Green and Sustainable
Finance Cluster
Germany

Shaping the future –

green and sustainable finance in Germany

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Green and Sustainable Finance Cluster Germany

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Abbreviations

ASFI	Accelerating Sustainable Finance Initiative“
BCG	Boston Consulting Group
BDI	Bundesverband der Deutschen Industrie e.V. (Federation of German Industries)
BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BMWi	Federal Ministry for Economic Affairs and Energy
bn	billion
CSR	Corporate social responsibility
CSR-RUG	CSR Directive Implementation Act
DVFA	Deutsche Vereinigung für Finanzanalyse und Asset Management (German association for financial analysis and asset management)
EIB	European Investment Bank
ESG	Environmental, social, governance
EU	European Union
FC4S	Financial Centres for Sustainability
FfT	Finance for Tomorrow
FNG	Forum Nachhaltige Geldanlagen e.V. (Forum for sustainable investment)
GFI	Green Finance Initiative
GFT	Green Finance Taskforce (of the GFI in London)
GSFCG	Green and Sustainable Finance Cluster Germany
H4SF	Hub for Sustainable Finance
HLEG	High Level Expert Group (on Sustainable Finance)
ICMA	International Capital Market Association
IIASA	Institute for Applied Systems Analysis
IORP	Institutions for Occupational Retirement Provision (pension fund directive)
IWF	Renewable Energy Institute
KfW	Kreditanstalt für Wiederaufbau (German promotional bank)
LFF	Luxembourg for Finance
LGX	Luxembourg Green Exchange
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
PIK	Potsdam Institute for Climate Impact Research
PRI	Principles for Responsible Investment
RNE	Rat für Nachhaltige Entwicklung (German council for sustainable development)
SDG	Sustainable Development Goals
SME	Small and mid-sized enterprises
SRI	Socially responsible investment
TEG	Technical Expert Group
tn	trillion
UK	United Kingdom
UN	United Nations
UNEP FI	United Nations Environment Programme – Finance Initiative
VfU	Verein für Umweltmanagement und Nachhaltigkeit in Finanzinstituten e.V. (Association for environmental management and sustainability in financial institutions)
WEF	World Economic Forum
WIBank	Wirtschafts- und Infrastrukturbank Hessen (Development and infrastructure bank of the federal state of Hesse)

86%

of financial institutions discuss sustainability issues at executive board level [1]

€ 1.4 tn

Capital allocated to responsible investments in Germany (2017) [2,3]

27% p.a.

Average annual growth in sustainable investment in Germany since 2005 [4,5]

Business potential for sustainable growth

US$ 103.5 tn

Infrastructure investment required by 2030 to meet the 2 °C ceiling [6]

> "Sustainability is not a trend; it is a necessary guiding principle for everyone in the financial sector. In addition to being rooted in the sector's responsibility to society, it reflects the inexorable need to include ESG criteria in risk management. What is more, it offers the opportunity to identify strategic business potential. Only financial institutions that realise that sustainability is a new requirement in their business environment will be able to secure long-term competitive advantages and safeguard their future viability."

Michael Schmidt, Member of the Management Board of Deka Investment GmbH and of the EU Commission's High Level Expert Group on Sustainable Finance

1 Own survey 2018

2 FNG 2018

3 According to the FNG classification, responsible investment means applying sustainable strategies to all assets, including financial investments, so that sustainability aspects are taken into account as part of fiduciary duty (FNG 2018).

4 FNG 2018

5 According to the FNG classification, sustainable financial investment explicitly refers to investments where sustainability aspects are embedded at product level (FNG 2018).

6 The basis is the IEA's 66 per cent scenario (OECD 2017)

Forewords

Including sustainability criteria in the financial system (sustainable finance) is increasingly gaining attention because shifting to business practices that are more sustainable and protect the climate can bring both opportunities and risks for the financial sector. Ignoring this challenge may be the easier strategy in the short term but it could have serious repercussions for individual members of the financial community in the longer term.

So how can a financial system contribute to enhancing sustainability in the future? It can collect and evaluate information and finance investments with an appropriate opportunity/risk profile. Integrating sustainability aspects into financial market decisions helps to identify "transition champions" who can make an active contribution to environmental and climate protection. Improving environmental risk management in the financial industry was therefore one objective of the German G20 presidency. The German financial supervisory authority has already started to discuss methods with the financial sector.

Aligning the flow of capital with the transition to more sustainable business practices is also an objective of the Paris Agreement on climate change. Prioritising investments within the framework of regulatory capital requirements simply because they are defined as ecologically worthwhile cannot be the right way forward because it would conflict with the goal of financial market stability. Moreover, there are better alternatives such as encouraging sustainable investment through development banks such as KfW or suitable CO2 pricing. In addition, the European Commission's "Financing Sustainable Growth" action plan and the initial legislative proposals resulting from this contain many measures that are worthy of support.

Dialogue is decisive, not simply to implement international and European tools and regulations, but also to take account of the opportunities and risks for the financial sector. I therefore welcome the publication of the baseline report "Shaping the future – green and sustainable finance in Germany" and hope readers find it a source of great inspiration.

Dr. Jörg Kukies
State Secretary at the Federal Ministry of Finance

At the Climate Change Conference in Paris in 2015, Germany declared its support for the goal of keeping the rise in the average global temperature to well below 2 °C. There is no doubt that this requires us to move away from our present primarily fossil-based economic processes.

Ahead of us lies a highly demanding technological challenge requiring enormous investment. The EU Commission estimates that an additional €180 bn needs to be invested every year if Europe is to achieve its climate targets by 2030. Therefore, private-sector capital needs to be mobilised on a large scale – especially from institutional investors.

There is now a widespread debate about what can be done to drive forward green finance. The EU Commission has put forward initial proposals on how to reduce the financial sector's ecological footprint and make the EU economy both more sustainable and more competitive. The EU Technical Expert Group on Sustainable Finance has commenced its work; concrete proposals are expected at the end of the first half of 2019.

The government of the federal state of Hesse has a great interest in ensuring that Frankfurt, the leading financial centre in the eurozone, is among the leaders in green and sustainable finance. Therefore, the Ministry of Economics, Energy, Transport and Regional Development in the state of Hesse and other players set up the Green Finance Cluster Frankfurt, which merged with Deutsche Börse AG's Accelerating Sustainable Finance Initiative in April of this year. The new Green and Sustainable Finance Cluster Germany created in this way acts as a first point of contact and coordinator focusing on pragmatic and viable solutions. That requires, in particular, drawing up an overview of sustainability activities at the financial centre in Frankfurt and the regulatory situation in competing financial centres such as Paris, London and Luxembourg.

I am delighted that the cluster is now presenting this baseline report, Shaping the future – green and sustainable finance in Germany. It shows the specific contribution Frankfurt can make as we move towards a green and sustainable financial services sector.

I hope you find the report stimulating and invite you to take part in the debate.

Tarek Al-Wazir

Tarek Al-Wazir
Minster of Economic, Energy, Transport and Regional Development in the federal state of Hesse

Green and Sustainable
Finance Cluster
Germany

Sustainable finance is currently one of the most widely discussed issues in the German financial sector.

A significant proportion of the manufacturing industry has already initiated far-reaching transition processes in order to deal successfully with challenges such as climate change at corporate level. By contrast, much of the core business of financial service providers still seems to be virtually untouched by such developments. Yet this is a significant change process that entails both new risks and a variety of business opportunities along the sector's value chain.

This situation is doubtless not entirely the fault of the sector. On the contrary, it is attributable to the lack of a broadly-based structure for a debate about the significance of our financial system for the future viability of our society. An open, knowledge-based dialogue between the financial sector, manufacturing industry, regulators, supervisory authorities and, not least, academics and civil society is therefore vital. That would generate a framework to ensure that our financial system is and remains a cornerstone of robust, long-term social well-being, built on sustainable economic structures.

To determine precisely the role of the financial sector within the necessary transition to viable future economic processes and define a realistic horizon for the fulfilment of expectations, it is necessary to gain an understanding of the present situation. Consequently, it was of central importance for the cluster to establish a baseline at the start of its joint remit. The work on this report was therefore an important and exciting venture, not least because it was the first project undertaken by the GSFCG, which was formed in April 2018 by merging the Green Finance Cluster Frankfurt and Deutsche Börse Group's Accelerating Sustainable Finance Initiative.

The results clearly reflect the heterogeneous development of sustainable finance. Alongside some excellent approaches by individual members of the sector, which offer attractive and innovative product and service portfolios, there is a paucity of data to support a fundamental definition of green and sustainable investment. In addition, sluggish implementation of sustainable finance in the value-added strategies of individual institutions was identified. This can be seen in the context of the sector-wide uncertainty about regulatory developments.

Evidently, this report should be read and interpreted in the light of other relevant market studies on sustainable finance. Moreover, the specific features of the German financial system need to be taken into account in European and international comparisons. Now the task of the cluster is to identify the neuralgic points and translate them into specific projects within our four areas of action: sustainable finance – status quo and innovation, metrics and standards, data and digitisation, and dialogue and capacity building.

We look forward to working together and are open to your ideas and suggestions. I hope you enjoy reading this report.

Kristina Jeromin
Managing Director of GSFCG

Karsten Löffler
Managing Director of GSFCG

This report is divided into four chapters. As an introduction, Chapter 1 presents the results of the empirical market survey. Chapter 2 outlines the relevance of sustainable finance for Germany as a business hub. It also examines the present and possible future regulatory framework and current political momentum, especially at European level. Chapter 3 examines the initiatives at other European financial centres in the context of the global sustainable finance movement. The analyses in Chapters 2 and 3 provide the basis for transferring an understanding of best practices, frameworks, roles and responsibilities to the German context in order to identify how the German cluster can be aligned to requirements. Chapter 4 outlines the position of the GSFCG and presents its mission and objectives. The report concludes with an overview of the potential areas in which the cluster could act and thus provides the basis to look ahead to future activities.

Executive Summary

The aim of the Green and Sustainable Finance Cluster Germany e. V. (GSFCG) is to drive forward green and sustainable finance[1] at Germany's financial centre. The GSFCG was formed in April 2018 by merging the Green Finance Cluster Frankfurt e. V. and the Accelerating Sustainable Finance of the Deutsche Börse Group. The cluster receives strong support from sponsors who shape its work through the steering committee and working groups on various topics.[2]

This report documents the initial situation and the context in which the cluster works, with the aid of an extensive analysis of its environment. For this purpose, an empirical market survey was conducted in spring 2018 (Chapter 1). This shows that financial institutions in Germany have recognised the relevance of this issue. There are already wide-ranging activities, which are either product-based (e.g. expansion of a sustainable product portfolio) or of an institutional nature (e.g. adjustment of fiduciary duties). Further, the analysis showed that financial institutions in Germany lack a common voice on sustainable finance and would like a pre-competitive platform where they could broaden their expertise, develop methods, share experiences and discuss policies.

This is underscored by the overview of the German market environment and regulatory trends (Chapter 2) and of the developments at neighbouring financial centres (Chapter 3). Strengthening sustainable finance is directly linked to maintaining and extending the competitive advantages of the German economic and financial system, which has a particularly strong affinity to technology and innovation. Moreover, financial institutions in Germany and their partners in the real economy already have significant experience thanks to the realisation and financing of the energy policy transition. At the same time, the growing political significance is highlighted by the European Commission's commitment to creating a regulatory framework for sustainable finance and investment (e.g. EU action plan on sustainable finance, the initial legislative proposals published in May 2018, establishment of a Technical Expert Group in June 2018). Finally, the initiatives taken by the financial centres in Paris, London and Luxembourg show the benefits – including competitive benefits – that can be leveraged through structural exchange and cooperation in the area of sustainable finance in order to strengthen local financial hubs. This trend can also be seen internationally, as evidenced, for example, by the *Financial Centres for Sustainability* (FC4S) initiative, which currently brings together nearly 20 global financial centres.

In the light of this, the GSFCG's goal is to support its sponsors and supporters by working on relevant aspects of sustainable finance (status quo and innovation), data and digitisation, metrics and standards, and through dialogue and capacity building. It also aims to give the financial sector a strong, common voice in the public debate with a view to ensuring Germany is a strong financial centre (Chapter 4).

1 Green and sustainable finance means that environmental, social and governance aspects are integrated into decision-making processes, taking a medium to long-term view.
2 BNP Paribas, Commerzbank AG, DekaBank Deutsche Girozentrale, Deutsche Bank AG, Deutsche Börse AG, DZ Bank AG, Helaba, KfW, Metzler Asset Management GmbH.

1 An empirical market survey or: walk the talk?

- In order to examine the context in which the Green and Sustainable Finance Cluster Germany operates, an empirical market survey was conducted in spring 2018.
- The aim was to obtain an indication of how active financial institutions in Germany already are in green and sustainable finance and what significance they attach to this topic.
- Another key aim was to identify the principal challenges relating to green and sustainable finance at present.

Global challenges such as climate change and the shortage of resources have been recognised as central influences and risk factors for today's global economic and financial system. Efforts to bring about structural change have already started in many countries. This clear picture can be seen from recent reports on sustainable finance (e.g. FNG Marktbericht Nachhaltige Geldanlagen 2017, UNEP Inquiry Report on Financial Centres for Sustainability, The Global Green Finance Index 1 etc.).

In spring 2018 an **empirical market survey** gathered information on the activities and competencies in green and sustainable finance in Germany, the barriers to tighter integration into the core business of financial institutions and possible solutions to overcome such barriers.[3] An online questionnaire was sent to 90 financial institutions in Germany that belong to various banking groups. 27 financial institutions completed the questionnaire[4] (response rate: 30 per cent). A semi-structured personal or telephone interview was conducted with eight institutions to obtain further information. The staff interviewed hold various positions in their organisations, including that of sustainability officer or ESG/sustainable products manager.

This chapter summarises the results of the empirical market survey to provide an authentic assessment of the background to the activities undertaken by financial institutions in Germany in the domain of sustainable finance. In conjunction with two further components of the analysis (competitive and regulatory environment in Chapter 2 and best practice approaches in Chapter 3), the findings provide a basis for the conceptual alignment of the GSFCG. Green and sustainable finance means that environmental, social and governance aspects are integrated into decisions on financing and investment, taking a medium to long-term view.

Sustainable finance, responsible investing and corporate social responsibility

The results show that financial institutions in Germany have responded strongly to the rising demands made by many stakeholders, e.g. clients, civil society and regulators, in the form of specialist central functions in the area of sustainability, intensive reporting and allocating responsibility at a comparatively high level in their hierarchical structure (see Fig. 1).

3 The survey and interviews do not constitute a representative sample of all financial institutions and therefore only permit indications of trends. Nevertheless, they provide an important basis for the conceptual focus of the cluster.
4 See Annex 1.

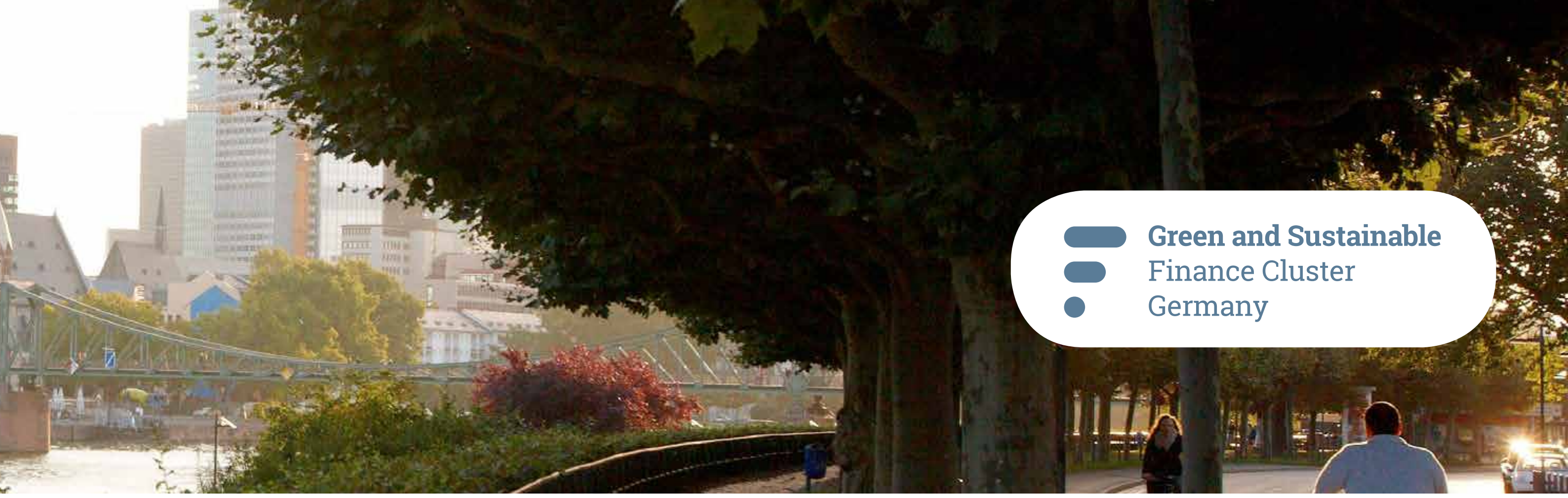
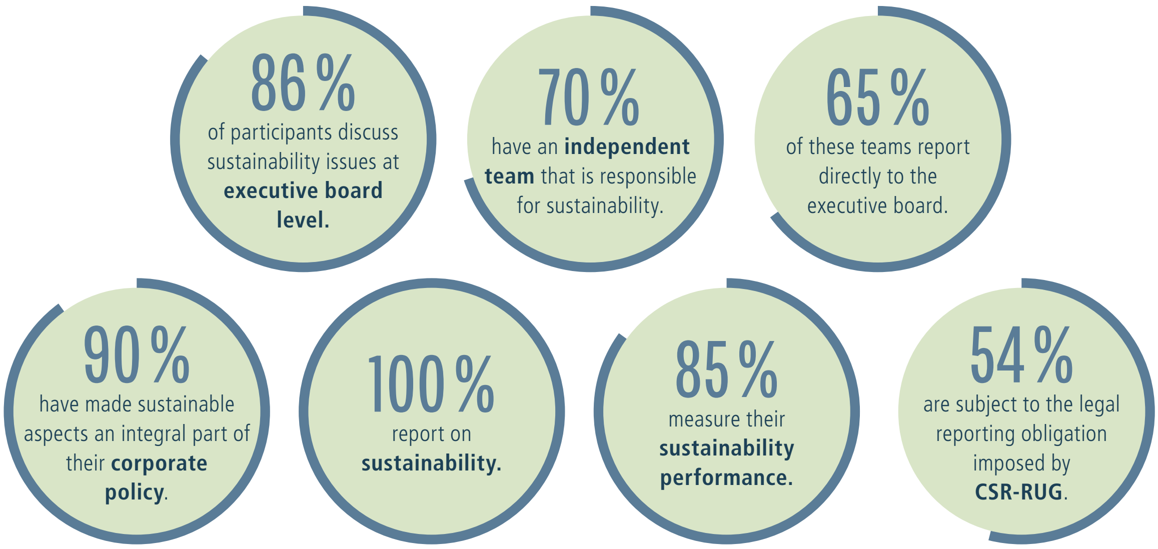


Fig. 1: Results of the survey on organisation and reporting



The vast majority of the financial institutions surveyed are already active in many areas of sustainable finance. However, these are often **special products** (see Fig. 2) that account for a relatively low proportion of the total portfolio.[5] The ranking of non-product-related sustainability activities also shows that the financial institutions are working in particular on **integrating** sustainability aspects into core processes (e.g. risk management, lending etc.) (see Fig. 3).[6] Other important activities are communication and dialogue on relevant aspects.

Fig 2: Proportion of financial institutions where the products referred are part of the core business or are highly significant

5 At over 65% of respondents, sustainable products account for 1–20% of the total portfolio
6 Almost half of respondents already integrate sustainable investment strategies into conventional investment fund products.

All of the institutions have product-related activities that aim to ensure the sustainability of the financial products they offer (see Fig. 4). ESG screening is the tool most commonly used for this, but at the majority of institutions it is only applied it to 1–10% of products in the portfolio. Voluntary standards on sustainable investing and cross-checking positive/negative criteria (e.g. exclusion of financing/investment in coal mining and coal-fired power generation) rank second and third.

Strategic relevance

While financial institutions in Germany demonstrate the importance of this issue by involving the executive board and point out its strategic relevance in their reports, efforts to integrate the basic principles of sustainable finance into their core business are relatively tentative. It is therefore worth asking what challenges prevent mainstreaming of this topic in the eyes of the financial institutions and what potential solutions are needed.

Fig. 3: Top 3 non-product-related activities

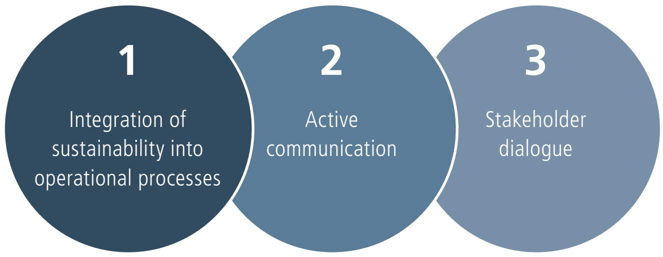
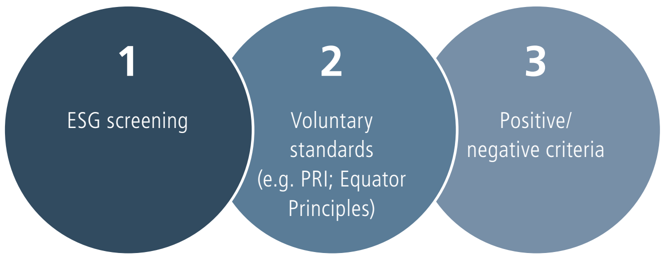


Fig. 4: Top 3 tools to manage sustainable investment and financing

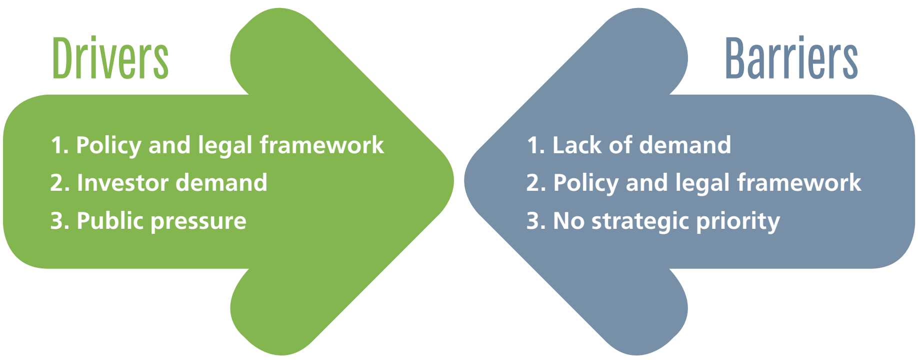


To illustrate the sustainable finance activities at financial institutions in Germany, a selection of case studies is presented throughout this report.

Mainstreaming of sustainable finance – drivers and barriers

The assessments of the **drivers** and the **barriers** to broadly-based acceptance of sustainable finance vary widely (see Fig. 5). It is striking that (lack of) demand for products and the policy and legal framework are identified as both drivers and barriers. The in-depth interviews provided further insight into this phenomenon. Firstly, the present policy and legal framework is regarded by the majority as a barrier principally because marketing is hampered by the lack of a uniform sustainable finance taxonomy that would provide a reference base. In line with this, changes to the regulatory framework (in the areas of transparency and oversight as well as taxonomy) are regarded as the most important driver. Secondly, a more differentiated view of the demand aspect is necessary. While demand is currently driven mainly by institutional investors, the perception that demand from retail investors is only moderate is seen as a barrier. Some financial institutions consider that this is due to the lack of product offerings and the need for additional training of client advisers. Others assume that demand from institutional investors points to a long-term trend that will spread to other business areas in the foreseeable future. In some cases, financial institutions are already setting up competence centres to provide advice on sustainable finance so they can approach clients more proactively.

Fig. 5: Top 3 perceived drivers and barriers to sustainable finance



Importance of top management in setting priorities

The third obstacle, lack of strategic priority within the company, reflects the assessment of some respondents that the commitment of **top management** is still regarded as quite low. As a result, the spread of sustainable finance beyond sustainability and/or communications departments tends to be sluggish. Nevertheless, the results do not indicate any clear trend.

Overcoming the barriers

The responses to the question as to what the institutions feel is needed to drive forward sustainable finance can be divided into two blocks. The first is **extending competence**, while the second is shaping the political framework.

With regard to extending competence, the financial institutions cited the need to train staff in departments that have so far had little to do with sustainable finance. They often lack an understanding of its relevance or do not have the knowledge required to understand the materiality of sustainability risks, especially climate-related risks. By contrast, sustainabi-

Performance management: ESG criteria, exclusion criteria, dialogue (KfW)

Sustainability is a central value in KfW's mission statement. KfW acts responsibly, not simply in its lending business but also in its capital market activities. In 2006 KfW signed the Principles for Responsible Investment (PRI) and subsequently implemented a sustainable investment approach for the currently approx. €26 bn liquidity portfolio. KfW invests exclusively in investment-grade bonds, with a focus on bonds issued by the public sector and supranational organisations and on German Pfandbriefe. Its sustainable investment approach comprises three elements:

1. Integration of ESG criteria
In its investment decisions, KfW takes into consideration the issuer's sustainability score, based on ESG criteria, as well as their credit rating. For this purpose, KfW uses a best-in-class approach: it can only invest in bonds where the issuer's sustainability score is among the top 80% in its sector. In addition, this gives a strong signal to issuers because sustainability is a key criterion in deciding whether they are considered for an investment in the liquidity portfolio.

2. Exclusion criteria
When considering non-governmental issuers, KfW also uses exclusion criteria based on the "IFC Exclusion List" (e.g. child labour).

3. Engagement
Dialogue with issuers is a central element in the sustainable investment approach. Since KfW invests exclusively in bonds, it is not able to encourage companies to increase sustainability by exercising voting rights. It therefore places great importance on active dialogue: every year, all issuers included in the portfolio are notified of their current sustainability rating and whether they are therefore included in or excluded from KfW's investment universe.

lity experts within the institutions feel they are relatively well positioned. That applies above all to present and upcoming regulation and voluntary standards.

Data availability and quality as a precondition

Around a third of the respondents see a need for action on the content and practical implementation of the EU action plan. That applies in particular to the lack of practical approaches, which are seen as the biggest barrier to implementing relatively new dimensions such as developing climate-related scenario analyses or stress tests as recommended by the Taskforce on Climate-related Financial Disclosure (TCFD) [7]. A key aspect here is addressing the **inadequate data availability and quality** and the lack of standardisation. In this context, the majority of respondents are following the UNEP FI pilot project with 16 international banks on implementation of the TCFD recommendations[8] with great interest.

Sustainability-oriented financial market regulation: a polarising issue

The majority of respondents has seen a further need to establish a suitable **regulatory framework**. Alongside the operational barriers, some of those surveyed see the lack of a uniform taxonomy, weak transparency requirements and unclear fiduciary duties in the investment process as hurdles. With regard to regulation, it should be noted that the opinions of the respondents vary enormously – some do not regard additional regulation as a solution to the problem. One fear in this context is excessive regulation of the financial sector.

The financial institutions feel that the additional reporting and documentation requirements since the financial crisis have made their business processes more bureaucratic. Some are therefore concerned that, as a worst case scenario, additional regulation in the sustainability context could elicit a negative response. Furthermore, there are concerns that additional regulation without first resolving the data problem could lead to incorrect decisions at the political level and by individual institutions. This assumption tallies with the assessment of the financial institutions (regardless whether they are for or against additional regulation) that the regulator and political decision-makers need greater professional expertise in order to make a proper assessment of the matter. By contrast, proponents of further regulation argue that only stricter regulation would be able to resolve the conflict between the prevailing short-termism of the financial market and the long-term consequences of climate change and prompt those involved to take timely action. Furthermore, this point seems to be closely linked to the need for financial market regulation that ensures effective risk management by the financial community to ensure systemic stability. Therefore, it is necessary to explicitly integrate a materiality assessment of climate risks through regulation; otherwise it would not be recognised and taken seriously.

7 The Financial Stability Board (FSB) set up the Taskforce on Climate-related Financial Disclosure (TCFD) in December 2015 at the request of the G20. The TCFD is composed of representatives of the corporate sector, academia and the public sector. The taskforce's recommendations on reporting were published in June 2017 and have been regarded as the benchmark since then. The EU action plan for sustainable finance also refers to the TCFD recommendations (Financial Stability Board 2018).

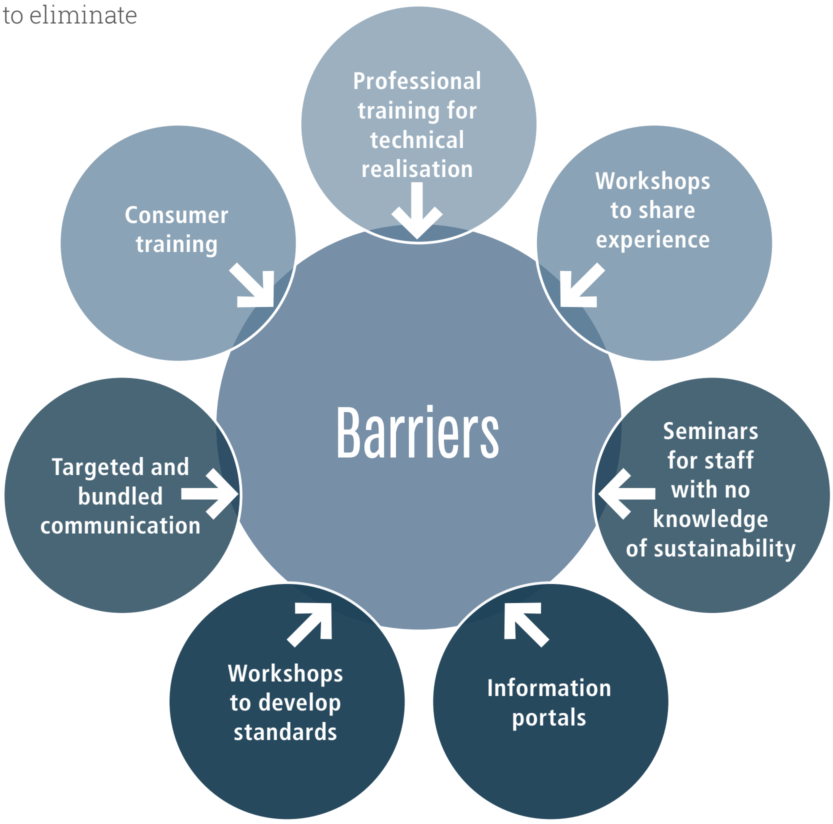
8 The first report on the pilot project was published in April 2018. Another report is planned for June 2018. Alongside UNEP FI and 16 international banks (which do not include any financial institutions in Germany), key participants in the project are the consultancies Mercer and Oliver Wyman, the Potsdam Institute for Climate Research (PIK) and the International Institute for Applied Systems Analysis (IIASA).

Added value of a central voice

There is unanimous agreement that a common voice could create **added value** for the financial sector and the various stakeholder groups. It would act as a facilitator in systematically addressing the present barriers and working out common solutions (for example, indicators or measurement methods [9]) in a pre-competitive context. There is an explicit desire for cooperation with professional experts and research in this domain. For many institutions, the priority is to prepare for potential or probable future regulatory requirements and possibly even to play a pioneering role.

There is agreement on the importance of public visibility. The sector lacks a **central voice on green and sustainable finance** that works out common positions and represents the sector on a level with political decision-makers or can engage in debate with other major financial centres and provide constructive input. Many respondents would like to see dialogue with political decision-makers and other key agencies.

Fig. 6: Action required to eliminate existing barriers



9 E.g. harmonisation, modification or sector-wide application of existing approaches to standardisation such as the DVFA's KPIs for ESG and the SD-KPI standards developed at the request of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), including the current recommendations by the Technical Expert Group on Sustainable Finance set up by the European Commission.

Germany's financial institutions are already active in the area of sustainable finance and see it as a significant **future-oriented issue**. At the same time, they are examining – to varying extents – the practicalities of overcoming the related barriers and operational challenges.

They identify a specific need for action in the following areas: (i) **communication and PR**, (ii) objective and in-depth pre-competitive **discussion** and (iii) broadly-based internal professional **training**. The role of the GSFCG is to address precisely these requirements and help drive forward sustainable finance in Germany and, in particular, in Frankfurt as the country's financial centre.

Financial product: momentum in green bonds (Commerzbank AG)

In recent years, Commerzbank has acted as lead manager in the issue of many "green bonds". In this role, it supports issuers in preparing and structuring the relevant transactions and the placement of the bonds on the international capital markets. Green bonds are bonds where the proceeds are used to finance or refinance sustainable projects. These include, for example, projects in the areas of renewable power, sustainable waste management, energy efficiency and clean mobility solutions. In 2018 Commerzbank has already supported more than ten issuers in such capital market transactions. The total issue volume of these bonds is over €7.5 bn. As a member of Green Bond Principles – an organisation that has laid down guidelines for the issue of green bonds – Commerzbank has been committed to the development of this market segment since 2014.

"In the early years, only a small volume of green bonds were issued by a few supranational issuers and development banks. Nowadays they are no longer a niche product; they are a growing market for committed issuers that want to underscore their sustainability on the capital market."

Mirko Gerhold, responsible for the issue of green and social bonds in the Corporate Clients segment

2 From niche to mainstream: the rising relevance of sustainable finance

- *Sustainable finance has reached the mainstream in the financial sector; the opportunities and risks associated with sustainability are regarded as relevant for the core business of financial institutions.*
- *Sustainability is increasingly being seen as a key aspect in the attractiveness of business locations.*
- *The financial community and advocacy groups are currently able to play a part in shaping the regulatory framework through participatory approaches at various levels.*

Shaping the transition of a national economic and financial system to greater sustainability depends to a large extent on its present structure and the related need for change. The aim of this chapter is to provide an insight into the specific features of the German economic and financial system and to show how Germany could benefit from a more sustainable system. In addition, the present and probable future regulatory framework is discussed. Both steps in this analysis are designed to provide information on the framework that is likely to confront the financial community and the potential implications for the work of the GSFCG.

2.1 The German financial sector in the global contex

Sustainable finance is likely to become far more important for the financial sector, not simply on reputational grounds, but also because of its strategic business potential. On the one hand, the climate-related risks for investment and finance are becoming increasingly important. On the other, various business policy opportunities are arising from the direct support for (i.e. financing of) the requirements for sustainable infrastructure that enhances resilience. In connection with the high level of financing required for the transition to a more sustainable economic system, there is a growing need for financial institutions to prepare themselves for the future and develop a corresponding strategy. That is particularly evident with a view to the forecast gap of 19–34% in the level of emissions avoidance that is necessary if Germany is to meet its international obligations[10] by 2050. Simply continuing the investment in reducing emissions that has already started would cost €530 bn by 2050. A more ambitious scenario involving reducing emissions by 80% would increase total investment to at least €1.5 tn by 2050 (BCG, Prognos 2018).

The strengths of the German economic and financial system

The German financial sector is dominated by the nature of the national economic system. The German economy is characterised, among other things, by an exceptionally strong export focus[11], a strong SME sector[12], a large number of large family-run companies[13] (*"hidden champions"*) and, as a result, relatively low capital market orientation. For SMEs and large family-run companies, internal financing and bank loans are the most important source of funding (BDI 2016). This is also reflected in the fact that lending business traditionally accounts for a high proportion of banks' business volume. Another feature of the German banking system is that cooperative and savings banks account for 78% of the sector (Bundesbank 2016).

Another feature of the German economic system, and especially of its industrial companies, is the strong focus on mechanical engineering, the automotive industry and the

10 On 5 October 2016, Germany ratified the Paris Agreement on climate change, which set the objective of limiting warming to well under 2 °C (BMWi 2017a).
11 For many years, Germany has had a trade surplus of between 15% and 25% (Federal Statistical Office 2018).
12 The Federal Statistical Office (Statistisches Bundesamt) defines small and mid-sized enterprises (SMEs) as businesses with annual revenue of less than €50 million. SMEs account for 99% of companies in Germany (Federal Statistical Office 2014) and around 35% of Germany's total revenue (BDI 2015).
13 There are approximately 4,500 large family-run companies in Germany (annual revenue >€50 million). They account for around 20% of the country's total revenue (BDI 2016).

chemical sector. In many sectors, German companies have high global market shares or are the market and/or technology leaders (Central Intelligence Agency 2018). As the world's fifth largest economy and one of the leading industrialised nations, Germany, and especially German companies, have a strong interest in investing in future technologies and sustainable infrastructure to safeguard long-term competitiveness and maintain prosperity. In absolute terms, Germany ranks top in Europe in terms of research and development (2015: €89 bn) (Federal Ministry of Education and Research 2018).

Precisely in the environmental sector, experience shows that the finely balanced interaction of public demand, scientific development and technological innovation is decisive. In addition, involving the people engaged in innovation and sustainability processes has proven to be important for success (Federal Ministry of Education and Research 2014). This is also becoming visible in the financial sector (e.g. through public participation models). The progressive digitisation of the financial sector and social communities can play an important supplementary role in this, as demonstrated by crowd funding/crowd investing (Schäfer 2018).

Identifying and utilising market opportunities

Renewable energy is an example of how the financial community can make a contribution to the successful transition. In 2017 alone, €279.8 bn was invested worldwide in renewable energy, including €10.4 bn in Germany (FS-UNEP Centre 2018). The market potential for renewable energy can be seen from the fact that volume of global investment was in excess of €2.6 tn in the past ten years (FS-UNEP Centre 2018). As these figures show, financing renewable energy is no longer in its infancy and has become part of the economic activity of all financial market participants and their clients. In this way, the financial market has played its part in the fact that in Germany more power was generated from renewable resources (118 bn kWh) in the first six months of 2018 than from lignite and hard coal together (IWR 2018).

The energy transition is not the only example of the flexibility of the German financing model, which is based to a large extent on lending to the real economy. For example, financial institutions in Germany have funded investment in the energy-efficient refurbishment or construction of 4.6 million apartments in Germany (BMWi 2017b). This investment was made possible by the close collaboration of the various institutions involved and the tightly networked German banking landscape.

Structural change and new challenges

Nevertheless, there are still challenges. Transformation processes inevitably involve uncertainty, making it more difficult for the private sector to obtain financing for new technologies. The answer to questions such as which investments are in conformance with the global climate objectives is not always clear. Effectiveness metrics will therefore be necessary. In addition to new tools, that requires a change in understanding by lenders, investors and risk managers. The most difficult tasks for the financial community in the present regulatory environment are likely to be integrating long-term sustainability risks into short-term decision-making processes and operating on a networked basis.

Moreover, in the future financial institutions will be called on less and less often to act as conventional lenders. For example, more capital will be needed to act as a catalyst, a greater variety of stakeholder groups will have to be involved and more detailed technological understanding will be needed. The case study below is one example of a new type of collaboration between various stakeholders to strengthen green finance and the Frankfurt financial centre.

In addition, financial services providers, institutional investors etc. will have to adapt their business models because there is increasing demand for expertise in structuring, intermediaries and advisors. This will probably be accompanied by a stronger shift from corporate finance skills to project finance, from asset-liability management to the arrangement of financing and investment, from competition to coopetition. Moreover, new knowledge of sustainability, technological innovations and social interaction will become relevant for staff training.

To sum up, it can be said that (analogously to the German real economy) the German financial sector has a legitimate interest in securing and extending its **role in the global economic system**. The challenges arising in connection with the creation of a sustainable economic system should be addressed systematically by market participants through a balance of **cooperation** and **competition**

Case study: cooperation to promote Frankfurt as a financial centre

At the Day on Germany organised by DZ BANK in Beijing in November 2017, green finance and sustainability on the capital market had a central place on the agenda.

The role of the German delegation, which comprised high-ranking representatives of German issuers such as Deutsche Bundesbank, Bundesrepublik Deutschland Finanzagentur GmbH, KfW, Landwirtschaftliche Rentenbank and FMS Wertmanagement, as well as representatives of the Ministry of Economics, Energy, Transport and Regional Development in the federal state of Hesse, was to present Germany as a financial centre, along with its strengths and potential, to more than 120 Chinese investors and decision-makers.

Green finance was also at the heart of the discussion on the following day at a sustainability roundtable on Greening Infrastructure Finance at Beijing Central University of Finance and Economics. This was organised jointly with the Official Monetary and Financial Institutions Forum (OMFIF), an independent think tank on central banking, economic policy and state investment.

In addition to the German delegation, participants in this debate included high-ranking representatives of various Chinese banks and academic institutions such as Ma Jun (Director of Tsinghua Center for Finance and Development and former Chief Economist at the People's Bank of China), Wang Yao (Director of the International Institute of Green Finance), Thierry de Longuemar (Vice President of the Asian Infrastructure Investment Bank), Lan Hong (Vice Director of the Research Center of Ecological Finance at Renmin University) and Leslie Maasdorp (Vice President of New Development Bank). It became clear at this event that the transition to a sustainable economy is unthinkable without the involvement of leading financial centres such as Frankfurt because public-sector investment would be nowhere near sufficient. Private capital needs to be mobilised for the sustainable transformation of the economy and society.

2.2 Regulatory developments

Although it was not their primary intention, the adoption of two notable international agreements in 2015 – the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement on global climate change – has confronted the financial sector with completely new challenges. Before these agreements were adopted, major supranational institutions such as the OECD, in conjunction with the World Economic Forum (WEF), and the United Nations agencies stressed the need to align global financial flows to climate protection and global sustainability targets and called for measures to implement this (UNEP 2015, WEF/OECD 2015). This was aimed at both industrialised nations and developing countries. Systematic implementation of these global agreements, which Germany is committed to, requires a refocusing of investment and capital flows on an unprecedented scale, including altering the legal framework. Alongside society's responsibility to preserve the human habitat for everyone, looking at climate change from an economic viewpoint, for example, it is evident that market forces have failed.[14]

The political momentum of sustainable finance

In this context, the debate about financial market regulation as a means to achieving greater sustainability in the financial sector's products, services and processes has recently gained considerably more attention. The social and political debate on the role of the financial sector in sustainability and especially climate change seems to have gained momentum across the political spectrum.

More extensive transparency and reporting requirements are widely considered probable. The TCFD recommendations provide an initial indication of how operational processes and reporting will have to be meshed. In this scenario, systemic and process modifications would be inevitable, especially in risk management.

Another indicator of this development is Article 173 of the French Energy Transition Act, which sets out more extensive disclosure obligations than would have been necessary under the EU Directive on the disclosure of non-financial information (2014/95/EU). This directive has been implemented in Germany on the scale prescribed by the EU with the aid of the CSR Directive Implementation Act (CSR-RUG). Companies and financial institutions subject to reporting requirements had to present a non-financial statement for the first time for 2017. This process has been evaluated. The sample analysed shows that banks opted for extensive reporting, for example, independent sustainability reports or integrated reports, far more often than non-banks.[15]

Transparency for consumers and tagging of sustainable financial products are generally outside the regulatory focus. However, changes in this area are to be expected as a result of the EU Commission's action plan (see below).

European regulators are trailblazers

The EU Commission's initiatives represent a further step in this process. The recommendations made by the High-Level Expert Group on Sustainable Finance and the subsequent EU Action Plan on sustainable finance put forward an extensive list of measures. The EU Commission has already started to work through these successively with its legislative proposals of 24 May 2018.

a) Development of a **taxonomy** with a view to defining rules to promote sustainable investment.
b) Requirements for institutional investors to **disclose** information on how they handle sustainability risks in the investment and advisory process. Additional transparency requirements may be derived from this.

14 Mark Carney, Governor of the Bank of England, sees climate change as the biggest market failure in the history of mankind. Cf. speech on 9. September 2015: https://www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.
15 Institut für ökologische Wirtschaftsforschung (2018).

c) In the **client advisory process**, clients must be asked about their sustainability requirements and these must be integrated into the suitability assessment.
d) Rules for disclosure requirements for ESG-related **indices**/ benchmarks.

In addition, a Technical Expert Group (TEG), which includes two members of the cluster, was set up in June 2018 to put forward explicit recommendations on how to structure the proposed legislation. Initial results are expected in spring/summer 2019.

Activities by advocacy groups in all areas are also important for the political debate at the European level. In recent months, representatives of non-governmental organisations (e.g. Germanwatch, WWF etc.), sector associations (e.g. Die Deutsche Kreditwirtschaft, European Banking Federation etc.), the private sector (e.g. Triodos Bank) and research (e.g. DIW) have published many up-to-the-minute reports on current events. These show the enormous attention being paid to future regulation.[17]

Sustainability aspects are already reflected in pension fund regulation (IORP II Directive), which explicitly refers to climate-related risks. However, the way in which the text of this directive has been implemented means that the practical implications are negligible. Other regulatory frameworks are already based on an extensive understanding of materiality in risk analysis. However, this allows a very broad scope so long-term sustainability risks (e.g. climate change) are quickly overlooked and are seldom reflected in stress tests.

Modified capital requirements such as a *green supporting or brown penalty factor* will probably be discussed at a later date on the basis of the action plan.

To integrate sustainability-related aspects into the fiduciary duty of asset managers and asset owners (including the beneficial owners), the shareholder rights directive (2017/828/EU) was amended in November 2017. This has to be transposed into national law by June 2019. The directive specifies that institutional investors and asset managers must provide more accurate details of the investment decision-making process, including sustainability-related considerations. In addition, it introduces the Anglo-Saxon concept of *shareholder activism*. Shareholders are thus given the right and responsibility to assess sustainability aspects of investment decisions and to demand a corresponding governance structure. Further, it will be necessary to disclose information on how sustainability performance is reflected in the remuneration of the executive board. In Germany, an Expert Committee has been set up under the chairmanship of the Federal Ministry of Justice and Consumer Protection. It is expected to present its initial findings in 2018.

Some member states are setting their own tone and thinking proactively about future regulatory amendments, especially in the finance sector. Alongside France – President Emanuel Macron made his position clear at the One Planet Summit (December 2017) and in his keynote speech following publication of the EU Action Plan on sustainable finance (March 2018) – notable examples are the United Kingdom, the Netherlands, Sweden and Luxembourg.

The attitude to this public debate and the role of the private sector and of financial centre initiatives are outlined in Chapter 3 on the basis of three examples: France, the UK and Luxembourg.

17 The Hub for Sustainable Finance (H4SF) has drawn up a list of the published position papers. This can be found at: https://www.h4sf.de/de-DE/Home/Written-Opinions

The future regulation of sustainable finance has gained momentum, especially at the European level. The steps taken by the EU Commission indicate that the question is no longer whether additional **regulation** will come; what is under discussion is **what it will look like**. Many members of the financial community are already taking up positions and endeavouring to influence the process. The GSFCG has two representatives on the present TEG. In any case, regulation is likely to remain a central element in the present debate about sustainable finance and thus an important **area of action** for the cluster.

Sustainable investment: EESG analysis and rating method (DZ BANK)

Since 2009, DZ Bank Sustainable Investment Research has offered investors an integrated analysis and rating method that goes beyond the conventional understanding of sustainability as environmental, social and governance (ESG) criteria. The economic, ecological, social, governance ("EESG") sustainability research model integrates economics as the fourth dimension of sustainability, providing a link between financial and sustainability performance.

Compared with the conventional ESG viewpoint, DZ BANK's EESG method permits a more capital-market oriented analysis. It is based on the principle of materiality and is not solely focused on internal guidelines, rules, processes or corporate strategy. Rather, it includes aspects such as the ecological, social and long-term economic impact of products and services in its evaluation of issuers. In addition, this model takes into account the fact that sustainability is not a rigid concept but a complex, dynamic investment process. Conventional sustainability ratings are often only updated periodically. By contrast, the model used by DZ BANK Sustainable Investment Research allows continuous analysis and monitoring of issuers.

The EESG model helps sustainability-oriented investors to take rapid decisions on the capital market by reducing the complexity of sustainability to a figure/ranking. This enables institutional investors to undertake clear stock and bond picking and to structure portfolios from a sustainability viewpoint. Many companies in the Genossenschaftliche FinanzGruppe also use the model to screen their own-account investments using sustainability criteria.

3 Global trend and local implementation – sustainable finance initiatives based on examples from other financial centres

- Other financial centres have already established structures around *sustainable finance* – and some basic principles for successful initiatives can already be derived from them.
- However, it is important to adapt such principles to the specific local framework

Sustainable finance is a global phenomenon that has developed from individual initiatives into a broad movement. To help financial centres set the direction and drive forward a sustainable finance agenda, the *Financial Centres for Sustainability* (FC4S) initiative was established in September 2017 with the signature of the *Casablanca Statement*. The FC4S network is a partnership between global financial centres and UN Environment. The aim is to offer a platform to share experiences and ideas. From a global viewpoint, FC4S is a logical extension of many financial centre initiatives of recent years. Reports like the *UNEP Inquiry Report on Financial Centres for Sustainability* and *The Global Green Finance Index* take up this development and show that the initiatives can have sufficient influence on the structural change.

The GSFCG has been a member of FC4S from the outset. This chapter presents and compares three existing European initiatives (see Table 1) to provide a more informative basis for the GSFCG to draw possible conclusions.

The initiatives selected were *Finance for Tomorrow (FfT)* in Paris, the *Green Finance Initiative (GFI)* in London and *Luxembourg for Finance (LFF)* in Luxembourg due to their direct proximity and their relevance for the European and international financial markets. Fig. 7 contains brief background

Sustainable corporate management: sustainability in the business model (Deutsche Bank AG)

Deutsche Bank has been committed to sustainability for a long time. It understands this as balancing economic success with ecological and social responsibility. Deutsche Bank recognises the importance of the financial sector in providing support for sustainable economic development and welcomes the EU Commission's initiative to create a sustainable financial system.

To reinforce integration of sustainability throughout the bank and continuously develop its sustainability strategy, Deutsche Bank's new Sustainability Council advises the Management Board on aspects of environmental, social and corporate management. The sustainability group at the competence centre defines the sustainability strategy and drives forward its implementation in the bank, from advice for specific client transactions to the development of reporting guidelines for the bank's non-financial performance.

Deutsche Bank is a signatory of the Paris "Pledge for Action" and supports the transition to a low-carbon economy by providing project financing for clean energy. Through a sustainable finance team at its Corporate & Investment Bank, Deutsche Bank helps companies, financial institutions and states structure and issue sustainable bonds (e.g. green and social bonds). The team, which has over a decade of experience in global debt procurement and regulatory advice, also injects sector expertise into the political and social debate (e.g. High Level Conference on Sustainable Finance or COP23). With its regulatory and technical background, the team does not simply advise issuers on transactions such as green hybrid bonds; it also constantly aligns itself to the continuously changing regulatory environment for sustainable finance.

information on the establishment of the individual initiatives. As Table 1 shows, there are considerable differences in the structure and sponsors of the initiatives (see *Organisation and governance row*). This is attributable to local and, in the case of France, historical factors.

Despite differences in their organisational structure, one common factor of the initiatives is that they are based on collaboration between the private and public sectors, which is of central importance for all three locations (see Table 1, *Members*). The relevance of a platform for exchange between interdisciplinary and cross-sector groups from a wide range of areas is evident despite differences in the structure of collaboration. While the initiative in London acts as an advisor to the government on future-oriented issues, the initiative in Paris is heavily dependent on the action of the French government and provides support as a common voice of the financial sector. The initiative in Luxembourg is part of the strategy of enhancing presenting the financial centre in the media and ensuring local quality assurance.

In terms of content, the Paris and London initiatives focus particularly on current trends for the financial centre and international recommendations (e.g. HLEG, TCFD). In addition, they have set up working groups to find solutions to existing problems (e.g. green bonds, reporting obligations). The focus of the work of the present sustainable finance initiatives shows political objectives and the realisation of market opportunities do not necessarily conflict. In Paris, government guidelines and strategies aim to provide general support for the development of the financial centre and for sustainable business activity in France. However, the form taken by these guidelines will be developed in consultation with market participants. The situation is similar in London, where multidisciplinary working groups are developing frameworks, e.g. on implementation of the TCFD recommendations, which affect local regulation and also contain specific recommendations on application in business operations. By defining a manageable number of central topics for the content of their work (see Table 1, *Content*) the initiatives are able to develop a programme despite limited resources by prioritising the most important issues.

The common goal of all initiatives, apart from strengthening collaboration between the green financial centres, is to strengthen the competitiveness of the respective financial centres through the activities undertaken and the presence of the initiatives in the media. In this context, a strong congruence is apparent in the purpose of the projects (see Table 1, Purpose): driving forward sustainable finance as a topic, working constructively on relevant issues and communicating this to outsiders.

Based on the analysis of other sustainable finance initiatives, it is possible to derive some key principles for successful action by financial centres, which could also be useful for the cluster:

- **participatory approach** and the importance of working in interdisciplinary and cross-sector groups
- close **meshing** of the political agenda and private-sector strategy
- taking up current issues and **trends**
- focus on priority issues
- development of general statements on specific aspects and **recommendations**
- development of a position on political and **regulatory aspects**

Table 1: Comparison of the sustainable finance initiatives in Paris, London and Luxembourg

	Paris	London	Luxembourg
Members	60 members from: • the financial sector • the government • non-governmental organisations • the real economy	22 members from: • the financial sector • legal advisors • academia • partly state-owned enterprises	Cooperation between the Luxembourg government and the Luxembourg Financial Industry Federation (PROFIL)
Organisation and governance	• Office with a chairman elected annually that sets the budget and objectives • Committee as a platform for discussion and exchange by all members • 15-member board elected every two years with four permanent members from the government, central bank, and the umbrella organisation Paris Europlace • Oversight by the EIB, ICMA, PRI, Business & Climate Summit and UNEP FI	• The initiative is led by the City of London Corporation • The Bank of England acts as technical advisor • The British government and its institutions are mainly observers	• LFF is one of 8 focal areas covered by the agency's 17 employees • The agency's board is supported by the directors of the Chamber of Industry and Commerce and by the Finance Ministry
Content	Basic focus on 1. research 2. innovation 3. public affairs 4. disclosure of climate data 5. green bonds 6. international promotion and networking	Basic focus on 1. cooperation between the government and the industry 2. TCFD implementation 3. green bonds 4. collaboration with green financial centres 5. preparing financial services providers for the risks and opportunities of climate change 6. extending the leadership role of the state through guidelines and strategies	Basic focus on 1. driving forward the existing expertise in Luxembourg 2. strategic partnerships with other organisations 3. own quality assurance certification 4. fostering innovation
Purpose	• Steering financial flows towards a sustainable economic system in accordance with the Paris Agreement • Voice for the Paris financial centre, e.g. welcoming the HLEG recommendations • Bringing together various groups, e.g. by organising the Climate Finance Day • Opinions on political and regulatory issues	• Opinions on political and regulatory issues • Developing methods, guidelines and national regulations (working papers on points 2 and 6) • Creating the best possible framework conditions for financial institutions and investors	• Strengthening the financial centre's media presence • Wide use of labels and standards • Establishing a network

Fig. 7: Background information on the sustainable finance initiatives in Paris, London and Luxembourg

Paris

Paris Europlace introduced a *Responsible Investment Charter*[1] during the financial crisis in 2008 in order to strengthen socially responsible investment. These activities were subsequently supplemented by further action focusing on socially responsible investment (SRI) and corporate social responsibility (CSR). The *Paris Green & Sustainable Finance Initiative* was launched in May 2016. In June 2017 it became the ***Finance for Tomorrow*** (FfT) initiative. Like Frankfurt, London and Luxembourg, FfT is a founding member of FC4S.

London

The **Green Finance Initiative** (GFI) was founded in January 2016 by the City of London Corporation, which runs the Square Mile in London, in collaboration with the British government. Among others, the initiative brings together representatives of the financial sector and related professional services. The 22 members are banks, asset managers, legal advisors and academics. The British government and its institutions mainly act as observers. The Bank of England acts as technical advisor. The initiative is led by the City of London Corporation.

Luxembourg

Luxembourg for Finance (LFF) is an agency established in 2008 on the basis of an existing cooperation between the government and the Luxembourg Financial Industry Federation (PROFIL). The agency comprises an operational unit with 17 employees who are responsible for administration, event management, communications and business development. Their remit covers eight different aspects of the Luxembourg financial centre, one of which is climate and sustainable investment. The agency's board is supported by the directors of the Chamber of Industry and Commerce and by the Finance Ministry.

4 Green and Sustainable Finance Cluster Germany

4.1 Role

Challenges such as climate change, population growth, international migration movements and changes in the age structure of societies call for appropriate economic strategies. Alongside the ongoing development of existing areas of business and the establishment of new ones, the aim is to examine the future viability of established value chains and to identify and introduce any necessary transformation processes. The resulting financing requirements need a strong and responsible financial sector to provide selective financing for the upcoming changes. The financial community therefore needs to be aware of the challenges relating to both their products and risk management.

The cluster sees itself as a central German network that is able to support these processes by developing user-oriented concepts to implement sustainability criteria in the business models of the various stakeholders in the financial centre. Pooling and presenting the present competences of the financial sector plays a central role in this, together with their ongoing development within the framework of innovative product and service offerings and expanding holistic opportunity and risk management systems. The aim is not simply to be able to take a proactive stance with regard to the upcoming challenges proactively but, above all, to identify and utilise the economic opportunities of the transition.

4.2 Mission and objectives

The Green and Sustainable Finance Cluster Germany (GSFCG) is working to develop and implement a strategic concept to establish a sustainable finance sector in Germany. This mission is supported by three central objectives, namely generating transparency, driving forward standardisation and ongoing development and innovation. In this way, the GSFCG is working to maintain and extend the competitive advantages of Germany, and especially its financial centre, within the framework of the transition to a sustainable economic system.

The goal is to bring together the innovative force and competences of various stakeholder groups in order to network the banking and insurance sector, investors, political decision-makers and civil society.

In view of this, the Ministry of Economics, Energy, Transport and Regional Development in the federal state of Hesse (HMWEVL) played an active part in setting up the cluster. Following completion of the preliminary work, a meeting with high-ranking representatives of the financial sector on green finance was held in March 2017, led by Minister of State Tarek Al-Wazir. At this meeting, it was agreed to set up a competence centre on sustainable finance in Frankfurt. A working group first defined its content and structure, and the cluster was then entered in the register of associations in November 2017.

In parallel with this, in May 2017 Deutsche Börse AG set up the *Accelerating Sustainable Finance Initiative* (ASFI), which now has 53 signatory organisations to the Frankfurt Declaration. To leverage synergies, in April 2018 the initiatives decided to merge as the *Green and Sustainable Finance Cluster Germany e. V.*

4.3 Areas of action

The central purpose of evaluating the empirical survey was to understand how the cluster can provide practical support in establishing sustainable business practices in the financial sector. Based on this, in conformance with the cluster's mission and objectives, four central areas of action have been defined:

Sustainable finance – status quo and innovation: Transparency is a fundamental factor for green and sustainable finance and for an understanding of this by the financial community and the general public. Presenting the opportunities and risks related to green and sustainable finance and their implications for financial institutions in the light of regulatory and other framework conditions, as well as the physical risks – for example, damage caused by increased or more intensive extreme weather conditions as a result of climate change or rising sea levels – and the associated liability issues

Sustainability criteria for credit financing (Helaba)

In 2017 Helaba implemented a broadly-based project comprising methods to strengthen and drive forward its sustainability profile. The credit business, which is very significant for Helaba, was a key area of focus. As an important lender, Helaba can influence the sustainable development of other sectors of the economy and provide significant market impetus.

To minimise sustainability risks when granting loans and ensure that requests for financing are handled responsibly, Helaba has developed binding sustainability criteria and exclusion criteria for loans.

These criteria for granting loans have been incorporated directly into Helaba's risk strategy to create a "tough" and binding regulation with clear accountability. As a result, binding criteria have been integrated into the established Group-wide risk management process.

The sustainability criteria for credit financing focus on the following aspects:

- *An overarching approach:* Helaba rules out knowingly financing projects that cause severe environmental or social damage. That includes, in particular, violating human rights, destroying cultural heritage, infringing workers' rights and environmental damage.

- *Sector-specific guidelines for higher-risk sectors:* Specific rules were adopted for the energy management sector, coal-fired power plants, reservoirs and hydroelectric power stations, nuclear power stations, mining, oil and gas production, agriculture and forestry, the pulp and paper industry, and the defence sector. Among other things, Helaba decided to reduce its support for coal-fired power stations and coal for power stations. At the same time, it raised its positive influence on the energy policy transition by financing energy-efficient and environment-friendly technologies and renewables.

The sustainability criteria are based on the principles of the UN Global Compact, which Helaba joined in 2017. In this way, the key principles of the UN Global Compact have been actively integrated into Helaba's core business.

are of particular importance in positioning the cluster. In view of this, the cluster is working on an overview of the German financial market's present green and sustainable finance activities. The aim of this overview is to provide a basis for identifying potential for ongoing development and innovation both in comparison with other major financial centres and with a view to the specific features of the German economic and financial system.

Metrics and standards:

The cluster supports the progressive harmonisation of existing specifications, labelling (tagging), KPIs etc. on green and sustainable finance. Present approaches are to be evaluated, adapted and driven forward with a view to their suitability for the specific requirements of the German finance and insurance sectors and the real economy. That requires, in particular, reliable data, which needs to be integrated into established business processes. A central element of this area of action is establishing a risk analysis aligned to the core business of financial institutions based on the recommenda-

ESG reporting for retail funds, special AIFs and Master-KVGs (Metzler Asset Management GmbH)

In January 2018, Metzler Asset Management became the first German asset manager to offer ESG reporting for retail funds, special AIFs and Master-KVGs. ESG reports can be generated for equity funds and funds that invest in corporate and government bonds. The reports contain ESG ratings from several providers and an assessment of the carbon footprint, controversies and engagement.

1

General information on the fund and the benchmark plus ESG evaluations:
- MSCI Industry Adjusted Score: generally aggregates four to ten indicators per company
- SD-KPIntegration Score: focuses on the three sustainable development key performance indicators for a sector
- ISS-oekom Performance Score: broad ESG assessment, around 100 indicators per company

2

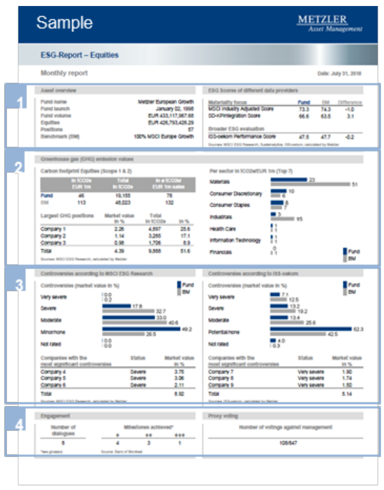
Evaluation of the portfolio's "carbon footprint":
- Greenhouse gas emissions, in CO2 tonnes (or equivalent) per €1 million fund volume invested and per €1 million revenue of the companies in the fund
- Total greenhouse gas emissions attributable to the portfolio and proportionally largest emitters of CO_2
- Sector evaluation versus portfolio benchmark

3

- Controversies as defined by MSCI ESG Research and ISS-oekom research for companies in the portfolio and the benchmark
- The three companies with the biggest controversies and their individual weightings in the portfolio

4

Engagement evaluations:
- No. of dialogues by the engagement service provider Bank of Montreal (BMO) and milestones achieved
- Evaluation of exercise of voting rights



tions of the Financial Stability Board's Task Force on Climate-related Financial Disclosure (TCFD). Another central focus is supporting the development of materiality-based reporting concepts and metrics for all three dimensions of sustainability: environmental, social, governance (ESG). In view of this, the GSFCG is also represented on the European Commission's Technical Expert Group and is therefore actively involved in the development of a taxonomy on green and sustainable economic activity.

Data and digitisation:

Another central aspect for green and sustainable finance is reliable and meaningful data basis. The aim is to supplement the conventional financial indicators used by companies by key information on environmental and social issues and aspects of corporate governance. Extending the information basis to include ESG data allows the reporting company to gain a more holistic insight into the opportunities and risks of its own business model so it can establish management systems that are a better fit for handling them both now and in the future. At the same time, standardised reporting gives the financial community a more extensive insight into corporate strategy and thus paves the way for better forecasting of the development of enterprise value in the light of the green and sustainable transformation. In this area of action, the cluster is discussing issues relating to standardised data procurement and integration and the possibilities of digitisation as well as alternative investment strategies.

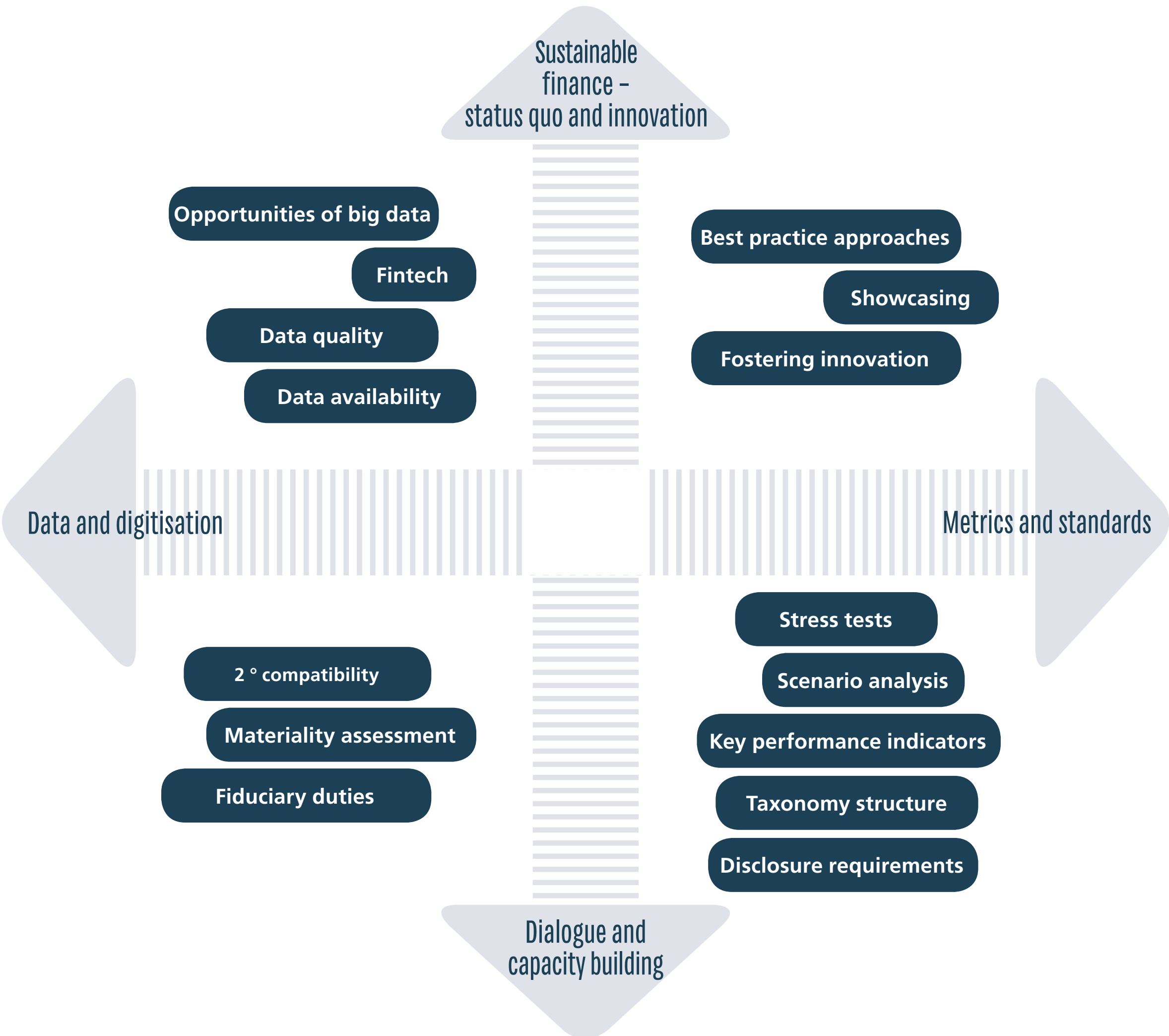
Dialogue and capacity building:

The cluster provides a permanent platform for dialogue on issues relating to green and sustainable finance, taking into account all relevant stakeholder groups – industry, civil society, politics/regulators and academics. The cluster's main objectives such as creating transparency and supporting standardisation within the framework of sustainable financial structures can only be achieved in close collaboration and open discussion with everyone involved. The cluster believes that its mission will only be achieved when the German financial sector as a whole benefits from the opportunities of transformation into a more future-proof financial system. As well as events such as conferences, lecture series, workshops, seminars, and commissioning and supporting academic studies, this area of action includes active support for regulatory processes and the cluster's position on current legislative processes. In addition, the cluster is driving forward close collaboration with national stakeholders in the green and sustainable finance movement and international exchange with other sustainable finance centres and initiatives.

Fig. 9 sums up the multi-dimensional environment in which the cluster operates. The horizontal axis (*data and digitisation* and *metrics and standards*) shows the principal technical components of the solutions being developed to overcome the present hurdles. That has dual relevance: firstly, it is necessary to pool and disseminate knowledge in order to develop innovative approaches (see vertical axis *sustainable finance - status quo and innovation*). Secondly, the technical dimension influences the shape of future regulation, especially given the present political momentum in the area of sustainable financial market regulation (see vertical axis *dialogue and capacity building*).

The matrix therefore provides a basis for developing a cluster roadmap and prioritising the various topics in order to allocate the available resources to ensure the highest possible benefits for the institutions in the cluster. That includes a deliberate decision not to work on topics that are otherwise of interest. It is vital to ensure the active involvement of the cluster institutions.

Fig. 8: GSFCG action matrix



Sustainable credit products for companies: Positive Incentive Loan (BNP Paribas)

The BNP Paribas Group gave an undertaking to respect the 17 UN Sustainable Development Goals (SDGs) back in 2015, making it the first global bank to make an active contribution to sustainable development. BNP Paribas gave a commitment that it would grant at least 15% (by June this was already 16.5%) of its loans to companies that contribute to achieving the UN SDGs. To keep global warming to well below 2 °C as specified in the Paris Agreement, the BNP Paribas Group intends to approve financing of €15 bn for renewable energy projects by 2020 (€12.3 bn by the end of 2017). The BNP Paribas Group offers its clients a wide range of sustainable financial services to provide individual financing solutions that support companies' sustainability strategies.

The German government's Climate Action Plan aims for sector-based differentiation of the contribution made to reducing greenhouse gas emissions. Companies therefore face a combination of a uniform Europe-wide method of assessing their climate performance and sector-specific climate action targets. These requirements will force companies to work far more intensively and extensively than they have to date to improve their own climate performance.

Alongside green bonds, the BNP Paribas Group offers companies sustainable credit products that enable them to examine their own climate performance more closely. Climate, environmental and social aspects are a fixed element in credit scoring and the pricing of the BNP Paribas Positive Incentive Loans (PIL). Positive Incentive Loans are short and medium-term revolving credit facilities. The funds are not tied to a specific application. Instead, the interest margin is linked to the borrower's CSR performance. Alongside any existing covenants, the borrowers' financing costs are linked to their medium to long-term CSR performance. Borrowers therefore have direct financial incentives to meet their own CSR targets.

Unlike capital market-oriented instruments such as green bonds, there is no need to identify individual projects or investment objects and finance them separately. Instead, a holistic view of the company and its sustainable development goals is necessary. That requires a broadly-based dialogue within the company and viable processes that have to be initiated by senior management and managed with the specific involvement of the finance department. Ultimately, independent sustainability rating agencies use clearly defined performance indicators to assess the extent to which the targets set have actually been attained. The positive or negative development of these ratings influences the final borrowing costs.

The example of Positive Incentive Loans shows that climate protection pays off financially. Companies can create advantages if they can provide evidence of measurable improvements – either in their climate performance or in broader CSR targets.

Quotes by board members

“Sustainable finance is a key element in our core business.”

Wolfgang Köhler, DZ Bank, member of the Board of Managing Directors responsible for capital market business – institutional clients, trading and retail clients, corporate treasury

“Sustainable finance is an integral part of BNP Paribas‘s business model. We are committed to the UN’s 17 Sustainable Development Goals. As a long-term partner, we aspire to offer our clients worldwide added value through sustainable finance and investment solutions and to actively support them in implementing their sustainability strategies.”

Torsten Murke, CEO Corporate & Institutional Banking and Deputy Chairman of the Group Management Boards at BNP Paribas in Germany

“As early as 1999, Metzler Asset Management began to integrate sustainability criteria in its institutional mandate. Since 2016 it has even done so in all its equity funds and corporate bond funds. And since 2018, innovative ESG reporting offers our customers greater transparency for their funds.”

Gerhard Wiesheu, phG B. Metzler seel. Sohn & Co. KGaA and responsible for the Asset Management division

> “We want to improve continuously for our clients. We keep a close eye on sustainability. That includes climate change and financing renewable energies as well as responsible supply chains and equality of opportunity.”

Martin Zielke, Chairman of the Board of Managing Directors at Commerzbank

> “Helaba is a company that is defined by its responsible commitment to society and the environment.”

Herbert Hans Grüntker,
Helaba, Chief Executive Officer

> “KfW has already set a target of at least 35% of new loans for environmental and climate-related financing. Our goal is to integrate sustainability ever more systematically into our business. Therefore we have decided to include our sustainability ratings in the KfW system of strategic objectives as performance management indicators for all aspects of our commitment to sustainability.”

Dr. Günther Bräunig, CEO of KfW

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Annex 1

Questionnaire

Please answer all questions if possible, but also return the questionnaire if you cannot / do not want to answer all of them. It will take about 15 minutes to complete the questionnaire.

I. Basic Data

This section collects anonymous data on some characteristics of the participants and their organization.

	Yes			No	No Information
1. Sustainability issues are regulated responsibly at board level.					
2. There is an independent team / staff unit responsible for sustainability. 3. If so, does it report directly to the Executive Board?					
4. Is there an independent budget for sustainability management?					
5. Is your organization required to prepare a non-financial statement under the CSR Directive Implementation Act (CSR-Richtlinie-Umsetzungsgesetz)?					

6. Which other departments are responsible for sustainability / sustainable finance issues? (Multiple choices possible)

a. Communication/ IR	b. Corporate Strategy
c. Finance/Controlling	d. Sales
e. Asset Management	f. Regulation & Compliance
g. Lending business	h. Product management / Marketing
i. Purchasing	j. Facility Management
k. Risk management	l. All departments have a link

7. How many employees work in your organization worldwide?

a. 1–10	b. 11–50
c. 51–100	d. 101–250
e. 251–500	f. >501–1,000
g. 1,001–5,000	h. 5,001–10,000
i. 10,001–50,000	j. >50,000

II. Activities

This section identifies activities already being pursued in the area of sustainability.

Organization / Reporting	Yes			No	No Information
Sustainability aspects are an integral part of binding directives and policies of our organization.					
Our organization reports on the subject of sustainability.					
Our organization measures its sustainability performance.					
Sustainability and sustainable finance are integrated into the relevant performance and remuneration systems within our organization.					
We report					
a. Integrated / combined.	b. In a separate report				
c. On our website					

Please indicate to what extent the following statements apply to your organization: We orient ourselves in our reporting...	Very true	Fairly true	Hardly true	Not true	No information
on voluntary standards (z. B. GRI, DNK, ISO26000 etc.)					
on the TCFD recommendations					
on the CSR Directive Implementation Act					
Other / text field					

Products How active is your organization in the following areas?	Core business	High	Balanced	Low	Not at all
a. Sustainable infrastructure finance					
b. Renewable energy lending / investment					
i. Commercial					
ii. Retail					
c. Energy efficiency lending / investment					
i. Commercial					

ii. Retail					
d. Sustainable & green loans					
e. Green tech capital					
f. ESG Bonds					
i. Issuing					
ii. Origination					
iii. Investment					
iv. Advisory / second party opinion etc.					
g. Social and impact investment					
h. Carbon markets a. Mandatory carbon credits (ETS) b. Voluntary offset certificates					
i. ESG indices					
i. Offering					
ii. Using					
j. Sustainable fund offerings					
i. Mutual funds					
ii. Special funds / institutional funds / mandate solutions					
iii. ETFs					
k. Application of sustainable investment strategies for conventional funds (according to the trust principle)					
i. Equity funds					
ii. Fixed-income funds					
iii. Balanced funds					
iv. Property funds					
v. Others: text field					
l. Other products: text field					
The percentage of products in the overall portfolio that are issued/offered under fiduciary consideration of ESG criteria (responsible investment), amounts to					

a. 1 - 2%	b. 3 - 4%
c. 5 -10%	d. 11 – 20%
e. 21 - 50%	f. 51 - 75%
g. >75%	
The value of assets under management in the area of responsible fiduciary investment amounts to	
a. EUR 0 –5 million	b. EUR 6 – 50 million
c. EUR 51 – 150 million	d. EUR 151 – 250 million
e. EUR 251 – 500 million	f. EUR 501 – 750 million
g. EUR 751 – 1,000 million	h. EUR 1.1 – 5 billion
i. EUR 5.1 – 10 billion	j. EUR 10.1 – 30 billion
k. EUR > 30 billion	
The percentage share of sustainable products in the overall portfolio amounts to	
a. 1 - 2%	b. 3 - 4%
c. 5 -10%	d. 11 – 20%
e. 21 - 50%	f. 51 - 75%
g. >75%	

How would you rate your organization's commitment in the following areas?	High	Medium	Low	Not at all	No information
a. Climate risk stress testing in lending / investment decisions					
b. Climate risk stress testing in risk management at company level					
c. Positive / negative criteria screening					
d. ESG Screening					
e. Application of voluntary standards (e.g. UN PRI, equator principles)					
f. ESG performance components in variable compensation of employees					
g. Sustainability initiatives for employees					
h. Internal value campaigns					
i. Training of managers / employees					

j. Binding integration of sustainability aspects into all operational processes					
k. Active communication on the topic sustainability					
l. Certification of products (e.g. Certified Climate Bonds)					
m. Regular dialogue with initiatives or interest groups such as NGOs, municipalities, etc.					
n. Commitment to associations / initiatives on the subject of sustainable finance					
o. Formal controls in all areas to ensure compliance with the company's sustainability guidelines					
p. Others: text field					
III. Level of Knowledge and Training This section covers how participants perceive expert knowledge and knowledge gaps in their organizations.					
How do you rate the expertise in your organization in the following categories?	High	Medium	Low	Not at all	No information
a. Existing regulation					
b. Expected regulation					
c. Financing Sustainable Growth Action Plan of the European Commission					
d. Recommendations of the High Level Expert Group (HLEG)					
e. Recommendations of the Task Force on Climate-related Financial Disclosure (TCFD)					
f. Practical implementation approaches to respond to regulatory trends					
g. Application of voluntary standards (e.g. GRI, UN Global Compact, FNG-Siegel, CDP, Social Accountability 8000 etc.)					
How do you assess the **knowledge and interest** outside the specialist areas on the subject of sustainable finance in the following groups? a. Shareholders b. Clients					
How do you assess your organization's readiness in view of recent regulatory developments (e.g. the European Commission's Financing Sustainable Growth Action Plan / HLEG recommendations)?					
How do you rate the regulators' **expertise** in sustainable finance?					
Do you see aspects that should not be regulated by politics but which are currently in the focus of regulators? Please explain.	Text field				
Do you see aspects that should be regulated by politics but are currently not in the focus of regulators? Please explain.	Text field				

IV. Potential for Improvement and Removal of Hurdles

This section covers where participants see systematic hurdles to mainstreaming sustainable finance and how to remove them.

What do you think are the main drivers of sustainable finance? Please sort the individual drivers by their importance, beginning with the most significant.					
a. Policy and legal framework					
b. Technological innovations					
c. NGO activism					
d. Client demand					
e. Investor demand					
f. Public awareness / pressure					
g. Tax relief / subsidies					
h. International initiatives					
i. Reporting obligations					
j. Clear consequences of climate change					
k. Resilient ESG data					
l. Others: text field					

How does your organization rate the following aspects in regard to potential hurdles for institutions in sustainable finance?	Very important	Fairly important	Hardly important	Not important	No information
a. Policy and legal framework					
b. Lack of demand					
c. Lack of profitability					
d. No strategic priority / Expected opportunities too small					
e. Lack of expertise / competence					
f. Lack of capacity					
g. Complicated internal processes (e.g. product development)					
h. Perceived risk too high					
i. Others: text field					
Please explain.					

What is the responsibility of the following actors in finding solutions to these hurdles?	Very important	Fairly important	Hardly important	Not important	No information
a. the government					
b. the private sector / the institutions themselves					
c. regulatory bodies					
d. trade associations					
e. Others: text field					
Please explain if possible.					

How important are the following activities and services to help stakeholders overcome the hurdles?	Very important	Fairly important	Hardly important	Not important	No information
a. Training on technical issues					
b. Introductory seminars for non-specialist employees					
c. Workshops for discussion exchange					
d. Workshops to develop concrete solutions standards					
e. Bundled direct communication / exchange with regulators					
f. Consumer training / information					
g. Information portal					
h. Others: text field					
Please explain!					

Annex 2

Main focus of other sustainable finance initiatives

Paris – Finance for Tomorrow

As its basic focus, the initiative has set out a plan with 15 core points that are divided among six working groups on the basis of content:

1. **Research:** identify research requirements and support partnerships with the private sector
2. **Innovation:** foster the development of innovative financing instruments and Fintech
3. **Public affairs:** contribute to removing barriers to the development of green and sustainable finance in France and at international level; guarantee a political dialogue and a debate between the private and public sectors
4. **Disclosure of climate data:** highlight French expertise and its leading role in reporting climate data by imposing a transparency requirement on institutional investors through Article 173 of the Energy Transition ActGreen
5. **Green bonds:** encourage the issuance of green and sustainable bonds and the capability of Paris as a financial centre by strengthening the French presence on existing bodies in order to influence international standards
6. **International promotion and networking:** increase the visibility of the ecosystem developed in France around green and sustainable finance and extend it by organising international events in Paris; develop an international network for the green and sustainable finance community

In addition to the basic programme and working groups, FfT uses its presence to speak for Paris as a financial centre and to take a stance, e.g. on regulatory issues. FfT recently welcomed the EU Action Plan on sustainable finance and announced that it would support its implementation. FfT sees the EU Action Plan as confirming its own agenda.[18]

London – Green Finance Initiative

The GFI set out its mission in its first reported titled *Globalising Green Finance*: *The UK as an international hub* in November 2016. There are six key elements:[19]

1. Government and industry need to work together to define new ways of leading the UK to a greener economy in the long term
2. Strengthening data and transparency by implementing the findings of the TCFD
3. Establishing voluntary guidelines, especially for green bonds
4. Enabling collaboration with other leading green financial centres
5. Changing mindsets to prepare financial services providers for the climate-related risks and business opportunities
6. Extending public-sector leadership through clear guidelines and strategies

18 https://financefortomorrow.com/en/2018/02/20/eu-commission-action-plan-on-sustainable-finance/
19 Green Finance Initiative, "GLOBALISING GREEN FINANCE: THE UK AS AN INTERNATIONAL HUB", 2016, URL: http://greenfinanceinitiative.org/wp-content/uploads/2016/11/Globalising-green-finance_AA3.pdf

The role of the GFI was driven forward by a detailed action plan in December 2017. This comprises fifteen steps to green finance in three categories The various steps are allocated to the following categories

- financial policy innovation
- domestic infrastructure investment and
- green finance to boost global trade.

and are based on the six aspects outlined above.

In the first category, the focus includes integrating the TCFD recommendations into British regulation. For example, the aim is to develop a modified version of France's Article 173 adapted to the British situation.

The second category comprises specific proposals to facilitate sustainable investment in the UK through the *National Productivity Investment Fund* and the issuance of a green treasury bond based on France's example.

The final category stresses the importance of support from all areas of government to make London a more attractive location for green investment and in this way to safeguard London's competitiveness as a financial centre.

In March 2018 the Green Finance Taskforce (GFT) presented its report *Accelerating green finance*. The GFT is one of two taskforces that have published a report so far. It is working on the sixth area of the position paper. The GFT has analysed ten aspects in more detail and drafted specific recommendations for the British government. The proposals range for creating various institutions to integrating the TCFD's recommendations into all existing regulations on corporate governance and disclosure requirements.

The second report, which was published in March 2018, is *Establishing the world's best framework for climate-related and sustainability-related financial disclosures* and was drafted by the Data, Disclosure and Risk taskforce. It examines the second point of the position paper. This taskforce is analysing the present situation and highlighting areas where there is a need for change. The proposals are closely based on the TCFD's recommendations. It regards the following points as central tasks for the future:

- integrating the TCFD recommendations into the existing framework for corporate governance and reporting requirements in the UK
- extending the TCFD recommendations by developing methods based on the SDGs
- creating public ranking lists by the government on the basis of the extent of TCFD integration in companies

Finally, the taskforce has set a timetable that gives both the financial sector and the regulators sufficient time to implement the recommendations. 2021 has been set as the year in which implementation of the recommendations will be reviewed. If alignment to the TCFD recommendations has not been undertaken or is deemed to be inadequate, legislation will be recommended.

In addition, in cooperation with individual members, reports have been drafted on specific issues that are not directly related to the position paper. Working groups have also been set up to work on specific topics.

In addition to drafting reports, the GFI organises workshops with other initiatives. The GFI is also a founding member of the International Network of Financial Centres of Sustainability.

20 Green Finance Initiative, "FIFTEEN STEPS TO GREEN FINANCE", 2017, URL: http://greenfinanceinitiative.org/wp-content/uploads/2017/12/Fifteen-steps-to-green-finance.pdf

Luxembourg – Luxembourg for Finance

LFF is responsible for development the Luxembourg financial centre. Its main tasks are to connect international investors and coordinate PR work for Luxembourg's financial centre. That includes organising seminars, attending trade fairs and providing information for foreign journalists.

In 2015 a working group on funding climate protection was set up to make a contribution to the fight against climate change and strengthen Luxembourg's role as a national centre for climate-related financing. LLF is also a founding member of the FC4S initiative.

The working group's strategy has four core components:

1. Driving forward sustainable finance expertise in Luxembourg
2. Strategic partnerships with leading climate financing organisations such as the European Investment Bank
3. Own quality assurance certification for climate-related financing
4. Fostering innovation in climate-related financing

In 2016, the joint working group led to the creation of the Luxembourg Green Exchange (LGX), the "world's first platform for green securities". This exchange only lists bonds with a green and/or sustainable investment policy. In addition, a Green Bond Label was created in 2017. So far, this has been awarded exclusively to 21 Climate Awareness Bonds issued by the European Investment Bank.[21]

21 https://www.luxflag.org/labels/green-bond/labelled-gbs.html