. In this context, the supervisory authorities would have to not only assess risks, but also follow up on their findings with the appropriate consequences to increase the incentives for banks to focus on climate goals.

The legislator can require companies and financial institutions to adopt a longer-term perspective that is compatible with climate-related risks. However, the fundamental contradiction between financial-market-driven, short-term profit orientation and long-term transition investments cannot be completely resolved.

THE IMPACT OF SUSTAINABLE INVESTMENTS

The impact of various forms of sustainable investments, i.e. their real influence on the sustainable restructuring of the economy, differs greatly. In this context, we must first differentiate between fresh capital in the form of newly issued shares, bonds or loans and the acquisition of existing securities, e.g. through mutual funds. The former would directly support projects like the construction of a new wind park while the latter would not provide the company with any additional funds for new investments but could have a positive effect on its financing costs via the share price. Accordingly, fresh capital is fundamentally more effective for the transition than investments in existing securities. With respect to "old" capital, the situation is less clear. Tariq Fancy, former sustainable investing CIO of *BlackRock*, is particularly sceptical about the impact of ESG-themed exchange traded funds (ETFs), whose investments mainly flow into existing securities. Whether you invest in a green or a conventional ETF, he argues, has very little if any effect on climate change.[67]

A second aspect that is relevant in terms of impact is the liquidity of an investment. If investors can easily get their money back at any time, it is difficult to use the invested money for the financing of long-term projects, e.g. for energy infrastructure, whereas funds that are locked in for several years can be used for more effective investments. In the latter case, however, consumer protection becomes all the more important for reasons discussed below in the section on financing.

Another common strategy for achieving impact is direct dialogue between investors and companies (engagement) and the targeted exercise of voting rights. However, the effectiveness of this engagement is often questionable, especially when company decisions aimed at improving sustainability do not make sense from a business perspective due to the prevailing regulatory environment.[68] In addition, it is difficult for private investors to understand whether

[67] Heißler, J., (01/09/2021), "Es stellt sich kaum jemand so dämlich an", WirtschaftsWoche. (https://www.wiwo.de/finanzen/geldanlage/greenwashing-vorwuerfe-es-stellt-sich-kaum-jemand-so-daemlich-an-wie-dws/27565762.html)

[68] Barnett, J. & Peura, P. (07/04/2022), The Future of Investor Engagement: A call for systematic stewardship to address systemic climate risk, UN-convened Net-Zero Asset Owner Alliance. (https://www.unepfi.org/news/asset-owner-alliance/change-rules-of-the-game-asks-10-4trn-net-zero-asset-owner-alliance-in-new-paper-on-investor-action/)

the asset manager is actually bringing about change through the engagement strategy or simply continuing to talk to the companies concerned without ever drawing any consequences.

Regardless of the type of investment, there are still no reliable methods for calculating the impact of an invested euro.[69] In spite of this fact, providers often market their financial products with promises of very concrete effects. And some have been called out for these tactics: For example, the German bank *Deka* was forced to retract its advertising claims because it had been misleading its clients by promising impacts that were only estimated and could not actually be measured.[70]

What needs to be done? Providers of sustainable financial products should give their customers a realistic understanding of the impact of their investments. However, whether it is possible to reliably measure the actual impact of every invested euro through various channels of influence is questionable.

FINANCING AND PROFIT EXPECTATIONS

In spite of the abundance of financial capital, financing has in some cases proved to be an obstacle for sustainable investments. For example, the cost of capital for renewable energy projects is often higher than that of other investments.[71]

If we look at different financing models for gaining access to fresh capital, the structural barriers for transformative investments become apparent. For example, start-up financing through venture capital funds is focused on young companies with easily scalable business models that are highly likely to start generating a profit in their first few years of business, making up for the losses from failed investments in other projects. However, as a result, this model unfortunately favours online platforms, which are often less relevant for the transition, instead of sustainable innovations that take longer to make a profit.[72]

Private equity funds are also often focused on short-term profits, which are usually incompatible with long-term, sustainable investments. These funds, which invest capital from institutional investors and wealthy individuals in companies that are not listed on a stock exchange, represent

[69] Wilkens, M. & Klein, C., (04/01/2021), Welche transformativen Wirkungen können nachhaltige Geldanlagen durch Verbraucherinnen und Verbraucher haben?. (https://www.vzbv.de/sites/default/files/downloads/2021/02/11/gutachten_wilkens_und_klein_nachhaltige_geldanlagen.pdf)

[70] Verbraucherzentrale Baden-Württemberg, (16/04/2021), Nachhaltig irreführend. (https://www.verbraucherzentrale-bawue.de/pressemeldungen/presse-bw/nachhaltig-irrefuehrend-59299)

[71] Steffen, B., (05/2020), Estimating the cost of capital for renewable energy projects. (https://www.sciencedirect.com/science/article/pii/S0140988320301237)

[72] Bergset, Dr. L. and Fichter, Prof. Dr. K., (05/2021) High-Sustainability Gründerfonds Bedarf und Optionen nachhaltigkeitsorientierter staatlicher Start-up-Finanzierung, Umweltbundesamt. (https://www.umweltbundesamt.de/sites/default/files/medien/5750/publikationen/2021-03-25_uib_05-2021_gruenderfonds.pdf).

a rapidly growing segment of the financial sector.[73] The holding period, meaning the time period from when the fund first acquires the company until selling it at a profit, is usually only five to seven years.[74] Expected returns in the upper single-digit, or even double-digit, range per annum are the norm, which is not compatible with many long-term transition investments.

Other financing models that are illiquid in nature, such as direct investments or company participation in environmentally and socially beneficial projects and companies (e.g. in the solar sector or in alternative propulsion systems), are actually well-suited for long-term transition investments. However, these vehicles which belong to the so-called grey capital market, are poorly regulated. This market segment offers many different forms of financing, such as classic venture capital, profit participation certificates, crowd investment and subordinated loans. What they all have in common is a low fungibility, a long term and a high risk that can even lead to the total loss of the invested capital. Often, the risk/reward profile is not favourable for the investors. Bankruptcies of dubious or even criminal providers are not uncommon.

Prokon

A well-known example of major losses on the grey capital market is the wind farm operator *Prokon*, which attracted numerous investors with its misleading marketing slogans.[75] In the wake of its 2014 bankruptcy involving losses in the triple-digit millions, some investors lost huge sums of money. By 2014 approx. 75,000 investors had poured some 1.4 billion euros into the company.[76]

In the context of one of its studies, Finanzwende Recherche discovered that, in the green investment sector of the grey capital market, investment losses had totalled at least two billion euros in the previous ten years alone.[77] Lost investments and cheated investors who have lost faith in capital markets on the whole are not conducive to the financing of projects that support the transition to a sustainable economy.

To what extent can better sustainable finance rules support the financing of transition investments? To start with, it is possible to create special, regulated financing instruments that,

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[73] Brahmst, O., Sherrell, C. & Yeh, D. (13/01/2022), Global private equity delivers groundbreaking 2021, M&A Explorer, White&Case. (https://mergers.whitecase.com/highlights/global-private-equity-delivers-groundbreaking-2021)
[74] Celarier, M., (04/12/2021), Is Private Equity Overrated? The Strategy's Returns Increasingly May Not Provide the Stellar Performance that Investors Have Been Sold, The New York Times. (https://www.nytimes.com/2021/12/04/business/is-private-equity-overrated.html);
Joenvaara, J., and Mäkiaho, J., & Torstila, S., (28/09/2021), Prolonged Private Equity Holding Periods: Six Years Is the New Normal. (https://ssrn.com/abstract=2872585 or http://dx.doi.org/10.2139/ssrn.2872585)
[75] Redaktion beck-aktuell, (07/09/2012), OLG Schleswig: Verkaufsprospekt für Prokon-Beteiligungen an Windkraftanlagen enthält irreführende Werbung. (https://ebibliothek.beck.de/Print/CurrentDoc?vpath=bibdata/reddok/becklink/1022301.htm&printdialogmode=CurrentDoc&hlword=)
[76] Blechner, N. (22/01/2019), Fünf Jahre Prokon-Skandal: Wie gefährlich ist der Graue Kapitalmarkt? Tagesschau.de. (https://www.tagesschau.de/wirtschaft/boerse/prokon-kapitalmarkt-103.html)
[77] Windige Öko-Versprechen: Knapp zwei Milliarden Euro Anlegerverluste durch Investment-Flops. (https://www.finanzwende-recherche.de/unsere-themen/nachhaltige-finanzmaerkte/oeko-investment-flops-knapp-2-milliarden-euro-anlegerverluste/)

with respect to term, liquidity and anticipated return, are tailored to investment needs that are relevant to the transition but also ensure the protection of small-scale investors. Instruments already exist that could fulfil this function after the relevant adaptations have been made. For example, there is the French 90/10 model for certain investment funds that invest between five and ten per cent of their assets in social and solidarity-based enterprises with limited return.[78] Once adapted to the important – though not highly profitable – investments needed for the transition, these instruments could offer a solution for linking the demand for sustainable investing to the financing of important investments. Another model for the financing of the transition is the European Long-Term-Investment Fund, or ELTIF, which was designed for illiquid, long-term investments. This model, which has not enjoyed a particularly high level of popularity, is currently being reviewed at European level with the aim of making the fund more attractive and expanding its impact.[79]

With alternative financing models like these, it would be possible to direct capital specifically towards areas that have been underfunded to date. Nevertheless, the European Commission estimates that €28.4 trillion in funding will still be needed for the transition investments by 2050.[80] In this context, direct government investment is only being considered to a limited extent, owing to the debt brake enshrined in Germany's constitution, European fiscal rules and the prevailing narrative that public resources alone cannot deliver the required investments. Instead, the currently dominant discourse involves the mobilisation of private capital for the transition.[81]

The primary focus here is on large-scale projects, such as transport infrastructure or social and sustainable housing development.[82] Owing to the fact that, for private investors, these large-scale projects are often associated with high risks and uncertain returns, some investors, in particular institutional ones like *BlackRock*, are demanding that the risks for investments (or entire asset classes) that are important for the transition be at least partially underwritten by the state.[83] Economist Daniela Gabor has described this process as *de-risking*,[84] explaining that the state is asked to mobilise private finance for these public aims: "Mobilisation of private finance requires the state to de-risk new asset classes if the risk/return profile does not match private

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[78] Finansol, (05/2017), The Financial Innovation towards Solidarity. (https://www.finance-fair.org/_dwl/The-Financial-Innovation-Towards-Solidarity-Finansol.pdf)
[79] European Union, (19/05/2019), Proposal for a Regulation amending Regulation (EU) 2015/760 of the European Parliament and of the Council of 29 April 2015 on European long-term investment funds, Official Journal of the European Union. (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=pi_com%3AAres%282020%294850563)
[80] Tooze, A. (23/03/2021) Realism & Net-Zero: The EU Case, Chartbook Newsletter #17. (https://adamtooze.substack.com/p/chartbook-newsletter-17?s=r)
[81] Lindner, C. (17/01/2022), Doorstep von Christian Lindner vor dem Januar-Treffen der Eurogruppe, Bundesfinanzministerium. (https://www.bundesfinanzministerium.de/Content/DE/Video/2022/2022-01-17-doorstep-eurogruppe/2022-01-17-doorstep-eurogruppe.html)
[82] Gabor, D., & Kohl, S. (2022). "My Home is an Asset Class": The Financialization of Housing in Europe. (https://www.greens-efa.eu/en/article/document/my-home-is-an-asset-class)
[83] Gabor, D. (08/11/2021), The Wall Street Consensus at COP26, Phenomenal World. (https://www.phenomenalworld.org/analysis/cop26/)
[84] Gabor, D. (08/11/2021), The Wall Street Consensus at COP26, Phenomenal World. (https://www.phenomenalworld.org/analysis/cop26/)

investors' preferences or their regulatory requirements."[85] In concrete terms, *de-risking* means that, through private-public partnerships, the state creates a safety net for the investment projects of institutional investors (see Fig. 3) by taking them onto its balance sheet.

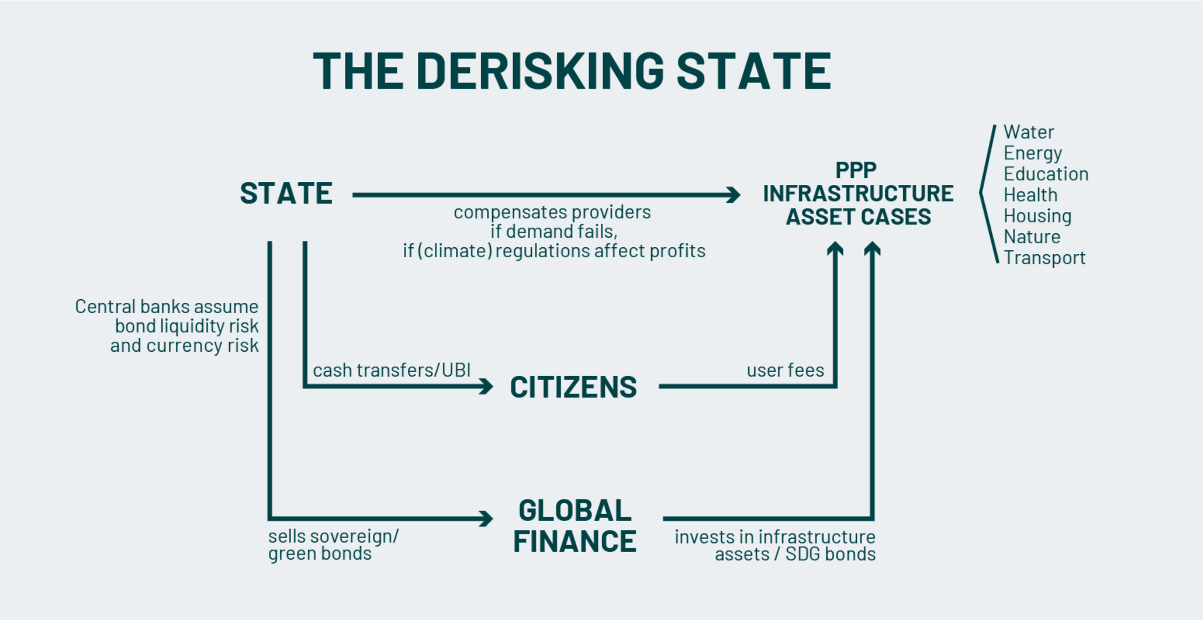

Figure 3 Source: Gabor, D., (2021), The Wall Street Consensus. Development and Change.

The risks that are taken over by the state in this context include demand risks – which, for example, are associated with (social) infrastructure investments – climate risks, bond liquidity risks, currency market risks and political risks – which are associated with political measures.[86] The political advantage is that the risks are not immediately reflected in the national debt. However, this fact does not make them any less real.

This financing model is very popular, particularly with large institutional investors looking for new investment opportunities. The idea is that these investors should provide the capital while the state assumes the risks. As a result, they also profit from a commodification and financialisation of public goods, such as transport, housing and social infrastructure.

Usually, however, the end result of this approach is that profits are privatised while risks and losses are socialised. The commodification of public infrastructures means that the population is required to pay a fee for their use. There is also a risk that the fiscal leeway for the state, which has to achieve a just transition to low-carbon economy, is reduced rather than increased.[87]

Beyond the various financing models with their associated challenges, the transition will require a basic framework of conditions, e.g. a sufficiently high carbon price and a targeted

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[85] Gabor, D., & Kohl, S. (2022). "My Home is an Asset Class": The Financialization of Housing in Europe, p. 13. (https://www.greens-efa.eu/en/article/document/my-home-is-an-asset-class)
[86] Gabor, D., (2021), The Wall Street Consensus. Development and Change. (https://doi.org/10.1111/dech.12645)
[87] Gabor, D., (18/11/2021), The Wall Street Consensus at COP26, Phenomenal World. (https://www.phenomenalworld.org/analysis/cop26/)

industrial policy. Although the financial sector will be able to fund many of the investments required for the transition, it cannot provide direction. Many experts believe that it is the role of the state to map out a path for the transition process so that financial market participants are able to evaluate investment opportunities and risks in a meaningful way. For example, an extensive network of charging points for electric vehicles would only be a future-proof investment if electric vehicles became the norm as a result of decisions on policy direction.

However, there are also public goods, like the conservation and restoration of ecosystems, that cannot be made into sustainable investments and funded by financial markets. Some do not even generate profits but are nevertheless necessary and should be financed through public investments.

PROBLEMS BEYOND GREENING

Sustainable-finance regulations would not automatically make the financial system "sustainable" in terms of a long-term orientation or a sound operating principle that would benefit the real economy and investors, because some of the current problems would continue to exist.

Consumer protection

A common problem faced by private customers is the uneven distribution of information in the context of financial advisory services with respect to both product diversity and the sustainability of financial products. An immense amount of effort is required to assess the complex products, and it is not easy to put it all together to create an appropriate portfolio.

And making matters worse are the misaligned incentives associated with the commission-based selling of financial products. In Germany most financial products are sold through financial sales agents who are paid on the basis of their product sales instead of their consulting work. In this context, it is not uncommon for them to favour inappropriate or disadvantageous products that offer higher commissions.[88] Unfortunately, this situation is further aggravated by the fact that, in particular with small investments, a large proportion of the savings goes towards the costs or fees associated with the financial product. The funds spent on commissions and fees are then no longer available when the investors need them, e.g. post-retirement.

[88] Heringer, S. (18/02/2022), Ist Honorarberatung unsozial? – Provisionsberatung schadet Ihrem Vermögen, Hartmut Walz Blog. (https://hartmutwalz.de/ist-honorarberatung-unsozial/)

Advice without conflict of interest

One alternative to the commission remuneration system is **fee-only remuneration**, in which financial advisers are paid for the hours of consultation work they perform regardless of the products that are purchased. Although recent data shows that an increasing number of customers are also happy to work with fee-only advisers, the overall willingness to pay for financial advice is still relatively low. The good news is that, among the finance and asset managers who are specialised in sustainability, the percentage of managers offering fee-only advising is relatively high (over 60 per cent).[89]

If, in principle, there is no guarantee that investors will receive financial products that are in their best interests, then it is doubtful that their concerns with respect to sustainability will be taken into consideration. When Greenpeace sent out activists in Switzerland to collect data on the quality of the advice provided by Swiss banks with respect to sustainable financial products, these "mystery shoppers" rated most of the institutions as "inadequate".[90] A comparable study in Germany would most likely produce similar results. This year, new rules will enter into force in the EU that govern how the sustainability preferences of customers should be integrated into their investments. However, whether these rules will have a positive impact in spite of the undesirable incentives provided by commission-based consulting remains to be seen.

A reorientation of the financial system towards sustainability in the spirit of sustainable finance would neither address nor solve these fundamental problems. The only possible solution to these challenges would be a fundamental reform of the financial market and, more specifically, a ban on commissions for investment products.

Financial crime

Financial crime is a widespread problem that undermines the integrity of the financial system. Estimates suggest that, globally, at least US$21 trillion are kept in secrecy jurisdictions,[91] otherwise known as tax havens. These funds are often associated with tax avoidance, tax evasion or the activities of organised crime and are shielded from the tax laws and financial market regulations of the countries of origin.

Furthermore, secrecy jurisdictions could undermine the efforts being made to improve the sustainability orientation of legal financial markets. These tax havens are already being used for the evasion of tax and financial market rules. If successively stricter rules are introduced for the integration of sustainability considerations in Europe or other places, the incentives for shifting funds to secrecy jurisdictions may also increase for companies and financial institutions that want to avoid these rules in order to make short-term profits from climate-damaging projects. Wherever monitoring structures are too lax, additional rules can also fuel criminal energies for

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[89] Deml, M. & Blisse, H. (2020), Grünes Geld: Handbuch für nachhaltige Geldanlagen, medianet Verlag.
[90] Greenpeace Schweiz (01/09/2021), Klima-Mystery-Shopping bei Schweizer Banken. (https://www.greenpeace.ch/static/planet4-switzerland-stateless/2021/08/b24b9798-gp_mysteryshoppingreport_de_final.pdf)
[91] Tax Justice Network, (18/02/2020), The Financial Secrecy Index 2020. (https://fsi.taxjustice.net/en/)

their circumvention, as was seen, for example, in the rigging of diesel engines to cheat on emissions tests. The unregulated financial market could, in this way, become an alternative for increasingly difficult activities, like the financing of coal and petroleum, thereby unravelling the environmental progress of the regulated financial centres.

Sustainable finance regulations cannot fix anything in this area. In order to avoid undermining the progress made by sustainable financial markets, the activities in secrecy jurisdictions and the illegal movement of money must be stopped. At the same time, efforts to actively combat money laundering and financial crime must be strengthened.

CONCLUSION

The reorientation of the financial system towards sustainability is an important lever for the transition. Financing decisions have a significant influence on economic restructuring. However, the euphoric belief that a green financial sector may be enough to drive forward the transition is ill-founded. The financial sector alone will not do the job. The reason for this is that fundamental problems, such as the abundance of financial capital, the short-term orientation of financial actors, the lack of data and the shortage of appropriate financing models, are preventing the financial system from supporting the transition to a more sustainable economy and society.

Some of the obstacles preventing financial market participants from having a real transition impact arise from the financial system itself, while others could be resolved through better sustainable finance rules. For example, climate-related risks could be taken fully into account in the capital requirements of banks, the data situation with respect to sustainability could be improved through comprehensive reporting, and the greenwashing of sustainable financial products could be brought under control by a consumer label with strict criteria. Fundamental problems of the financial market that are impeding a transition (e.g. financial crime) could also be remedied in the financial sector.

However, other current challenges are of a structural nature, like the abundance of financial capital, which is linked to largely macroeconomic factors, and the associated favourable financing conditions for all – even climate-damaging – activities. These challenges should be seen as a longer-term prevailing environment in which specific answers must be sought.

In the discourse surrounding sustainable finance, it is important to not lose sight of the division of responsibilities between private and public actors. The situation should be avoided in which state guarantees, i.e. ultimately taxpayers, make sustainable projects investable and assume risks, while private investors reap the profits. No public funds should be spent on bailouts, even if, in the wake of future climate-related financial crises, individual stakeholders suffer after having overextended themselves in fossil investments. In the greening of the financial sector, both the risks and rewards should be borne by the same stakeholder to avoid undesirable incentives and prevent an even stronger bottom-to-top redistribution of returns through financial markets.

However, it must also be made clear that, when it comes to creating the right conditions for the transition, the state is the key actor. It can set a carbon price, enact appropriate industrial policies and implement climate-compatible subsidies. In today's world, fossil-fuel-related and climate-damaging investments are often financially lucrative, while the general public bears the costs of the consequences. Once a clear pathway of transition towards the climate objectives has been established, the transition investments will be less of a risk. Under these conditions, a sustainable financial system could make a relevant contribution to the transition towards a sustainable economy.