Assessment and reporting of environment and climate-related risks and impacts on financial markets - Denmark

Survey of the Nordic countries

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Assessment and reporting of environment and climate-related risks and impacts on financial markets

A Nordic pre-study

Nordic Council of Ministers

Contents

Summary

The financial sector is an important part of the transition to a more sustainable society. It is important to improve the understanding of how the development towards more financing of environmental and climate-friendly technologies can be supported and how can transparency and comparability be achieved. This study maps methods and frameworks used by players in the financial markets in the Nordic countries for reporting environmental- and climate-related information and evaluating environmental and climate impacts as well as financial risks. Furthermore, the study aims to address to what extent actors on the financial market take the 1.5 °C target into consideration in their strategies and decision making, identify best practice and propose recommendations, including opportunities for standardization, on methods for evaluating and reporting of environmental and climate impacts and financial risks. The study is based on literature review and interviews with key stakeholders in all Nordic countries.

There is a need to further improve the transparency and comparability of information and the possibilities for investors to make informed decisions. There are many standards and frameworks for integrating sustainability information into firms' reporting and the resulting diversity leads to fragmentation and a lack of transparency and aggregability. Recent initiatives to consolidate standards and frameworks promises advancements in terms of alignment and improving access to, quality and comparability of data. The study proposes initiatives that could further improve transparency and comparability among actors in the Nordic countries. Furthermore, initiatives to enhance the capacity to effectively take the 1.5 °C target into account in investment decisions are proposed. This includes transparency requirements and methodological development in support of scenario-based analysis for assessing financial risks and the determination of whether investments are compatible with the Paris Agreement objective of "Making finance flows consistent with a pathway towards low greenhouse gas emissions and climateresilient development."

Sammanfattning

Finanssektorn har en viktig roll i övergången till ett mer hållbart samhälle. Det är viktigt att förbättra förståelsen för hur utvecklingen mot mer miljömässig och klimatanpassad finansiering kan stödjas och hur förbättrad transparens och jämförbarhet kan uppnås. Denna studie kartlägger metoder och ramverk som används av aktörer på finansmarknaderna i de nordiska länderna för rapportering av miljö- och klimatrelaterad information och utvärdering av miljö- och klimatrelaterad påverkan och finansiella risker. I kartläggningen ingår också att undersöka i vilken utsträckning aktörer på finansmarknaden beaktar 1,5 °C-målet i sina strategier och beslutsfattande, att identifiera "best practice" samt att ge rekommendationer inom metoder för utvärdering och rapportering av miljö- och klimatrelaterad påverkan och finansiella risker, inklusive möjligheter till standardisering. Studien är baserad på en litteraturöversikt och intervjuer med intressenter in de nordiska länderna.

Det finns ett behov av att ytterligare stärka informationens transparens och jämförbarhet för att förbättra investerares möjligheter att fatta välgrundade beslut. Det finns ett stort antal standarder och ramar för att integrera hållbarhetsinformation i företagens rapportering och den resulterande mångfalden leder till fragmentering och brist på transparens och försvårar aggregering. Pågående initiativ för konsolidering av standarder och ramverk har förutsättningar att bidra till likformning och förbättrad datakvalitet och -jämförbarhet. Studien föreslår initiativ som ytterligare kan förbättra transparens och jämförbarhet bland aktörer i de nordiska länderna. Vidare föreslås initiativ för att förbättra investerares förmåga att effektivt beakta 1,5 °C-målet i investeringsbeslut. Detta inkluderar transparenskrav samt metodutveckling till stöd för scenariebaserad analys för att utvärdera finansiella risker och att bedöma huruvida investeringar är förenliga med Parisavtalets mål om att "göra finansieringsflöden förenliga med en väg mot låga utsläpp av växthusgaser och en klimatresilient utveckling."

Abbreviations

CDP	Carbon Disclosure Project
ESG	Environmental, social, and governance
EU	European Union
GDP	Gross domestic product
GHG	Greenhouse gas
GRI	Global Reporting Initiative
NFRD	The EU non-financial reporting directive
NGFS	Network for Greening the Financial System
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
PACTA	Paris Agreement Capital Transition Assessment
PRI	United Nations Principles for Responsible Investment
SBT	Science-based targets initiative
SDGs	Sustainable development goals
SME	Small and medium-sized enterprises
TCFD	Task Force on Climate-Related Financial Disclosures
UN	United Nations
UNEP FI	UN Environment Programme Finance Initiative
USD	United States dollars
WWF	World Wildlife Fund

Introduction

Financial markets provide the supply channels that allows individuals, companies, states and organizations to use capital for investment and operations.

On the financial markets, there are a number of different actors that act as specialized intermediaries that all market participants can benefit from. The clearest example is perhaps a traditional bank, but intermediate market participants also includes credit market companies, venture capital companies, insurance companies, mutual funds and pension funds. The important thing in this context is that these intermediaries channel capital and to a varying extent control where resources are utilized through lending, credit and investments. In addition, specialized companies, such as financial rating agencies and benchmark providers, are widely used in the financing industry providing specialized services to the intermediaries on the financial markets.

In this capacity, the financial sector is an important part of the transition to a more sustainable society. Interest in sustainability issues has indeed gained momentum in the financial sector and it is important to improve understanding of how the development towards more environmentally and climate-adapted financing can be supported and how transparency and comparability can be achieved.

IVL Swedish Environmental Research Institute has been commissioned to prepare a study that maps the methods and frameworks used by players in the financial markets in the Nordic countries for reporting environmental- and climate-related information and evaluating environmental and climate financial risks and impacts.

In addition, the study shall explore to what extent actors on the financial market take the 1.5 °C target into consideration in their strategies and decision making, identify best practice and propose recommendations on methods for reporting and evaluation of environmental and climate impacts and methods for assessing financial risks related to climate and environmental aspects in investments. Finally, the study will analyse opportunities for standardization of environmental and climate-related issues when reporting, assessing and evaluate either binding or voluntary agreements.

The study has been conducted between August and November 2019.

Background

Achieving the long-term goal of the Paris Agreement and a circular economy necessitates transitions in technical systems and behavioural changes, which require large investments. For example, the EU Commission estimates' show that an additional EUR 180 billion per year is needed alone to fill the investment gap in order to achieve the EU's climate and energy targets by 2030. The largest share of the capital that funds the transformation will be private.

How these funds are spent plays a big role in the ability to achieve set climate goals. The large capital flows that are transferred daily between private players in the financial market, therefore, need to be directed towards investments that favour the necessary transformation, and away from investments that impede the transformation.

The interaction between the financial market and the real economy is central to such a reallocation. Actors on the financial market respond to risks associated with physical impacts of climate change, e.g. the increase in the number of weather-related natural disasters means that insurance companies, banks and companies must prepare for higher costs and reduced profitability caused by climate risk exposure. Furthermore, they are affected by climate policies, such as carbon pricing and other regulation, since they will influence which investments will be profitable for companies.

According to the European Commission[1], the financial market intermediaries (e.g., banks, mutual funds, and pension funds) are considered to have three main tasks to contribute to the transition towards a sustainable society. Firstly, capital flows need to be directed towards a more sustainable economy. Second, sustainability must be integrated into risk management. In the financial sector, climate-related risks have emerged as a major threat to global financial stability, and these risks need to be considered when lending and investing. Financial companies need to identify and manage the vulnerability of investments as well as risks associated with fossil assets. Therefore, sustainability factors, especially those linked to the environment and climate, must be integrated into the financial market actors' analysis and decision making. Finally, the financial system requires openness, transparency and a long-term perspective in the activities of market participants. The fact that companies choose to report their climate impact through various reporting tools and indices does not mean that they reduce their emissions. However, it is an acknowledgment of an understanding of the importance of the climate issue. According to the simple logic "what gets measured gets managed", transparent accounting also means in some cases that accounting for metrics and emissions of greenhouse gases means greater opportunity to work strategically for reduced climate impact. The fact that it is possible to monitor the environmental and climate impact of the market participants is a prerequisite for financial actors to be able to control capital flows and properly assess climate risks.

1. https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-97-F1-EN-MAIN-PART-1.PDF

Methodology and Scope

As an initial step, a brief literature review and a round of scoping consultations with key stakeholders were carried out to explore the current status of knowledge, identify key stakeholders for interviews and documents relevant for this study etc. The scoping consultations included one or more representatives of the following stakeholder groups, respectively: academia, government agency, private sector green bond issuer, environmental NGO, ESG[2] service provider on the financial market and one major Nordic bank.

Early in the project, meetings were held with the project steering group and the project working group to discuss project design and scope refinement. Limitations related to the project size were discussed, amongst others. It was agreed that it is a reasonable to focus on the securities segment of the financial market as this represent the methodological edge with respect to sustainable finance.

In order to obtain comparability between findings from the individual country studies a template with questions to be addressed was drawn up to be used by all consultants involved. The template (see Appendix 1) contains questions aimed at finding information relevant for the research tasks of the study:

- Mapping methods and frameworks for reporting and evaluation of environmental and climate impacts and environmental and climate-related financial risks in the Nordic financial markets;
- Indicating the status in the individual Nordic countries and identifying possible differences between different types of investors (asset owners or asset managers):
- Examining whether the financial actors consider (i) the 1.5 ° C target in their strategies and decision-making, and (ii) indirect emissions, for example through energy production and subcontractors;
- Identify approaches in managing complex and dynamic dimensions, such as progressiveness and weighting between different types of impacts;
- Assessing the status of comparability and accessibility of information.

Two methods for gathering information were selected: Review of open information and documents and interviews with key stakeholders in the financial markets. The desk research has included web sites and annual reports of individual investors, reports from industry organizations and NGOs, academic papers, and newspapers. The inclusion of a broad array of information sources aims at providing both specific information and an impression of debates on the issues covered. The purpose of the interviews was twofold – to verify information from the document studies and to gain insight into strategies and decision making that are not public information.

2. Environmental, Social, and Governance.

Before information gathering commenced coordination, calls were held between the involved consultants in order to ensure comparability between the Nordic countries by harmonizing scope, definitions used and the approach to information gathering.

The interviews conducted were semi-structured, following the questionnaire in Appendix 1. An interview guide with open questions was prepared before the interviews, and supplementary questions were asked on a case-by-case basis. This method allows in depth answers and reflections about the subject and the questions. Details regarding the number of interview and stakeholder groups included per country can be found in Appendix 2.

As a final step, the information gathered through the desk research and the interviews were compiled and structured to systematically extract information that is relevant to the research tasks of the study. The information was, furthermore, analysed to identify best practice and provide relevant recommendations.

Main frameworks and methodologies explained

Listed below are some of the initiatives led internationally to further green and sustainable finance which are addressed in this report. The initiatives are listed in alphabetical order.

Carbon Disclosure Project (CDP)

CDP is an international NGO that provides companies and organizations with a global system for measuring, presenting, managing and sharing information about their climate impact.

Global Reporting Initiative (GRI)

GRI is an initiative for increased transparency in the field of companies' sustainability impact. This has led to a framework for sustainability reports which has become increasingly common worldwide.

Greenhouse Gas Protocol

The GHG Protocol establishes global standardized frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions. The GHG Protocol classifies a company's GHG emissions into three scopes. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Nasdaq ESG reporting guide

The Nasdaq Reporting Guide help companies understand ESG-related reporting. It provides a business-centric rationale for focusing on certain essential data points, integrating these data points into management operations, and potentially reporting them to the public.

Paris Agreement Capital Transition Assessment (PACTA)

The PACTA project helps policymakers and financial supervisors address the issue of how to align the financial flows with the Paris Agreement's goals. PACTA has developed a tool for scenario analysis of financial portfolios. By closely examining the gaps between lending portfolios and climate benchmarks, entities can in time also leverage the methodology for other uses, including reporting and steering towards a positive climate impact.

Science Based Targets Initiative (SBT)

SBT is a collaboration between the green NGO World Wildlife Fund (WWF), the UN Global Compact, CDP and the US-based NGO World Resources Institute (WRI). The initiative helps companies worldwide to develop climate targets to reduce their greenhouse gas emissions with the aim of keeping the global temperature rise below 2 °C, in accordance with the long-term climate target set in the Paris Agreement.

Task Force on Climate-Related Financial Disclosures (TCFD)

The TCFD is an organization that was established in December of 2015 with the goal of developing a set of voluntary climate-related financial risk disclosures which can be adopted by organisations to inform investors and members of the public about the risks they face related to climate change. The organization was formed by the Financial Stability Board (FSB) as a means of coordinating disclosures among companies impacted by climate change. The Task Force is charged with considering "the physical, liability and transition risks associated with climate change and what constitutes effective financial disclosures across industries." More than 800 firms and organisations, together managing over USD 100,000 billion in capital, support the TCFD recommendations.

United Nations Principles for Responsible Investment (PRI)

The UN PRI was launched in 2006 as an open global initiative for institutional investors to adopt responsible business practices regarding ESG (Environmental, Social, and Governance) issues. In addition to promoting the awareness of ESG issues, UN PRI also facilitates an exchange of information regarding ESG issues via a collaborative forum of responsible investors around the world.

The EU non-financial reporting directive (NFRD)

In October 2014, an EU directive[3] was adopted that requires that certain large companies, with more than 500 employees (including listed companies, credit institutions and insurance companies), should prepare an annual non-financial statement containing information relating to environmental matters, social and employee-related matters, respect for human rights, anti-corruption and bribery matters ("the Non-Financial Reporting Directive", NFRD). The aim of the reporting requirement, which applies for the financial year starting on January 2017, is to enhance the transparency and comparability of the non-financial information disclosed throughout the Union.
Non-binding guidelines on non-financial reporting were published in 2017, providing further detail on the types of information expected for all of a company's non-financial disclosures. In 2018 the European Commission announced its action plan on sustainable finance, including development of more detailed standards and guidelines for climate-related disclosure. In June 2019, the European Commission published its Guidelines on Non-Financial Reporting: Supplement on Reporting Climate-Related Information. While not binding, the Supplement was designed to

3. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095 (Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups Text with EEA relevance).

assist companies in complying with the NFRD. The Supplement considered a variety of existing standards and frameworks and it particularly underscores its integration of the recommendations from the TCFD. Despite the Supplement's lack of new legal obligations, companies can benefit from the consolidated guidance for complying with both the TCFD recommendations and the EU's NFRD requirements.
The Supplement discusses a "Double Materiality" perspective for climate change. It provides that climate information should be reported not only if it is necessary to understand the company's development, performance and position but also if it is necessary to understand the impacts of the company on the climate. It underscores that materiality for climate change should involve a longer time horizon, advising companies against concluding that climate is not a material issue just because some climate-related risks are perceived to be long-term in nature.

EU taxonomy for sustainable activities

Furthermore, as part of on its action plan for financing sustainable growth the European Commission has taken initiative to establish an EU classification system for sustainable activities, i.e. an EU taxonomy. The EU taxonomy is a tool to help investors un-derstand whether an economic activity is environmentally sustainable. It has been developed with input from experts across investment, industry, civil society and the public sector. The Taxonomy sets performance thresholds (referred to as "technical screening criteria") for economic activities which make a substantive contribution to environmental objectives – starting with climate change mitigation or climate change adaptation; and avoid significant harm to other EU environmental objectives (pollution, waste and circular economy, water, biodiversity). They must also meet minimum social safeguards.

Synthesis of results from the Nordic country studies

This section presents a synthesis of the main findings from the mapping of methods and frameworks used by actors on the financial markets in the Nordic countries for reporting environmental- and climate-related information and evaluating environmental and climate financial risks and impacts. More detailed results country by country are presented in the subsequent chapter.

The financial regulatory authorities

The engagement of financial regulatory authorities in the Nordic countries in matters related to sustainability and climate change varies. The involvement is most pronounced in Sweden where sustainability shall be integrated into the day-to-day regulatory and supervisory activities and transparency and comparability of organisations' sustainability-related information shall be promoted. Assessment regarding how the institutions identify and manage climate risk is part of the regulatory authorities' responsibilities in Sweden and Norway. The Swedish regulatory authority shall, furthermore, contribute to the development of scenario-based analysis for the identification and quantification of financial companies' climate-related risks. The Finnish financial regulatory authority emphasizes the importance of communicating and consulting with supervised entities and that better management of financial risks related to climate change will be highlighted in the future. The financial regulatory authorities of Norway and Sweden, as well as the central banks of Denmark, Finland, Norway and Sweden are members of the Central Banks and Supervisors Network for Greening the Financial System (NGFS) including its work to develop (i) a handbook on climate and environment-related risk management for supervisory authorities and financial institutions; (ii) voluntary guidelines on scenario-based risk analysis; (iii) best practices for incorporating sustainability criteria into central banks' portfolio management (particularly with regard to climate-friendly investments) (NGFS, 2019).

Sustainability reporting and reporting standards/frameworks used for climate- and environment related disclosure

While the NFRD has so far been implemented in EU member states Norwegian legislation requires publicly listed companies to report on ESG issues and the process of implementing the EU directive is moving forward. Iceland has no well-defined overarching legal framework for sustainable finance although Icelandic pension funds are required to set ethical criteria for their investment policy.

Globally, the importance of sustainability reporting has been increasing steadily. According to a comprehensive survey of sustainability reporting from 2017 the

average proportion of sustainability reports of the hundred largest companies in a large selection of countries[4] has increased from 12 percent to 75 percent between 1992 and 2017 (KPMG, 2017). The Nordic countries stand out as global leaders with Norway, Sweden and Finland among the top 15 countries. The same report finds that Sweden and Finland belong to the top ten countries when it comes to connecting the UN Sustainable Development Goals (UN SDGs) to sustainability reporting. To the extent that such information is available, the mapping of sustainability reporting in the Nordic countries carried out in this study confirms that the trend for reporting on ESG has been positive also the last couple of years. Icelandic companies stand out as frequent users of the Nasdaq ESG reporting guide.

Disclosure of climate-related information includes GHG emission data and corporate level climate targets. The most common reporting standards/frameworks used for climate- and environment-related disclosures are the GHG Protocol, Global Reporting Initiative (GRI) and the Carbon Disclosure project (CDP). Based on the available information it has not been possible to identify significant differences between the Nordic countries with respect to standards/frameworks used. A general problem reported is that the comparability of information between organisations is poor. Reasons are twofold; firstly different standards are being used and secondly standards are imprecise and are applied differently. A positive example that addresses this problem can be found in Finland where the trade organisation Finance Finland and its member organisations created a reporting framework that companies can use to improve transparency with respect to how climate change is addressed. The initiative builds on the recommendations of the TCFD. A set of indicators has been developed (which companies can choose independently how to apply) that track the progress of mitigation measures over the years. The initiative will evaluate and update the reporting guidelines annually.

It has been difficult in this study to identify significant differences between the Nordic countries with respect to methods/frameworks used for reporting/disclosure. Structured surveys in the literature usually cover only one country and differ with respect to the scope of organisations included, reporting parameters surveyed and formats on which results are presented.

With respect to the impact of the NFRD, the Swedish Agency for Growth Policy Analysis investigated the transparency and comparability of Swedish sustainability reporting over the last four years, whereof the last year under directive requirements (Tillväxtanalys, 2018). The analysis could identify no apparent improvement of transparency or comparability following the implementation of the new reporting requirements. It is however noted that a few more years of observations may be required before noticeable impacts can be measured.

Analysis of environmental and climate-related financial risks

Awareness of environmental- and climate-related financial risk has increased significantly over the last years. The most widespread approach for risk management is ESG integration into investment decisions. Processed ESG data is often bought from external specialized ESG service providers and then incorporated

4. The study considers 49 countries including all Nordics except Iceland.

in the company's decision process. Service providers compile data that is typically extracted from annual reports, environmental reports, web pages etc. Lack of standardization and transparency in providers' data collection and scoring methodologies pose key challenges for investors. ESG data providers generally develop their own sourcing, research, and scoring methodologies. As a result, the rating for a single company can vary widely across different providers. These differing methodologies have implications for investors. Choosing a particular provider, investors are practically aligning themselves with that company's ESG investment philosophy in terms of data acquisition, materiality, and aggregation and weighting. This choice is complicated by the lack of transparency into those methodologies as most ESG service providers treat their methodologies as proprietary information. Several respondents pointed out one caveat related to ESG scoring. ESG scoring is mainly a relative exercise where different investment alternatives are ranked from best to worst. Consequently, the relation to any absolute environmental targets is weak. The 1.5 °C target was mentioned as one explicit example. If a number of companies are ranked based on ESG scoring and none of the companies fulfill requirements for 1.5 °C compatibility, the corresponding weighting factor will frequently be set to zero, as it will have no impact on the companies' relative score. This is in line with the common approach in the financial sector to focus on relative assessments (identify "best in class") rather than on absolute targets.

Another drawback that several respondents mentioned in relation to ESG scoring was that there is a lack of robust GHG data points which significantly reduces the robustness in data acquisition and aggregation. This problem relates to the general problem of lacking transparency and comparability of information between organisations which, in turn, relates to the use of different standards for reporting GHG emissions and the imprecise character of standards used. Related to this drawback is another limiting factor, namely that access to and reliability of scope 3 (for explanation, refer to the description of the GHG Protocol in the section Main frameworks and methodologies explained) data is insufficient.

Investors use different approaches to integrate ESG scores into their investment decisions, ranging from screening/exclusion to more advanced methods where ESG scores are applied to the valuation of companies. However, it is very difficult to get more detailed information on how investors incorporate ESG variables in their investment decisions since the investment decision process is part of the core business model for financial companies.

In addition to ESG integration, investors use exclusion/divestment, active ownership[5] (voting), and thematic investing, or combinations hereof when doing ESG investments to manage environment- and climate-related risks.

According to the respondents the most important initiative related to environmental and climate-related financial risks is the Task Force on Climate-Related Financial Disclosures (TCFD). The organization was established in December of 2015 with the goal to develop a set of voluntary climate-related financial risk disclosures which can be adopted to inform investors and other members of the public about the risks they face related to climate change.

5. Actively excersising your rights as a shareholder.

Several companies on the Nordic market have committed to the TCFD recommendations. In November 2019 the following number of companies had signed the TCFD recommendations in the Nordic countries, respectively: Denmark 15; Finland 8; Iceland 0; Norway 10; and Sweden 29. The majority of TCFD signatories in the Nordic countries are large financial companies. Several of the respondents stressed the importance of this initiative due to its global reach and adoption. Improving the access and quality of this kind of data has high value to the investors since without data variables that can be aggregated it is impossible to make analysis with a large enough scope to make it useful in investment decisions. The TCFD uses the GHG Protocol and CDP for disclosure of GHG data points and the same caveat (mentioned above in this section), related to the robustness of data, applies to the TCFD as to ESG scoring.

The TCFD stresses the importance of forward-looking assessment, hence an important part of the TCFD guidelines is to use scenario analysis in the disclosure of climate-related risks and opportunities. The result of the interviews indicate that more investors have applied risk assessment in relation to physical climate change (i.e., risks related to sea level rise) than transitional risks (e.g., risks related to the ratcheting up of climate policies and stranded assets). It was stated that taking the 1.5 °C target into account in investment decision represents new ground and requires development of knowledge and new methodologies. Initiatives that provide further level of detail of issues surrounding the consideration of scenario analysis in the investment process would, therefore, be helpful. Such initiatives should support the development of scenarios that can provide support in understanding how the risks develop given the strength of response to reduce greenhouse gas emissions and whether measures are implemented in an orderly and predictable manner or not. A project commissioned by the UN PRI, called "Inevitable policy response", may provide useful insights. It aims to build a forecast policy scenario which lays out the policies that are likely to be implemented up to 2050 in order to attain the Paris Agreement long-term target. Examples of predicted policies include bans on coal, and on internal combustion engines; an increase in nuclear capacity and bioenergy crops; greater effort on energy efficiency and re/afforestation; wider use of carbon pricing and increasing the supply of low-cost capital to green economy projects. The impact of this response on the real economy and financial markets is quantified in the project. Another initiative that contributes to this end is the UNEP Finance Initiative's (UNEP FI) "Pilot project on implementing the TCFD recommendations for banks."[6] In this effort, UNEP FI, together with 16 of the world's leading banks, embarked on a year-long project to pioneer and further develop transition and physical assessment models and metrics to enable scenario-based, forward-looking assessment and disclosure of climate-related risks and opportunities.

Finally, a point that was commonly made was that for all the Nordic countries it's quite hard to find relevant information on environmental and climate-related financial risks for small and medium sized companies (SMEs). SMEs neither have the obligation to report, nor the capacity to be early adopters in voluntary initiatives.[7] One respondent argued that this lack of aggregable data may lead to sub-optimization if SMEs are excluded from investment on the basis of insufficient data

6. https://www.unepfi.org/banking/tcfd/
7. This challenge is being addressed, e.g., in the latest version of the Nasdaq ESG reporting guide (2.0) published in May 2019 which incorporates revisions aimed at Improving ESG engagement for small- and medium-sized business enterprises.

rather than poor performance.

Environmental and climate-related impact of investments

The evidence on the methods/frameworks for reporting and evaluating environmental and climate impacts of investments indicates that several investors perform carbon dioxide footprint analyses.

While many investors have qualitative intentions of increasing ESG-friendly investments, only some of them have specified objectives for these investments regarding volume, time horizon, industries/technologies.

A few respondents addressed that the TCFD framework to some extent deals with this in its scenario analysis, although TCFD does not prescribe how this analysis should be carried out. Respondents often stressed the need for methodological learning and development, e.g. how to apply quantitative approaches, including scenario models, in this field. The SBTi (Science Based Target Initiative) is originally developed for firms who assess their activities against potential carbon-dioxide emission reductions, but there is currently work on a similar model for investors, something that is welcomed.

One initiative that was mentioned as a good example is a WWF-led initiative in which WWF collaborated with large European asset owners to undertake a forward-looking climate scenario analysis on how Europe's largest asset owners are aligning - or not - their public equity and corporate bond portfolios with the Paris climate goal of keeping global warming well below 2 °C (WWF, 2018). WWF applied The Paris Agreement Climate Transition Assessment (PACTA) for the forward-looking climate scenario analysis. PACTA measures the climate alignment of public equity and corporate bond portfolios by comparing them with different climate scenarios and has a global scope.[8]

Management of complex and dynamic dimensions related to ESG and transition

This study has identified some issues that are perceived as particularly complex to handle and thereby challenging.

Firstly, assessing the broader ESG context of investments is considered to be a difficult and also very important aspect. Complexities include estimating indirect effects as well as weighted effects of many different impact categories (within the scope of ESG). The screening and analysis of these topics is usually performed by ESG-rating rating organisations. Only a few of the larger investors have in-house analytical capacity in this area. However, the methods that these service providers on the financial market use are perceived as complex and lacking in comparability. It is furthermore not transparent how investors subsequently incorporate ESG data into their actual decision process for investments. One difficulty often brought up by respondents relates to the fact that there are trade-offs as one product may harm

8. https://2degrees-investing.org/pacta/

the environment while contributing positively to climate change reduction, and the other way around. It was proposed that the ongoing EU work on defining a taxonomy for sustainable finance may alleviate some of these problems as it defines technical screening criteria for 67 activities that can make a substantial contribution to climate change mitigation (across the sectors agriculture, forestry, manufacturing, energy, transportation, water and waste, information and communication technology and buildings) while also having assessed most activities for significant harm to other environmental objectives.

Secondly, several respondents with insight into ESG-rating consider the lack of consistency in GHG data points from companies' climate-related disclosures to be a particular problem. This problem is partly due to companies' use of different standards for GHG reporting as well as individual standards not being sufficiently specific or stringent. Consideration of scope 3 emissions is an area that is still in its infancy. Some investors do consider the indirect emissions in value chains, but it is still very much under development. The data has improved over the past years, but still lacks quality, standardization, and validity. Institutional investors generally point out that indirect GHG emissions (purchased energy services, subcontractors) (scope 3 metrics) are difficult to incorporate into accounts of carbon footprint of portfolios.

Thirdly, assessing environmental and climate-related financial risks as well as societal impact of investments in the context of long-term climate targets was commonly brought up as a challenging undertaking. Market actors have just begun the work to deal with gradual progression towards near-zero emissions by mid-century that is compatible with the Paris Agreement long-term target. However, assessing financial risks and impacts and compatibility requires quantification which is perceived to be a major challenge. In order to improve possibilities for investors to make informed decisions there is a need for improved scenario models. As put by one respondent, there is a need to go from gut feeling to hard facts. Assessment of societal impacts of investments is a core objective of the United Nations-convened Net-Zero Asset Owner Alliance, which is described in the section below.

Respondents furthermore emphasised that difficulties stem from a lack of clear policy signals and that financial markets can take a significantly more proactive role if politicians clearly point out the right long-term path. There is currently a shortage of climate positive investment opportunities. Investors cannot finance transformational intentions and activities that do not exist, and they need to place the funds somewhere.

Proposed best practices

The interviews carried out resulted in a number of examples of best practice. Such proposals have been aggregated and are presented below.

Several respondents mentioned frameworks for green bonds as a best practice example of sustainability reporting. There are many examples of robust green bond frameworks and the credibility is enforced by them being subject to independent third-party review. Green bonds are considered to be very transparent. The Nordic countries have successfully collaborated on green bond frameworks and it has resulted in equal impact assessment according to one respondent. However, green bonds are reported on a project basis and there is a potential problem of aggregating the data between different sectors. The real estate sector is the

spearhead of reporting green bonds, compared with other businesses it's rather straight forward to measure and calculate the impacts. But green bond frameworks also have shortcomings, e.g., good quality data across the whole value chain, including both upstream and downstream emissions, are still missing.

The TCFD is frequently brought up as a best practice mainly due to its widespread acceptance and current momentum. The initiative is still voluntary and does not have specific "compliance". Nevertheless, joint efforts into developing new standards, methods for scenario analysis etc are very important. One respondent goes as far as stating that TCFD should be made obligatory and fleshed-out in more detail and that that is the only way of making data available for appropriately updating the decision process.

Banks have a major role to play in the fight against climate change, above all through their financing – the capital they provide to fund their customers' activities. Several respondents highlighted the lack of insight into the relationship between corporate lending and climate alignment. Yet until now, they have lacked methodologies to measure and potentially steer their financing towards technologies that favor a low-carbon future. To respond to this problem, in early 2018, the 2 degrees investing initiative partnered with multinational financial services and banking firm ING to extend the PACTA climate scenario analysis methodology to corporate lending portfolios. The PACTA Methodology for Corporate Lending, as well as the metrics supporting the analysis, allows banks to study the alignment of their corporate lending portfolios with 2ºC benchmarks. It represents a major step forward in climate scenario analysis, by providing banks with insights into the climate impact of their clients' capital expenditure plans across the seven sectors the methodology covers (oil and gas, coal, power, automotive, cement, steel, and shipping). By closely examining the gaps between their lending portfolios and climate benchmarks, banks can in time also leverage the methodology for other uses, including reporting and steering towards a positive climate impact.

The United Nations-convened Net-Zero Asset Owner Alliance[9] is a new initiative that was announced in September 2019. The Alliance consists of an international group of institutional investors committing to transition their investment portfolios to net-zero GHG emissions by 2050. Among the investors there are in total six asset owners from Denmark, Norway and Sweden. Representing more than USD 2 trillion in assets under management, the United Nations-convened Net-Zero Asset Owner Alliance shows united investor action to align portfolios with a 1.5 ºC scenario. Potential actions by the Alliance would emphasise:

- Investor ambition and target-setting at portfolio level – reporting of contribution to progress in a sector-specific way;
- Impact on the real economy and emissions – to the extent methodologies can be developed for this;
- Implementation via a holistic ESG approach for measuring and managing associated impacts.

9. https://www.unepfi.org/net-zero-alliance/

Survey of the Nordic countries

Denmark

Introduction

"Finanstilsynet" (The Danish Financial Supervisory Authority) is operational in securing that regulation and legislation at financial markets are implemented and complied to. Replacing a regulative directive from 2010 Denmark installed in 2018 guidelines for responsible investments (Erhvervsstyrelsen, 2018). Herein it is clarified what are expectations to management in institutional investors, and how they should consider implementing due diligence processes in accordance with the 2017 OECD paper on this issue[10] and the UN guidelines for Human Rights and Business (OECD, 2017).

"Finans Danmark" is the trade organisation for financial institutions. On behalf of the financial sector in Denmark they signed the Principles for Responsible Banking and Principles for Responsible Investments at the UN global summit in New York, September 23rd. By complying to the six principles of responsible banking and similar number of principles of responsible investments the objective is to facilitate that the 17 UN sustainability goals and the Paris agreement are integrated in strategic work, daily businesses, and investments. In doing so, they commit themselves to spur not only members from the financial sector, also their partners and stakeholders to contribute to the green transition.[11]

Recently a number of key actors in this area in Denmark joined forces in "Forum for Bæredygtig Finans" (Forum for Sustainable Finance). This organisation, established in January 2019, is set up to advice the financial sector through Finans Danmark on how the financial industry can play a role in a green transition (Finans Danmark, 2019).[12] It has a broad array of participants including private firms, NGOs, universities, consultancy firms, asset managers, investors, public green funds.

The Danish market for sustainable finance is dominated by relatively large players, notably in the form of labour market pension funds. Asset owners in Denmark therefore have more internal expertise compared to asset owners in the rest of Europe[13], hence use investment consultants and asset managers relatively little compared to similar institutions in other countries (Eurosif, 2016).

Denmark has the world's largest pension sector as a proportion of GDP, as pension assets amount to twice Denmark's GDP. Therefore, in the sections below Danish pension funds remain in focus.

10. Responsible Business Conduct for Institutional Investors (2017), OECD.
11. https://finansdanmark.dk/nyheder/2019/finans-danmark-forpligter-sig-globalt-til-udvikling-af-baeredygtig-samfundsoekonomi/
12. It is stipulated in this document describing the tasks of the Forum that it should build on Danish and Nordic experiences with investments in especially energy related areas. Moreover, it should work with the point of departure in the special characteristics of the Danish financial sector, including a corporate sector with relatively many small and medium-sized firms, a large real estate, bond-financed sector, a banking sector with both large and small players, a well-developed asset management industry.
13. This could perhaps explain why Danish investors are very active in international collaborations and development in this area (cf. later discussion and data on this).

Sustainability reporting and methods/frameworks used for environmental and climate-related disclosures

Dansif (2019) surveyed practices regarding how responsible investments are pursued among the largest asset owners in Denmark. The survey included not only pension funds but also banks and investment companies. Hence, the survey is covering around 90% of invested capital by the 50 largest investors in Denmark. Results show that investors are conscious about responsible investments and increasingly develop strategies for pursuing such investments. Compared to a similar survey in 2017, an increased share (from 30% to 47%) of respondents indicate they have formalised guidelines on environmental factors in their investment policies. They engage in international collaboration and alliances, and 90% of investors have dedicated staff for these investments.

Even within the same investor category, such as pension funds, there are differences in how they report and evaluate environmental and climate-related financial risks of investments and existing portfolio. Table 1 below list the 10 largest Danish pension funds (8 of these are on the list of Europe top-100 largest pension funds) and describes investment policies regarding how they manage portfolios and report on what they do. Table 1 also provides their size in the market and the total investment volume under management. This indicates to what extent (degree) certain investment policies and reporting practices prevails in the market. Relevant disclosures include exclusion/divestments, corporate governance in terms of active ownership and how they pursue this active ownership (internally or through an intermediary), integration of ESG into investment strategies and specific targets.

Almost all pension funds refer to the Paris agreement and/or integrate PACTA in investment strategies and financial reporting. Likewise, it is an indication of how ESG investments are pursued if the fund participates in international investor alliances, report carbon dioxide footprint of portfolio companies, uses assessment tools such as SEIM (Sustainable Energy Investment Metrics) and scenarios on investments, or uses other reporting type.

Table 1: Overview of Danish pension funds' strategies regarding environmental and climaterelated portfolio management[14]

Fund	AuM (DKK)	Members	Market share	Active ownership based on climate criteria and/or di-vestments/ Exclusion of fossil-fuel firms. Transparency.
ATP	909 billion	5.200.000		Pursue active ownership, internalised. Transparency re dialogues and votes and exclusion lists. No strategy for divestments from fossil-fuel firms.
PFA	600 billion	1.300.000	19.6%	Pursue active ownership, internalised. Transparency re dialogues and votes and exclusion lists. No strategy for divestments from fossil-fuel firms. Oil and gas is not excluded but PFA does not invest in tar sands companies.
Danica Pensi-on	566 billion	600.000	17.1%	Pursue active ownership, internalised. Recently (November 2019) they began publishing dialogues and votes. They publish exclusion lists, firms with 30% revenues from tar sand or coal. No strategy for divestments from fossil-fuel firms.
PKA	300 billion	320.000		Pursue active ownership, externalised (Hermes EOS). Transparency of dialogues and votes. They publish exclusion lists and do exclude firms in oil, gas, coal. Has a strategy for divestments from fossil-fuel firms by 2022.
Sampension	275 billion	300.000	5.1%	Pursue active ownership, partly externalised (Vigeo Eiris). Limited transparency of dialogues and votes. They publish exclusion lists but criteria are unclear. Has no strategy for divestments from fossil-fuel firms.
Pension-Danmark	236 billion	732.000	7.2%	Pursue active ownership, partly internalised. Lack of publishing dialogues and votes, which is handled by Hermes. They do publish exclusion lists, but has not excluded based on climate. No strategy for divestments from fossil-fuel firms.
Velliv	218 billion	330.000	11.1%	Pursue active ownership, internalised but collaborate with ISS. Lack of publishing dialogues but do publish votings. They publish exclu-sion lists, firms with 30% revenues from tar sand or coal. No strategy for divestments from fossil-fuel firms.
Industriens Pension	172 billion	400.000	4.8%	Pursue active ownership, in collaboration with Hermes.

14. Information for table 1 and additional specific information in the text stems from individual pension funds' web pages, annual reports, special reports from pension funds on ESG investments, World Wildlife Fund: Grønne milliarder er det nye sort – tid til større ambitioner, 2019, Politiken, 2019: Grønt eller sort: Tjek dit pensionsselskabs aktier i olie, kul og gas, article by Lars Dahlager.

				Transparency on dialogues and votings. They do publish exclusion lists, and has excluded all firms with any revenues from coal. No strategy for divestments from other fossil-fuel firms.
Pensam	125 billion	400.000	3.1%	Pursue active ownership, externalised using ISS and Sustainalitics. Transparency on votings, dialogues will be available before the end of 2019. They publish exclusion lists, and has excluded firms with any revenues from tar sand. Firms with revenues above 30% from coal are also excluded. Some of the major oil companies have also been excluded. No strategy for divestments from other fossil-fuel firms.
AP Pension	118 billion	400.000	5.4%	Pursue active ownership, externalised using ISS. Includes dialogues, votings, exclusion/divestment. Transparency on dialogues and votings. Exclusion lists are published, and firms with revenues above 30% from coal or tar sand are excluded. Divestments from these firms have begun, not yet from other fossil-fuel firms.
MP Pension	113 billion	133.000		Pursue active ownership, internalised. Transparency on dialogues, votings, exclusion/divestment. Exclusion lists are published, and firms are excluded. Divestments from firms with revenues above 25% from coal or tar sand or 50% from oil have begun with a plan to exit all fossil fuel firms (excl. gas companies) by end of 2020.
P+ Pension	111 billion	92.000		Pursue active ownership, externalised (Hermes EOS). Transparency of dialogues and votings. They publish exclusion lists and do exclude fossil-fuel firms. Has a strategy for divestments from firms based on (50%) coal.
Lærernes Pension	101 billion	145.000	3.0%	Does not engage in active ownership, as they regard themselves too small to be a powerful voice. Instead they divest from firms who do not comply with ethics formulated by the fund. Transparency of exclusion lists and do exclude fossil-fuel firms. Has a strategy for divestments from firms with 5% revenues from coal, oil sand, arctic drilling.

The evaluation of environmental and climate-related financial risks

Dansif (2019) surveyed practices regarding how responsible investments are pursued among the largest asset owners in Denmark. The survey included not only pension funds but also banks and investment companies (in fact, some accrue to being both asset owners and asset managers, for example banking groups who own pension funds). Hence, the survey is covering around 90% of invested capital by the 50 largest investors in Denmark. Results show that investors are conscious about responsible investments and increasingly develop strategies for pursuing such investments. Compared to a similar survey in 2017, an increased share (from 30% to 47%) of respondents indicate they have formalised guidelines on environmental factors in their investment policies. They engage in international collaboration and alliances, and 90% of investors have dedicated staff for these investments. Investors use screening, active ownership, integration, and thematic investing, or combinations hereof when doing ESG investments. External ESG data and rankings are used by 86% of investors for these investments. They use one or more tools for climate impact assessment, the most frequently used tools are scenario analysis and carbon footprint measurement of portfolio firms.

It is clear from the overview presented in Table 1 above that active ownership is pursued in many of the funds, either by themselves or through specialized intermediaries. Related, several pension funds have exclusion lists and some have begun divestments from fossil-fuel firms. There is, though, a large variety in how actively they exclude/divest, and what scope and thresholds for exclusion they apply. Additionally, most funds refer to the Paris agreement in their strategies, and several of the funds actively integrate it in their investments. Some of the funds have specified objectives regarding their green investments. The funds actively participate in international investor alliances and agreements such as Climate Action 100+, UN PRI, IIGCC (The Institutional Investors Group on Climate Change), UN GC (The United Nations Global Compact). One example is that the Danish pension fund PKA is in the steering group of the Paris Aligned Investment Initiative led by IIGCC, a project aimed at developing and testing a methodological framework for how to align an investment portfolio to the Paris Agreement goals. Another example is that PensionDanmark is co-initiating the Net-Zero Asset Owner Alliance announced at the UN climate summit September 23rd. The actual work in these organisations is often done through external service providers but on a general level this collaboration has an important role in defining directions regarding how to obtain reduction goals. Whereas this is a picture of the current situation it is clearly also a trend; the work with these matters inside pension funds has intensified immensely over the past decade. Similarly, the transparency of what they do is a key issue for the funds. Again, this has been a trend for around a decade when individual pension savers and NGOs began being very active at the general assembly of pension funds, advocating for more climate-oriented policies and more transparency in this respect.

The following case[15] illustrates some of the key aspects of how asset managers work with the reporting of, and evaluation of financial risks and impact of ESG investments.

15. Based on interview information, Danske Band, September 2019: Climate Change – position statement; Danske Bank, October 2018, Sustainable Investment Policy; Danske Bank Asset Management, September 2019: Active Ownership Report: H1 2019; Danske Bank Asset Management, 2019. Our Sustainable Investment Journey 2019.

Case: Danske Bank Asset Management.

Danske Bank Asset Management is part of the Danske Bank Group, a Nordic universal bank with 3.3 million customers, hence one of the largest Nordic financial institutions. Danske Bank Group participates in Nordic Bankers' Associations and the Nordic Securities Associations' work on sustainable finance, as well as being a supporting member of the IIGCC. Danske Bank Group adhere to a long list (16 mentioned in the position statement on climate change [p.5]) of international standards and agreements, and expects portfolio companies, customers, and business partners to also be guided by these norms. The policy of Danske Bank Group in relation to climate change is to integrate considerations on adverse climate effects into investments, lending, and services. This policy is implemented and supported by engaging in applying and developing the TCFD tools and exchanging experiences with experts on how to use these tools[16]. Together with Realkredit Danmark, Danske Bank also launched in 2019 the issue of green bonds financing climate-friendly projects in the Nordic countries. Like-wise, a green loan product is offered for Nordic customers. Hence, according to Danske Bank Group, they are among the largest green bond intermediary globally and in Nordic countries, and contributes not only to the direct financing of low-carbon projects, also to develop the green bond market as such. The Danske Bank Group has exclusion policies regarding investments, lending and procurement in companies that obtain 30% or more of their revenues from coal and oil from tar sands.

Danske Bank Asset Management aim at integrating the ESG considerations alongside with financial criteria, and has internally generated considerable competences within assessing ESG-investments. In a short time they have gone from 6 to 20 staff in this area. The internal ESG expertise is used for internal competence building, establishment of an ESG data platform. Overall, Danske Bank Asset Management uses direct dialogues to influence portfolio companies. By using internal expertise to do so, together with external providers, they get closer to the needed raw data and ensures a continuous competence development in this area. They screen potential investments using ESG criteria that can either be in compliance with their own standards, or be demands and requirements from customers. Active ownership is the preferred way to pursue ESG investment policies, whereas immediate divestments is rarely used and not part of general policies. It is realised that the combination of different types of strategies is more effective than focusing on one, e.g. exclusion. There is an ambition to be transparent regarding specific actions towards the portfolio companies and both dialogues and votings are published twice a year. The most recent account of dialogues with portfolio companies on ESG issues shows an increase in 2019 to 83 from 59 in 2018. 30% of engagements were primarily around environmental issues, 43% on governance, 27% social issues. The three issues most frequently discussed were energy transformation, product design and lifecycle management, and sustainability integration and reporting, highlighting holistic consideration of financially material sustainability issues that vary across industries and companies.

16. In the beginning of 2020 Danske Bank expects to publish their first report on business operations where TCFD frameworks are integrated.

Finland

Introduction

The Finnish financial supervisory authority (FIN-FSA) participates actively in regulatory initiatives related to climate change currently being developed. Better management of financial risks related to climate change will also be highlighted in the future (FIN-FSA, 2019). In Finland, the importance of corporate and investment responsibility has been pushed forward by parties, such as the trade organisation Finance Finland[17] (FFI), The Finnish Innovation Fund Sitra[18], the Corporate Responsibility Network FIBS[19] and Finland's Sustainable Investment Forum (Finsif). Finsif, established in 2010, is a member-based organization that promotes responsible investment that considers factors related to the environment, society, and corporate governance when considering investment decisions. Finsif has 71 members varying from smaller players (EUR 11 million of assets under management) to the grand league (up to EUR 105 billion of assets under management). Half of the members are asset managers (50%), the second-largest group is asset owners (40%), and the smallest group of members is service providers (10%). The impact of them is over EUR 530 billion (assets under management).[20]

Furthermore, the proposal on a classification system of sustainable activities, i.e., the EU taxonomy, has been one of the key priorities of the financial sector during Finland's EU Presidency.[21]

Sustainability reporting and reporting standards/frameworks used for climate- and environment related disclosure

In a study from 2018 a total of 594 Finnish companies and organisations[22] were assessed for their CSR reporting (PricewaterhouseCooper, 2018). The study found that 165 companies report on corporate responsibility, which was an increase from the previous year. The study furthermore found that the content of responsibility reporting has broadened, and more information is now provided especially on human rights and related risks. 70 percent of the companies were found to provide no reporting on the financial impacts of climate change at all. Only two companies had published numerical data about the possible costs resulting from climate risks.

According to another survey from 2017, 46 of the top 100 Finnish companies referenced the SDGs in their sustainability reporting (KPMG, 2017).

Many organisations have published sustainability reports. However, the comparability of information between organisations is poor since different methods for evaluating sustainability issues are used. For this reason, FFI and its member organisations created a reporting framework that companies can use to improve transparency with respect to how climate change is addressed (Finance Finland,

17. FFI represents banks, life and non-life insurers, employee pension companies, finance houses, fund management companies and securities dealers operating in Finland. FFI aims to influence the regulation and decision-making that affects the financial sector. FFI is unique in Europe because typically the different types of financial companies organise themselves with their interest groups.
18. https://www.sitra.fi/en/articles/responsibility-in-investing/
19. https://www.fibsry.fi/wp-content/uploads/2018/05/FIBS_Sustainability2018_Summary.pdf
20. https://www.finsif.fi/finsif-in-brief
21. http://www.finanssiala.fi/uutismajakka/Sivut/Suomella-nayton-paikka-vihrea-rahoitus-ja-paaomamarkkinat.aspx
22. Including Finland's 500 largest companies and 94 other companies or public organisations.

2018). This framework is based on the recommendations of the TCFD. A set of indicators that track the progress of mitigation measures over the years. As the sector is compiling guidelines for ethical reporting practices cooperatively, this work may also give participating member companies fresh ideas and viewpoints on how they can develop their sustainability reporting. However, companies can independently choose how they apply these indicators. The initiative will evaluate and update the reporting guidelines annually.

According to a survey conducted by FFI in 2019, to follow up how the recommendations had been put into practice, most respondents[23] stated that climate change is discussed at board level in the company, with 65% of companies having integrated climate change awareness into their strategy. The same number report publicly on their climate actions.[24]

According to a market study carried out by Finsif (2017), 93 percent of the respondents have responsible investing principles or strategies and about 68 percent of these principles are reported publicly on a website, in a separate annual report, or an annual report, in addition to the UN Principles for Responsible Investment (UN PRI) report. Many of the small organisations only report in one publication or not at all. Of the investment firms that responded, 61 percent report the carbon footprint of their investments.

According to the interview respondents, the use of methods and frameworks for reporting and evaluating environmental and climate-related financial risks varies between the organisations on the financial market. Some big financial players (such as insurance companies and big financial houses that offer both insurances and banking services) are regularly reporting and evaluating environmental and climate-related financial risks. These players consider reporting action as crucial for staying competitive in the market. Other smaller players report mainly since they want to be seen as sustainable organisations. However, it is not transparent how sustainable these players are in real terms.

According to the respondents, the reporting act has increased activity on reporting during the past one and half years. One big reason for the positive attitude change is action plan for sustainable finance that the European Commission launched in March 2018.[25] Also, it is expected shortly that the Finnish Financial Supervisory Authority will be given the responsibility to supervise that the action plan is followed on the financial market. For example, the EU will demand (at least) fund management companies to disclose activities done for sustainable finance, beginning in 2021. In practice, a sustainable report needs to be published on a website.

According to Finsif's market study in 2017, 61% of responding investment organisations report the carbon footprint of their investments. This act is more common for large investment organisations. Among the responding investment organisations, carbon footprint calculations cover, on average, 49% of local assets. Over one-third of respondents buy a carbon footprint or information service from service providers.

The respondents reported that there are not yet any widely used methods. However,

23. 70 percent of FFIs 335 member organisations.
24. http://www.finanssiala.fi/en/news/Pages/Financial-companies-make-their-climate-work-public.aspx
25. https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth-factsheet_en.pdf

the EU commission is aiming to obligate organisations to analyse how their investments might impact the environment. There are already EU-level recommendations provided since 2017, e.g. how companies can report "carbon dioxide emissions per balance sheet total".[26]

Fund management companies in general count the scope 1 and 2 emissions, but at the moment, it is challenging to count scope 3 because it is difficult to get data. According to the respondents, many actors would be willing to take scope 3 into account in their strategies and decision-making.

The evaluation of climate- and environment-related financial risks

ESG information is increasingly used by investors in Finland. For example, 38 institutions operating in Finland have signed the Principles for Responsible Investment.[27] Finnish pension insurance companies are among those ranked top 10 in the ESG rankings (AODP, 2017).

According to Finsif's market study, the most common approaches are ESG integration and exclusion, respectively (Finsif, 2017). 78 percent of the organisations that responded to the market study utilised ESG data systematically in investment analysis and decision making because it is expected to affect the return on the investment and the risk profile in the long term. 80 percent apply exclusion. More external information is being used by investors than ever before.

An interview respondent described that potential investments may be excluded on the basis of defined sustainability criteria. For example, a company's involvement in coal mining (coal users or producers) is usually considered an activity that may lead to exclusion or if, e.g. 20% of the company's sales come from the usage of coal.

One respondent mentioned that the recommendations from the TCFD are carefully followed by the Finnish Financial Supervisory Authority authorities and Finance Finland. Also, all pension insurance companies in Finland have integrated the suggestions by TCFD into their day-to-day practices. Another respondent stated that the insurers are now following the CRO Forum's research efforts on mitigating climate change and the risks involved (CRO, 2019).

Climate impact of investments

According to the respondents, the largest market actors have taken or are planning to take the 1.5-degree target into account in their strategies and decision-making. The FFI board made a policy decision stating that the financial sector supports the internationally agreed target of limiting global warming to below 1.5 °C, and the recommendations by TCFD have been followed by FFI in their recommendations for companies on how to report on climate-related issues published in 2018 (Finance Finland, 2018).

26. https://ec.europa.eu/info/publications/non-financial-reporting-guidelines_en
27. https://www.unpri.org/directory/ (accessed November 2019).

Iceland

Introduction

There is no well-defined legal framework for sustainable finance in Iceland and the Icelandic financial supervisory agency has no formal assignment from the government in relation to sustainable finance. However, Iceland closely follows the development of the EU-level work to promote the development of sustainable financial markets.

As an initial step to promote sustainable investments among Icelandic pension funds they were made to set ethical criteria for their investment policy through amendments that were made in 2016 to Article 36 in the Act on Compulsory Pension savings. However, the current legislation still does not require pension funds to take the environment into account in their investments.

The first ever green bond issuance in Iceland was carried out in late 2018 with the purpose of financing the City of Reykjavik's green investment projects. This illustrates a point made by several Icelandic respondents in this study; Iceland has so far not been very proactive in the area of sustainable finance but is rather following other Nordic countries.

The Iceland Sustainable Investment Forum (IcelandSIF) was established in late 2017 with the aim to promote awareness and debate about the methods of sustainable and responsible investment. Founding members include eleven pension funds, four banks, three insurance companies, four fund management companies and one asset management firm.

Sustainability reporting and Reporting standards/frameworks used for climate- and environment related disclosure

According to respondents the most commonly used framework for sustainability reporting in Iceland is the Nasdaq ESG Reporting Guide, which is followed by approximately 3/4 of the companies listed on the Iceland stock exchange (Nasdaq Iceland). Among other Icelandic companies the most used reporting framework is the GRI. Only one company reports according to the CDP. The number of companies reporting according to the CDP has decreased from three, the reason for the decrease being a perceived lack of benefit among companies.

Description of common methods for reporting and evaluation of environmental and climate impacts and environmental and climate-related financial risks

According to respondents, pension funds in Iceland are commonly using the PRI and represent the investor category that have shown most interest in ESG factors. However, there has been no evaluation regarding how the principles are used.

Iceland is highly vulnerable to environmental risks, e.g. a in a rating by Standard & Poor from 2014 Iceland is ranked as most vulnerable to climate risk among all countries in the European Economic Area (Standard & Poor's, 2014) and there is ongoing work in Iceland to consider whether the pension act should include obligations in relation to ESG variables so as to enhance the analysis of systemic risk.

No Icelandic companies have yet committed to the recommendations by the TCFD.

Norway

Introduction

The significance of environmental and climate-related issues is noted by the Norwegian Ministry of Finance in its Financial Markets Report 2019 which states that climate risk in financial markets, as well as society's adaptation to climate change, may give rise to new vulnerabilities in the financial system (Norwegian Ministry of Finance, 2019). According to Finanstilsynet, the Norwegian financial regulatory authority, the Norwegian economy is particularly vulnerable to transition risk through its exposure to the oil and gas sector (Finanstilsynet, 2019). Finanstilsynet is an independent Norwegian government agency with the main objective to promote financial stability and well-functioning markets, which includes environmental and climate related risks.

Finanstilsynet follows up risks mainly through supervisions of the market actors' risk assessments and financial position. Finanstilsynet expects entities' risk management systems to cover all significant risks, including risks related to the impact of climate changes and the transition to a low emission society.[28]

The financial sector in Norway has expressed common goals for its role in the transition to a low-carbon future through its own roadmap. The roadmap is the result of collaboration between Finance Norway's members. It points the way to a profitable and sustainable financial sector in 2030 (Finance Norway, 2018).

Sustainability reporting and reporting standards/frameworks used for climate- and environment related disclosure

So far Norway has not implemented the NFRD (Directive 2014/95/EU [NFI]). However, according to one respondent the process of implementing the Directive is moving forward, and Finanstilsynet is assisting the Ministry of Finance on this matter to make it a legal act.

Norwegian legislation requires publicly listed companies to report on ESG matters. Many Norwegian companies do communicate sustainability reports (see Table 1). According to the Governance Group 2019 review of the sustainability reporting by the 100 largest companies listed on the Oslo Stock Exchange the trend for reporting on environmental and climate issues is clearly positive and the awareness that climate risk is worth mentioning has increased significantly (Governance Group, 2019). However, there are more than 30 different standards for sustainability reporting used and many of the standards are overlapping. Out of the 50 companies that reported on the UN Sustainable Development Goals, only nine companies were considered to report in a meaningful way according to the market survey.

Deloitte and KPMG Norway, respectively, have evaluated the sustainability reports from large companies in Norway and the results support the finding that the awareness and quality of sustainability reporting is showing an improving trend (Deloitte, 2019; KPMG, 2018).

28. https://www.finanstilsynet.no/en/topic/climate-risk/?id=

Tabel 2: Sustainability reporting (based on Governance Group, 2019; Deloitte, 2019; KPMG, 2018)

	Number of companies 2017	Number of companies 2018	Number of companies 2019
UN SDG	41 of 100 largest companies	50 of 100 largest companies	
			33 of 50 largest companies
GHG reduction target	24 of 100 largest companies		
GHG reduction target linked to national or internationally agreed targets	6 of 100 largest companies		

Table 3: Reporting standards/frameworks used for climate- and environment related disclosure among 100 largest companies on the Oslo stock exchange

	2017	2018	2019
Reports according to GRI (%) (Governance)		35	
Reporting according to GRI (%) (Deloitte)			27
Public CDP (%)	35	31	

The evaluation of climate- and environment related financial risk

The Governance Group market survey states that 63 of the 100 largest companies on the Oslo Stock Exchange do not at all mention climate risk, despite the word "risk" being mentioned up to 300 times in several annual reports. 15 companies cite climate as a risk factor but provide no information beyond this. Ten companies mention a few areas related to either physical climate risk or transitional risk but says little about how it is handled within the company. According to the survey seven companies make honest attempts to explain the type of risk and how it is handled. The evaluation by KPMG shows that very few Norwegian companies evaluate climate risk in financial terms.

It is worth noting that among the 63 companies that do not mention climate risk whatsoever, there are several companies in the oil and gas sector, that will be the first to be affected by more stringent climate regulations, as well as several companies in the primary industries, which are particularly vulnerable to more frequent extreme weather and changes in ecosystems (Governance group, 2019).

In 2018 the Norwegian Climate Foundation surveyed how Norwegian financial

actors and listed companies handle climate risk (Finanstilsynet, 2019). The survey illustrates the wide variation in entities' approach to climate risk. It shows that 30 percent of banks, 40 percent of life insurers and 50 percent of non-life insurers have analysed potential impacts of climate change on their business models. Less than 20 percent of financial institutions have used scenarios when analysing climate risk. However, 40 percent of them report concrete plans for developing this type of tool.

10 Norwegian companies have committed themselves to the TCFD recommendations.

Sweden

Description of financial market institutions and key players

According to the Swedish Agency for Growth Policy Analysis there are great expectations on how the financial sector can drive the financial flows towards lower greenhouse gas emissions and more climate-resilient development (Tillväxtanalys, 2019). This is partly based on the financial strengths of the sector in Sweden. In 2015, the value of the equity and bond markets was estimated at just over SEK 9,000 billion - more than double the Swedish GDP.

Sweden's financial supervisory authority ("Finansinpektionen") has the primary responsibility for policy and supervision of the financial actors on the Swedish market (Sveriges riksbank, 2016). According to the respondent from the financial supervising authority they have had tasks related to environmental and climate sustainability from the Swedish government, through its letters of appropriation, since 2015. Finansinspektionen shall integrate sustainability into its day-to-day supervisory and regulatory activities and, furthermore, promote the transparency and comparability of sustainability-related information as well as take initiatives to develop scenario-based approaches for identifying and quantifying climate-related risks. The letter of appropriation for the year 2019 from the Swedish government to the Swedish financial supervisory authority brings up two main tasks related to sustainable finance (Finansdepartementet, 2018). Firstly, the authority shall report back to the government on the work that has been carried out during the year in relation to promoting the financial system's contribution to sustainable development. Secondly, the authority shall propose indicators that can be used for measuring the financial market's contribution to the parliaments goal that the financial system should contribute to sustainable development.

Sustainability reporting and reporting standards/frameworks used for climate- and environment related disclosure

The Swedish implementation of the NFRD comprises two thirds of net sales in the corporate sector and two thirds of carbon dioxide emissions in the business sector. The implementation of the Directive in Sweden has been further tightened compared to the EU requirement. This means that in Sweden the law is binding for entities that fulfil two of the following three criteria; more than 250 employees, total assets above SEK 175 million and net sales above SEK 350 million. This translates into around 2,000 Swedish companies that need to comply with the regulation.

The reporting requirements, (that became legally binding in 2017), aim to make the information related to sustainability issues more transparent and comparable. The requirement is that the companies must prepare an annual sustainability report that provides information on how the company works with environmental issues, social conditions, staff, respect for human rights and countering corruption. It does not specify which variables or methods for how to calculate for example emissions or other issues.

A published market survey contains information about the adoption of climate targets among the 97 companies that are listed on the Stockholm OMX Large Cap in 2018 (2050, 2018). See Table 4.

Table 4: Adoption of climate targets among companies listed on the Stockholm OMX Large Cap

	Number of companies* 2018 (2016)	Share 2018 (2016)
Have a climate target	58 (51)	60% (65%)
- Absolute target	19 (45)	20% (58%)
- Relative target	45 (23)	46% (29%)
Climate target incl. scope 3**	21 (-)	22% (-)
Have a climate target with target year and level	49 (-)	51% (-)
Science-based target (SBT) committed	13 (-)	13% (-)
SBT Target set	8 (-)	8% (-)

Table note:
** In 2016 the market survey included 79 companies and in 2018 97 companies.*
*** Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.*

Sweden's financial supervisory authority conducted a survey of 71 Swedish financial companies investigating the companies' sustainability reporting, four of the companies did not issue a sustainability report at all. Of the remaining 67 companies most of the companies specified that sustainability strategies and policies have been adopted but only around half of the companies describe clearly how those will be operationalized (Finansinspektionen, 2018).

Table 5 presents results from a survey regarding frameworks used for disclosure of climate- and environment-related information among the 97 companies that are listed on the Stockholm OMX Large Cap.

Table 5: Frameworks used for disclosure of climate- and environment-related information among the 97 companies that are listed on the Stockholm OMX Large Cap (2050, 2019)

	Number of companies 2018 (2016)	Share 2018 (2016)
Reports according to GHG Protocol	69 (56)	71% (72%)
Reports Scope 1	64 (56)	66% (72%)
Reports Scope 2	65 (55)	67% (71%)
Reports Scope 3	46 (41)	47% (53%)
Reports according to GRI	74 (51)	76% (65%)
Public CDP	43 (43)	44% (55%)

The outcome of the interviews performed confirmed the results of the market survey referred to above. According to respondents the most common reporting standards/ frameworks used for climate- and environment-related disclosures are the following:

- GHG Protocol
- Carbon Disclosure project (CDP)
- Global Reporting Initiative (GRI)

Respondents emphasized that these standards are all voluntary initiatives from the private sector. With regard to the reporting obligation under Swedish law companies can still choose which methods to use to calculate the variables in the reporting and how they wish to report the information. One respondent underlined that the quality of reporting ranges from "greenwashing to very ambitious efforts".

One respondent argued that CDP is a very good standard for reporting but that it is only relevant for larger corporations. Small- and medium-sized enterprises are not part of this.

The evaluation of climate- and environment-related financial risks

Among the among the 97 companies that are listed on the Stockholm OMX Large Cap[29], 5 companies committed to report according to the TCFD recommendations in 2018 (2050, 2019). According to TCFD[30] 29 Swedish stakeholders are committed to the framework – mainly financial companies but also retail, utility and government agencies.

In the interviews the following methods and frameworks were mentioned:

- Task Force on Climate-related Financial Disclosures (TCFD)

29. To be part of the Large Cap, the market capitalization of the company must be at least EUR 1 billion.
30. https://www.fsb-tcfd.org/tcfd-supporters/

- ESG methods

According to the respondents ESG is the most widely used standards, even though it was also noted that the expression incorporates many different methods. The ESG has currently become the standard globally for assessing sustainability-related risks in investment and financing decisions.

There is no single agreed-upon definition of ESG or best practice for ESG integration. Therefore, integrating ESG analysis into the investment process is done in a manner that best fits each individual firm. Also, ESG valuations of one and the same company differ depending on which supplier performed the valuation. However, a set of common best practices are beginning to emerge as professional investors increasingly integrate ESG factors into their analyses and investment processes (CFA Institute, 2019). The respondents reported that all investors buy information from ESG providers, only a few of the largest actors conduct their own ESG data collection and analysis.

A study conducted by the Swedish Agency for Growth Policy Analysis, raises the question whether a high ESG rating of a company actually indicates the company's environmental impact (Tillväxtanalys, 2019). The report concludes that ESG values rather capture how companies work with sustainability.

The relatively new framework TCFD is the only established framework that takes a holistic approach to climate-related financial risks. Several respondents considered the framework as a large step forward when it comes to evaluating climate-related financial risks. The framework includes both physical and transitional risks. Example of physical risk is increased risk of extreme weather events, changes in climate/ landscapes due to rising sea levels. Examples of transition-ralets risk are policy and legal changes, technology, markets risks and reputation risks.

Conclusions and recommendations

This study has mapped methods and frameworks used by actors on the financial markets in the Nordic countries for reporting environmental- and climate-related information and evaluating environmental and climate financial risks and impacts. In addition, it has addressed to what extent actors on the financial market take the 1.5 ºC degree target into consideration in their strategies and decision making. Furthermore, it has aimed at identifying best practice (described in the section of Synthesis of results from the Nordic country studies) and propose recommendations on methods for reporting and evaluation of environmental and climate impacts and methods for assessing financial risks related to climate and environmental aspects in investments. Finally, opportunities for standardization of environmental and climate-related information have been considered.

Conclusions

Sustainability reporting and reporting standards/frameworks used for climate- and environment related disclosure

- The importance of sustainability reporting has been increasing steadily for a long time globally and the Nordic region stands out as a global forerunner. Sustainability reporting keeps improving and is increasingly related to the UN SDGs.

- The most common reporting standards/frameworks used for climate- and environment-related disclosures are the Global Reporting Initiative (GRI), GHG Protocol, and the Carbon Disclosure project (CDP).

- Due to limitations with respect to the availability and format of information about environmental- and climate-relate disclosures it has not been possible to identify systematic differences between the Nordic countries or investor categories regarding standards/frameworks used.

Evaluation of environmental- and climate related financial risks

- The complexity in assessing the broader ESG effects, including indirect and weighted effects and effects stemming from other parts of the value chain complicates the investment practices, which is also reflected in debates around this issue. ESG scoring can be a rather blunt tool that can be used for screening/exclusion and relative assessment of investment alternatives

(identifying "best in class") that, however, provides for a rather weak link to absolute environmental targets, such as the 1.5 °C target of the Paris Agreement. Many investors rely heavily on external providers of ESG scoring services.

- The evaluation of climate-related financial risks faces challenges since data lacks quality, standardization, and validity, and is limited in scope. Because different reporting standards are used, and standards are imprecise, the information cannot be easily aggregated. Furthermore, availability and quality of data concerning indirect so-called scope 3 emissions, as well as data for SMEs, is insufficient.

- Some actors on the financial markets urge policy makers to introduce legislation with compulsory specific reporting requirements for companies in order to enhance the aggregability of data. At the same time, regulators underline that a balance must be struck between the need to regulate and on the other hand, to avoid creating lock-in that slows down the market innovation.

- The recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) are widely supported. Importantly, TCFD takes a holistic approach to climate-related risk, considers both physical and transitional risks ("dual materiality"), stresses the importance of forward-looking assessment, and has global reach and adoption. Several companies in all Nordic countries except Iceland have committed to the TCFD recommendations. The majority of TCFD signatories in the Nordic countries are large financial companies.

- The TCFD provides alignment and promises to improve the access to and quality of data. This has high value to investors since it facilitates data aggregation and has a scope that is large enough to make it useful in investment decisions. The TCFD relies on the GHG Protocol and CDP for disclosure of GHG data points and insufficiencies with respect to the robustness and comparability organisations' GHG and other climate-related disclosures need to be taken care of in order to secure the effectiveness of the TCFD.

- Taking the 1.5 °C target into account in investment decision represents new ground. Enabling informed decisions requires development of knowledge and new methodologies. Initiatives that provide further level of detail of issues surrounding the consideration of scenario-based analysis in the investment process would, therefore, be helpful. Such initiatives should support the development of scenarios that can provide support in understanding how the risks develop given the strength of response to reduce greenhouse gas emissions and whether measures are implemented in an orderly and predictable manner or not.

Evaluation of environmental- and climate-related impacts

- Market actors have just begun the work to deal quantitatively with aspects related to the gradual progression towards near-zero emissions by mid-century that is compatible with the Paris Agreement long-term temperature target. The assessment of environmental and climate-related societal impact of investments in the context of long-term climate targets is perceived as challenging, including aspects related to scenarios and the development of appropriately designed analytical tools for quantification in terms of contribution to progress in a sector-specific way, alignment with the Paris Agreement, and measuring and managing impacts in relation to ESG.

- Policymakers need to provide as concrete signals as possible that clarifies how the transformational change to a low-carbon economy will take place. Such signals provide a necessary basis for actors on capital markets to take appropriate action, make adjustments at an early stage, and play a catalysing role in the operationalisation of climate policy.

Recommendations

Based on the interviews and the desk-top review carried out within this project, the following recommendations have been formulated.

Sustainability reporting and reporting standards/frameworks used for climate- and environment related disclosure

- **Increase the Nordic collaboration around surveying how actors on the financial market in the Nordic countries approach the disclosure of environmental- and climate-related information and assess the related impacts and financial risks.** More detailed and comparable surveys would facilitate better comparison between countries and investor categories.

- **The Nordic Council of Ministers should work towards robust and internationally consistent disclosure standards for climate-related risks.** Financial institutions and financial markets must have access to sufficient information in order to adequately identify, price and manage climate-related risks. Policymakers can encourage financial and non-financial companies to be more transparent about climate-related risks, possibly supported by legislation. In this context, as already mentioned, several respondents have been supportive of the recommendations issued by the TCFD. A positive example how to further the work related to TCFD can be found in Finland where a trade organisation and its member organisations created a reporting framework, building upon the recommendations of the TCFD, that companies can use to improve transparency with respect to how climate change is addressed. A set of indicators has been developed (which companies can choose independently how to apply) that track the progress of mitigation measures over the years. The initiative will evaluate and update the reporting guidelines annually. Similar work could be pursued on a Nordic level to further streamline the implementation of the TCFD and enhance its effectiveness.

The assessment of environmental- and climate-related impact and financial risk

- **Support research and capacity building aimed at development of methods.** Basic research is needed. Joint research projects should investigate, e.g., which type and quality of disclosure variables are relevant and provide information for investors to make better informed decisions; methodological development with respect to scenario-based analysis; analytical tools that enables the determination of investments that are compatible with the Paris Agreement Article 2.1c ("Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development").Authorities could develop and provide a set of shocks or scenarios they would like investors to use in scenario-based analysis of their portfolios. In addition, thoughtfully-designed transparency requirements of modelling methodologies (rather than standardisation) could further enable comparability (while reducing the risks of inhibiting market innovation). Climate related risk, as well as assessment of environmental- and climate-related impact, must be addressed specifically in higher education preparing students for employment in the financial sector.

General

- **The Nordic Council of Ministers can facilitate discussions, processes and coordination.** The facilitation of knowledge transfer and dissemination of good practice can provide a lot of value added. This includes, e.g., common interpretation of disclosure guidelines. Furthermore, such activities could facilitate the sharing of experiences of Nordic participants from important initiatives such as the United Nations-convened Net-Zero Asset Owner Alliance among Nordic actors.

- **It is necessary to review possibilities to further promote the real economy actions that would trigger investments to climate positive activities.** The financial system cannot drive sustainable development on its own; the ultimate responsibility lies with the political system. However, the financial system can play an important role in identifying, measuring and pricing risks and in conveying relevant information that makes it possible for the right investments to happen, thus contributing to an orderly and efficient transition.

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Appendix 1

Interview questions:

1. What are the dominating methods/frameworks used for
    a. climate- and environment-related disclosures
    b. evaluating environmental and climate-related financial risks
    c. evaluating environmental and climate impact on the capital market, including differences between different types of investors.

2. Do actors on financial markets account for the 1.5-degree target (or well-below 2 degrees target) (Paris Agreement) in their strategies and decision-making? If so, then how?

3. Do actors on financial markets take indirect GHG emissions in the value chain (e.g., purchased energy services, subcontractors) into account in their risk (and impact) evaluation, strategies and decision-making?

4. What approaches are used by actors on financial markets to handle complex and dynamic dimensions? We give two examples, but you may provide other examples that you may think of
   Example: Weighing of different impact categories
   Example: Gradual progression towards near-zero emissions by mid-century and risks related to possible lock-in effects.

5. Would you say that information related to environment and climate-related risks is comparable and accessible?

6. Are there any relevant "best practice" methods/frameworks or practices that you would like to tell us about? (any ideas on how the Nordic cooperation can help/support this coming to wider use)?

7. Please reflect upon what the individual country and/or the Nordic cooperation can do to improve the sustainability and transparency on financial markets

8. Is there any other topics that you wish to address? Any important message

that you would like to send to the Nordic Council of Ministers' work on sustainable finance?

Appendix 2

Organizations that have participated in the study with representatives from all the Nordic countries:

1. Financial market regulatory authorities
2. Banking association
3. Fund association
4. Pension funds
5. ESG rating providers
6. Independent academic organization

About this publication

Assessment and reporting of environment and climate-related risks and impacts on financial markets

A Nordic pre-study

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