



In 2015, world leaders agreed on ambitious targets to reduce greenhouse gas emissions. The following year, a number of industry groups in Norway produced sectoral roadmaps for green competitiveness. In the wake of this work, the financial sector too is uniting behind common goals for its role in the transition to a low-carbon future, through its own roadmap.

This roadmap is the result of collaboration between Finance Norway's members. Institutions across the board, from the big financial services groups to small savings banks, pension providers and nonlife insurers, took part in discussions and provided input. We also interviewed many other groups along the way, including customers, authorities, environmental organisations and other stakeholders.

We wanted our work to be sufficiently ambitious to make a real difference, while weighing in the different players' business models and sustainability strategies.

Climate change has significant implications for the Norwegian business sector – economic, physical and regulatory. The financial sector is exposed through financing, insurance and investment, and we are busy building knowledge and adjusting to changes in our own trading conditions. As specialists in risk, we also see it as our role not only to facilitate but also to contribute to the transition in Norwegian industry.

Through guidance, requirements and expectations, we can promote key processes for change that reduce climate risk while also opening up new business opportunities, so creating value both for us and for those we do business with. The roadmap outlines how we will step up this work through to 2030.

Work on the roadmap was led by Agathe Schjetlein at Finance Norway, and it has been developed in conjunction with consulting firm SIGLA and Christine Tørklep. The process of producing the roadmap began in September 2017, when Finance Norway's board and industry committees approved the project. We would like to thank all of those involved for their valuable contributions along the way.

Oslo, 6 June 2018

Turid Grotmoll

airwoman Finance Norway CEO Finance Norwa



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# VISION:

The financial sector of 2030 is profitable and sustainable. We lend, manage and insure with the climate in mind, so creating value and contributing to green competitiveness.

# For the financial sector of 2030, this means:

- Transparency and access to data and information
- Decisions based on an understanding of climate risks and opportunities
- Increased rate of innovation and a green business sector

Figure 1: The Norwegian financial sector of 2030 is profitable, sustainable and transparent



# THE NORWAY OF 2030 WILL HAVE:

- Delivered on the target of a 40% reduction in greenhouse gas emissions
- A well-functioning, value-creating economy with high employment
- Collaboration between authorities, financial sector, industry and civil society on measures and regulatory conditions that help us succeed in preventing and adapting to climate change

Norway is faced with challenges but also huge opportunities in the transition to a low-carbon future. Norway has set ambitious climate targets and taken action to ensure a green and profitable business sector. To be well positioned, the country needs not only to handle the risks posed by climate change, but also to tap the opportunities that arise. It is crucial here to see the relationship between climate issues and other important challenges reflected in the UN's Sustainable Development Goals, and to build on relevant processes in Europe and beyond.

The financial sector's input is essential for Norway to succeed in the transition to a low-carbon future. A well-functioning financial sector is needed for economic stability and security and is an important driver of change in other sectors. The Norwegian financial sector is well placed to take on this role given its sustainability knowhow and strength.



# THIS ROADMAP AIMS TO:

- Inspire the financial sector itself, the authorities, other stakeholders and society by presenting the potential of a profitable financial sector that contributes to the low-carbon transition
- Inform about the role of the financial sector both today and in the low-carbon transition
- Serve as a platform for dialogue and collaboration on climate issues in the financial sector, and a starting point for decision and policy making

# The roadmap's structure is illustrated in the diagram below:

Figure 2: The roadmap has five chapters presenting the vision, background, recommendations and way forward



# The roadmap builds on six assumptions which need to be met for our vision to be realised:

- 1. The authorities deliver on their climate commitments in the Paris Agreement and Norway's Climate Act
- 2. Assessments of climate risk are a natural part of the financial sector's fiduciary duty
- 3. The polluter pays

- 4. The financial sector and the authorities pull together as a team
- 5. The financial sector must be green in 2030 for Norway to be low-carbon in 2050
- 6. The pace of transition must be sensible and predictable

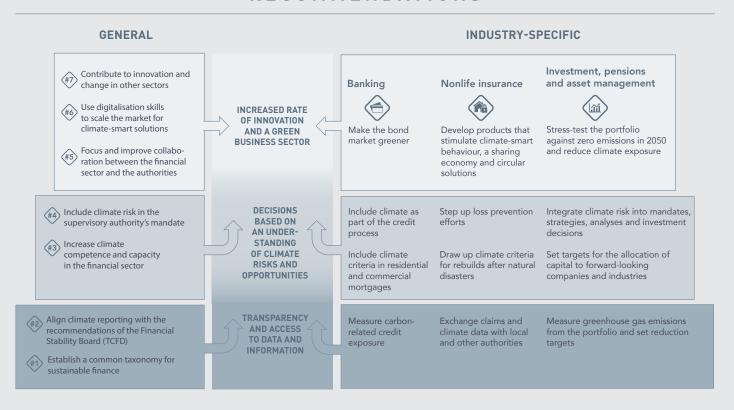
The recommendations in this roadmap will lead to a green and profitable financial sector. The roadmap presents seven general recommendations covering the whole financial sector (Chapter 3) and a number of industry-specific recommendations for (i) banking, (ii) nonlife insurance and (iii) investment, pensions and asset management (Chapter 4).

It is the combined effect of the recommendations, as implemented by the financial sector, individual institutions and the authorities, which will enable our vision to be realised.

The recommendations are summarised in the diagram below:

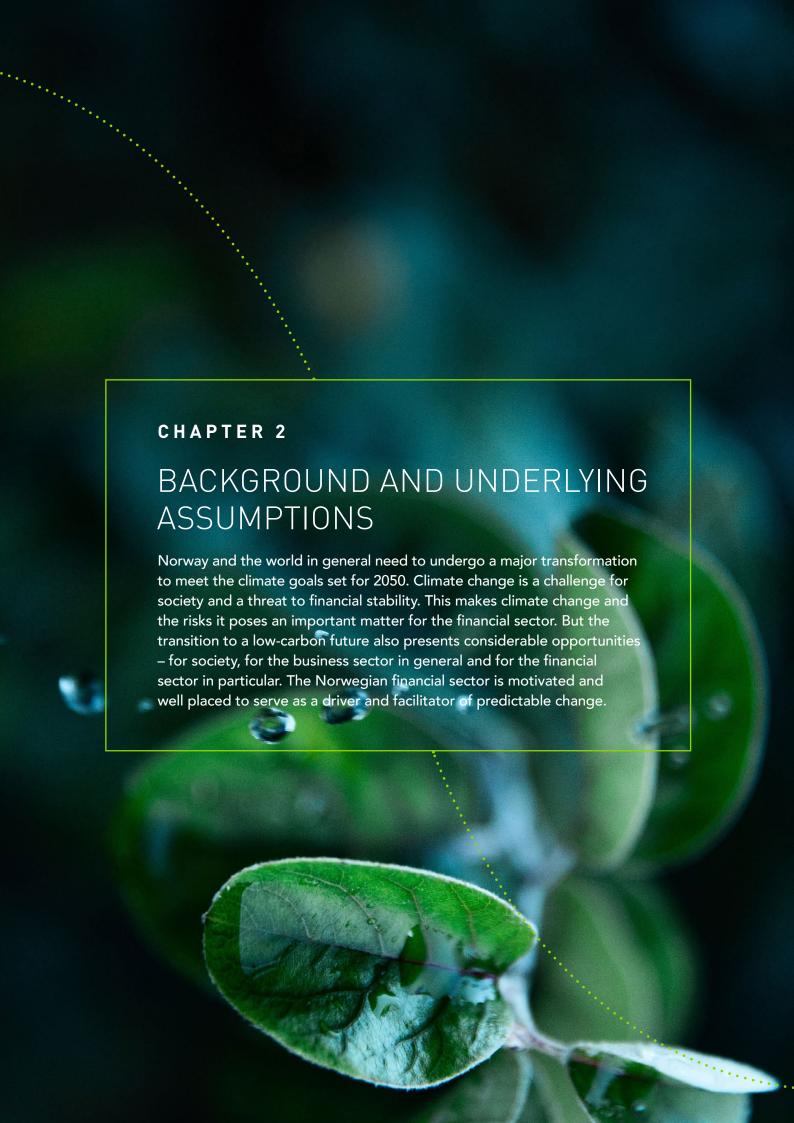
Figure 3: The roadmap presents general and industry-specific recommendations that will interact to realise our vision

# RECOMMENDATIONS



For our vision to be realised, the recommendations in the roadmap must actually be adopted and implemented. This means that:

- Every single player in the financial sector needs to use the roadmap to contribute to the transition through to 2030, based on its own skills and strategy. This includes action plans, practical measures and reporting on progress
- The authorities need to adjust the regulatory framework so that it promotes the transition in the financial sector
- Finance Norway needs to unite the Norwegian financial sector behind the roadmap, which includes initiating collaboration within the sector, with the authorities and with other stakeholders, engaging in dialogue with the EU, and monitoring progress towards the roadmap's vision.



#### 2.1 BACKGROUND TO THE ROADMAP

Norway needs to build a green and profitable business sector. In October 2016, the government's Expert Committee on Green Competitiveness published a series of recommendations for how the country can reduce greenhouse gas emissions while maintaining high levels of output and employment.<sup>1</sup> These have now been translated into the government's Strategy for Green Competitiveness. As part of the committee's work, a number of sectors produced roadmaps to show how the transition can be made in their industries. The roadmap presented here is the financial sector's contribution.

# Norway's Climate Act <sup>2</sup>

Norway's Climate Act entered into force on 1 January 2018 and implements the country's climate targets as part of the transition to a low-carbon economy in 2050. The law requires a reduction in greenhouse gas emissions of 40% by 2030 and 80-95% by 2050 (relative to 1990). These climate targets are consistent with Norway's national commitments under the Paris Agreement. The reductions are to be made in conjunction with the EU, and the act does not specify what proportion of the reductions must take place in Norway. The country's parliament has also instructed the government to set up a technical committee on climate change under the Norwegian Environment Agency.

Climate change presents a new threat. Mark Carney, governor of the Bank of England and chairman of the international Financial Stability Board, has warned of the risk of a climate-related financial crisis sparked by a dramatic decline in the value of fossil-based energy and industrial companies, panic selling of shares, and spiralling insurance payouts as a result of extreme weather events, droughts and floods.<sup>3</sup> If financial climate risks are not addressed, capital will not be allocated in the best way through financial markets, which will in turn have negative effects on average returns. Norwegian investments too are exposed to this risk. Norway's exposure to the oil and gas sector, with the risk of stranded assets and plummeting asset values, is particularly acute.<sup>4</sup>

On the other hand, the transition to a low-carbon future will also bring new opportunities. Globally, it has been estimated that achieving the UN's Sustainable Development Goals presents annual business opportunities equivalent to USD 12 trillion.<sup>5</sup> Figure 4 shows the impact on GDP of ambitious climate policy in the G20 countries. The net effect in 2050 is a gain of 2.5%, or as much as 4.6% if we avoid damage from climate change. In a delayed scenario, where climate action does not gain momentum until after 2025, there is instead a loss of GDP after ten years of an average of 2% in the G20 countries, and more for oil-exporting countries.<sup>6</sup> Given its resources, educational standards and digital infrastructure and expertise, Norway has every chance of building a robust, profitable and green business sector by 2050.

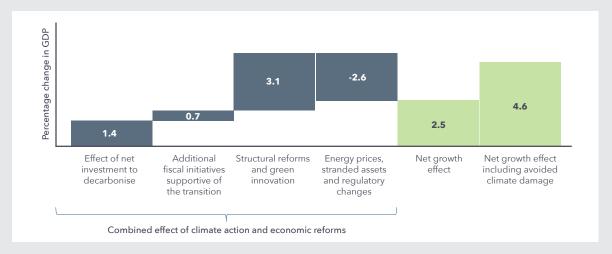
Figure 4: More ambitious climate policy will not reduce economic growth

# Mark Carney's speech "Breaking the tragedy of the horizon" $^{7}$

In 2015, Mark Carney gave a speech on climate change and financial risk that has come to be seen as a turning point in the global financial sector. In the speech, he warned that climate change could trigger financial crises and that time is running out for the financial sector to help curb greenhouse gas emissions.

"The challenges currently posed by climate change pale in significance compared with what might come. [...] Climate change is the Tragedy of the Horizon. [...] With better information as a foundation, we can build a virtuous circle of better understanding of tomorrow's risks, better pricing for investors, better decisions by policymakers, and a smoother transition to a lower-carbon economy. By managing what gets measured, we can break the Tragedy of the Horizon."





This roadmap concerns the financial sector's transition to a low-carbon future and therefore has its focus on climate change. It is clear, however, that the climate challenge cannot be viewed in isolation from other challenges facing society, such as health, education, employment, equality and biological diversity. This is clear from the UN's Sustainable Development Goals, which provide a universal map of where the world needs to be in 2030 and are supported by the financial sector. So although this roadmap focuses on climate, the financial sector is also working actively to ensure that Norway and the world in general deliver on all of the Sustainable Development Goals.

The roadmap builds on work already done both nationally and internationally. Norway is a small and open economy with close links to regulation at European level. It is therefore important to know what is happening outside Norway and to draw inspiration and learn from work being done by the financial sector elsewhere. Besides the report of the Expert Committee on Green Competitiveness in Norway and the associated sector roadmaps, this roadmap builds on international reports such as the UNEP/World Bank Roadmap for a Sustainable Future and the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). Particularly important are the final report of the EU High-Level Expert Group on Sustainable Finance and the European Commission's action plan for sustainable finance.

# Terms used in the roadmap

Sustainability: This is a broad concept that includes climate issues but also has broader environmental, social, economic and political aspects. The UN Sustainable Development Goals cover all of these aspects of sustainability and are supported by the financial sector. This roadmap, however, has to do with climate change, which means that it concentrates on how the financial sector can contribute to a low-carbon future rather than sustainable development in a broader sense.

**Green:** Actions and activities that help reduce greenhouse gas emissions are defined in this roadmap as green. Since Norway's main climate target is to be a low-carbon economy in 2050, the vision for the financial sector is to be green in 2030.

Climate-smart: Actions and activities that contribute effectively and profitably to the low-carbon transition.

Climate risk: Risks to the financial sector and others as a result of climate change - physical, economic and regulatory.

# The Expert Committee on Green Competitiveness and the Norwegian government's Strategy for Green Competitiveness

In June 2015, the Norwegian government appointed an Expert Committee on Green Competitiveness tasked with delivering a general strategy to promote a green and profitable Norwegian business sector through to 2030 and 2050.

This committee, consisting of former European Commissioner for Climate Action Connie Hedegaard and Finance Norway CEO Idar Kreutzer, published its report in October 2016, and a year later the government unveiled its Strategy for Green Competitiveness based on the committee's recommendations. In addition, various industries in Norway have launched roadmaps for their own low-carbon transition, including real estate, the process industry, and oil and gas.

#### 2.2 ABOUT THE NORWEGIAN FINANCIAL SECTOR

The financial sector has a key role to play in the transformation of the Norwegian economy. It helps businesses and consumers to manage financial and other risks, and creates value from savings by investing deposits. A common understanding of the financial sector's role in society in the context of climate change is important to ensure productive relations with politicians, authorities and civil society.

# A well-functioning financial sector:

- Contributes to financial stability and prevents and absorbs risk
- Gives consumers financial security throughout life
- Offers savings, loans and efficient payment solutions for businesses and consumers
- Provides financing for profitable projects and future value creation
- Provides insurance for businesses and consumers with fast and efficient settlement of claims
- Is a solid and forward-looking employer of a skilled and productive workforce
- Facilitates innovation and change in society

The financial sector is a significant industry in itself. With more than 50,000 workers, it accounts for 2% of employment and 6% of mainland GDP and is the largest taxpayer in the mainland economy.

# Key figures for the financial sector

Number of employees	50 000
Share of employment in Norway	2%
Share of output in Norway (percentage of mainland GDP)	6%
Number of banks	134
Number of savings banks	100
Assets under management – banks	NOK 6 200bn
Number of nonlife insurers	87
Assets under management – nonlife insurers	NOK 200bn
Number of life insurers	13
Assets under management – life insurers, pension providers, mutual funds	NOK 2 747bn

 $Source: Finance\ Norway,\ Finanstilsynet,\ Norwegian\ Savings\ Banks\ Association,\ Norges\ Bank,\ Statistics\ Norway\ ^{10}$ 

The Norwegian financial sector wields considerable influence both as an asset manager and as a lender. With NOK 8 300 billion under management,<sup>11</sup> it manages assets of a similar size to the oil fund – the Government Pension Fund Global (GPFG). Norwegian banks and mortgage companies account for 74% of the business sector's borrowings.<sup>12</sup> This puts the financial sector in an important position.

Figure 5: The financial sector manages a similar amount of assets to the Government Pension Fund Global

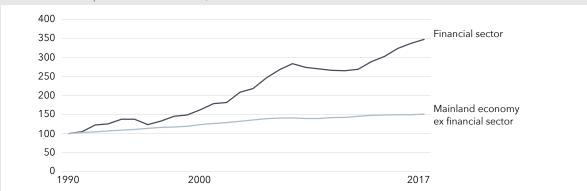
Assets under management in the Norwegian financial sector and the Government Pension Fund Global, mainland GDP and the central government budget in billions of NOK



Source: Finance Norway

Figure 6: Productivity in the Norwegian financial sector is high and rising

Gross value added per hour worked. Index, 1990=100



Source: Finance Norway

The financial sector has a key part to play in Norway making a successful transition to a low-carbon future. One important task for the sector is deciding who receives financing and at what price, and which products and services the market is offered. The sector's expectations and terms are important for driving and facilitating change at individual businesses and in industry as a whole.

Climate change has made the financial sector's loss prevention efforts ever more important. By channelling capital appropriately and setting requirements and expectations for property developers and builders, the financial sector can make a major contribution to preventing climate-related losses. Nonlife insurers are particularly important when assessing the risk and prevention of losses due to natural perils. This work and collaboration with the authorities and municipalities will be even more significant in the years ahead.

The Norwegian financial sector is well placed to take on this role. The sector came through the financial crisis in 2007-2008 relatively unscathed and demonstrated that its structures and systems function in times of crisis. This knowledge and experience will be beneficial in the low-carbon transition. The sector is also a leader when it comes to climate and sustainability. Examples of this include the early launch of sustainable investments and green loan and insurance products. A number of different tools are already in use, from analysis of climate factors in investment and credit processes to active ownership on sustainability and climate issues. The development of this roadmap shows the sector's willingness to play a role in the debate on climate adaptation. At the same time, there is considerable variation between institutions in terms of activities, positioning and knowhow in this area.

### The Norwegian Sustainable Investment Forum (Norsif)

Norsif is an independent association of asset owners and managers, service providers and trade bodies with an interest in responsible and sustainable asset management, financed and run by its members. Its aim is to raise awareness and contribute to the development of the field.

Since its formation in 2013, Norsif has seen strong growth in its membership and has come to represent the most important players in the Norwegian financial ecosystem. Its 44 members include pension providers, banks and other asset managers, financial advisers, the Oslo Stock Exchange, the Ministry of Finance and the Government Pension Fund Global.

Norsif sets the agenda and is an important arena for sharing information and developing best practices.

# 2.3 ASSUMPTIONS BEHIND THE ROADMAP

The roadmap builds on six premises which underlie its analyses and recommendations:

- 1. The authorities deliver on their climate commitments in the Paris Agreement and Norway's Climate Act. The roadmap's point of departure is the commitments made by the Norwegian authorities, in particular an 80-95% reduction in greenhouse gas emissions by 2050.
- 2. Assessments of climate risk are a natural part of the financial sector's fiduciary duty. This duty requires the sector to manage customers' money in their best interests. Assessments of climate risk are a natural part of this.
- 3. The polluter pays. This principle is well established in both Norwegian and international law. Those who cause damage to the environment must take both preventive and corrective action, and be accountable financially for this action.
- **4.** The financial sector and the authorities pull together as a team. The sector is an important facilitator for activity in society and an important industry in itself. Norway's climate targets and the vision in this roadmap can only be realised through close collaboration with the authorities.
- 5. The financial sector must be green in 2030 for Norway to be low-carbon in 2050. The sector's role as a facilitator for other parts of the economy means that it needs to have come a long way in its own transition by 2030 in order to facilitate other industries' transition through to 2050.
- 6. The pace of transition must be sensible and predictable. There is a risk in demanding too fast a transition, but an even greater risk in taking too long. We need to work together with the rest of the business sector and the authorities to ensure a prudent and predictable change process.



# 3.1 ESTABLISH A COMMON TAXONOMY FOR SUSTAINABLE FINANCE

A common taxonomy will make it possible to understand the climate effects and exposures of different activities, businesses and products. It will then be easier for the financial sector to identify risks and opportunities, for customers to compare products, and for the authorities to oversee the sector's contributions to the transition.

# **CURRENT SITUATION:**

- At present, there is no common taxonomy defining what can be classified as green. Many institutions have products and processes that address climate-related risks and/or opportunities, but there are big differences in definitions, criteria and implementation.
- The EU has begun work on formulating a common European sustainability taxonomy. The High-Level Expert Group on Sustainable Finance has delivered its recommendations for a common European taxonomy and says that the process will be complete by 2020.

#### CHALLENGES AND CONSIDERATIONS:

- The taxonomy should be neither normative nor static. It should not serve as a standard for what products institutions may offer, and it is important that the taxonomy is dynamic and can be adjusted in the light of technological advances and innovations.
- The taxonomy should include the transition in existing industries. The green transition requires investment not only in new industries but also in companies that currently have high emissions and need to transition towards more sustainable operations.
- The taxonomy should be guided by the process in the EU. The work on definitions of sustainable finance should build on the recommendations of the EU High-Level Expert Group on Sustainable Finance and the European Commission's subsequent action plan, rather than developing uniquely Norwegian concepts.

# The EU High-Level Expert Group on Sustainable Finance and a common European taxonomy 13

The EU High-Level Expert Group on Sustainable Finance, comprising representatives of the European financial sector, responsible investment circles and civil society, was formed in late 2016 and delivered its recommendations for sustainable growth in the financial sector in January 2018. One of the HLEG's recommendations is to appoint a working committee to develop a common European sustainability taxonomy. In March 2018, the European Commission published its action plan for sustainable finance, which provides guidance on how this work should proceed. The plan is to roll out the taxonomy gradually, with publication of the complete version in 2020.

# AGAINST THIS BACKGROUND, IT IS RECOMMENDED THAT:

Norwegian needs and wishes are identified and communicated to the EU committee working on the sustainability taxonomy. Finance Norway will initiate collaboration between the financial sector and relevant authorities to clarify the Norwegian position, which includes obtaining input from relevant stakeholders. This can then feed into the EU's work on developing a common European taxonomy, which is expected to be completed by 2020. It is not, however, the case that work in other areas can or should wait until the taxonomy is finalised.

#### 3.2 ALIGN CLIMATE REPORTING WITH THE RECOMMENDATIONS OF THE FINANCIAL STABILITY BOARD (TCFD)

The Task Force on Climate-related Financial Disclosures (TCFD) has issued recommendations on how climate risk should be reported across all sectors, showing how companies can identify financially relevant topics. The proposed framework provides a good starting point for drawing up a reporting standard that ensures transparent and consistent information on climate risks and opportunities.

# The Task Force on Climate-related Financial Disclosures (TCFD) 14

In December 2015, the Financial Stability Board (FSB) set up a Task Force on Climate-related Financial Disclosures (TCFD), consisting of 32 experts from around the world and chaired by Michael Bloomberg. The TCFD was tasked with looking at how corporate reporting on climate risk can be made better and more systematic. Its recommendations, delivered in June 2017, have attracted considerable interest in the financial sector and elsewhere. The final report provides both a formula for disclosure and a framework for understanding and describing climate risks and opportunities, but leaves considerable room for interpretation. The TCFD's upcoming report in autumn 2018 is expected to include a gradual implementation process.

Formula for disclosure: The TCFD makes recommendations in four areas relevant to companies regardless of sector and geography: governance, strategy, risk management, and metrics and targets. The report provides both general guidance for all companies and supplemental guidance for various sectors and industries. The guidance for the financial sector is divided into four categories: banks, insurance companies, asset managers and asset owners.

Framework for climate-related risks and opportunities: The report divides risks into transition risks and physical risks, which are then broken down into further categories, as are opportunities.

Figure 7: The TCFD's framework covers climate-related risks, opportunities and financial impacts

Overview of risks and opportunities presented by the Financial Stability Board's Task Force on Climate-related

Financial Disclosures



Kilde: TCFD, Norwegian Climate Foundation

The UN Environment Programme's Finance Initiative (UNEP FI) is currently testing the framework in the TCFD's final report. Sixteen banks – including DNB in Norway – are part of the pilot project to develop analytical tools and indicators to strengthen disclosure. In addition, a group of 13 asset managers – including Norway's NBIM, Storebrand and DNB – are working with UNEP FI on guidelines on implementing the TCFD recommendations.

# **CURRENT SITUATION:**

- Current disclosure requirements do not result in comparable information. Directive 2014/95/EU on the disclosure of non-financial information entered into force in Norway on 1 January 2018, implemented (provisionally) through provisions in Section 3-3c of the Accounting Act on reporting on corporate social responsibility. However, these provisions are vaguely formulated ("report on"), leave room for interpretation and do not result in comparable data or information. The requirements also apply solely to "large undertakings", which make up only around 1% of Norwegian businesses. 15
- Other countries have introduced enhanced disclosure requirements for climate risks. Around 30% of regulatory initiatives relating to sustainable finance have to do with disclosure. The best-known example is Article 173 of France's Energy Transition Law, which requires extensive reporting by institutional investors.
- There are numerous different frameworks in existence for reporting on companies' climate exposure. In its work, the TCFD identified 400 such frameworks developed by public authorities, stock exchanges, NGOs and trade bodies. 17 Very few of these focus on the financial risks associated with climate change. This makes climate-related disclosure fragmented and incomplete.
- The TCFD framework may become the new norm for climate disclosure. The TCFD has published its recommendations for a standardised disclosure framework, and more than 250 companies <sup>18</sup> with a combined market value of more than EUR 5 100 billion have already expressed their support. The Norwegian financial sector considers these recommendations to be important, <sup>19</sup> even though they leave considerable room for interpretation and may be challenging to implement.

# **CHALLENGES AND CONSIDERATIONS:**

- The availability and quality of financially relevant climate data are limited. To understand and apply knowledge
  about climate risks, the financial sector is dependent on information and data that can be used for analyses and
  comparisons and are consistent over time.
- Relevant and accurate reporting requires good tools and models. Analysis of climate risks and opportunities is
  incomplete and immature in relation to traditional financial analysis. Disclosure in line with the TCFD framework will
  require industry (including brokers and analysts) and authorities to develop new calculation models for companies and
  projects.
- New disclosure requirements must not be overly onerous. Companies already have a raft of reporting requirements to comply with. It is important that new disclosure requirements are not excessive in scope and tie in well with existing requirements and guidelines. It is important that the disclosure framework is efficient and achievable for as many players as possible, whatever their size or industry.
- The financial sector is dependent on high-quality data and disclosure on climate issues. Data of this kind from companies and customers are needed for the financial sector to be able to assess climate risks, be an effective partner and driver for change in other industries, and, not least, deliver high-quality climate reporting itself.

- The financial sector adopts the TCFD recommendations. The Norwegian financial sector will end up with better data for risk assessments if it begins early on climate disclosure. It also makes sense to phase in climate disclosure now rather than risk having to respond suddenly to changes in Norway and/or Europe. It is primarily the big financial institutions that need to apply the TCFD recommendations.
- Financial institutions promote the TCFD recommendations in other industries. This might mean expressing clear expectations for the application of the TCFD framework in the lending process or in active ownership, and incorporating requirements into external asset management mandates.
- The authorities are clear that the TCFD recommendations should be used as a reporting standard for climate
  risks. The TCFD framework has been developed by industry representatives from around the world and is the
  most complete set of recommendations for a disclosure framework in this area. The Norwegian financial sector
  sees the TCFD recommendations as an important part of the work on an upgraded disclosure framework.<sup>20</sup>

# 3.3 INCREASE CLIMATE COMPETENCE AND CAPACITY IN THE FINANCIAL SECTOR

To integrate climate risks and opportunities successfully into core processes, there is a need to increase the sector's competence and understanding of materiality, and to ensure sufficient capacity for implementation. This change will be quicker and more effective if directors and executive management have relevant knowledge. Climate competence must also be strengthened in higher education programmes relevant to the financial sector.

# **CURRENT SITUATION:**

- Climate change is affecting businesses' ability to create value. It is leading to changes in demand and the competitive
  landscape, new regulation and new physical climate risks. More and more information is becoming available on the
  consequences of climate change for the financial sector. <sup>21</sup> Relevant assessments of risks and opportunities require new
  knowledge.
- There is too little knowledge about how climate change will affect the economy. Although there is plenty of knowledge about the climate and about the economy, there are insufficient links between the two. The Norwegian government has appointed a group of experts to assess climate-related risk factors and their significance for the Norwegian economy the Climate Risk Commission which is due to deliver its recommendations in December 2018.
- Responsibility ultimately lies with boards and owners. Under Section 6-12 of Norway's Companies Act, the board has overall responsibility for a company's management, guidelines and business, and thus also responsibility for addressing relevant risk factors. Climate change is increasingly a relevant risk for the business sector.

## **CHALLENGES AND CONSIDERATIONS:**

- Climate risk is not adequately integrated into corporate governance. Although a number of players have begun work on including and integrating climate issues into their business, there is still some way to go in terms of competence, capacity and actual implementation.
- Climate change is not adequately integrated into higher education. This means that finance and climate are treated as two separate fields without an appreciation of how the two interact. A knowledge of this is important for the financial sector and will only grow in importance.
- Research into climate risk and sustainable finance is limited in scope. R&D is a priority in Norway's transition to a low-carbon future. <sup>22</sup> Strong and competent financial institutions and academic excellence in climate research provide a good starting point for building research arenas for climate risks too in the financial sector.

- The Norwegian Corporate Governance Board (NUES) includes requirements for climate competence in its code of practice. Finance Norway is working with the Norwegian Sustainable Investment Forum (Norsif) on recommendations based on Norsif's work. The board and executive management of each financial institution must themselves identify the need for skills development in their own organisations and ensure capacity for implementation in core processes.
- Climate risk is addressed specifically in higher education programmes preparing students for the financial sector. Finance Norway and Norsif should initiate collaboration between relevant educational institutions and the Ministry of Education and Research on how climate risk can be better integrated into curricula and courses in advanced finance and economics, including continuing professional development.<sup>23</sup>
- A partnership is formed to build up research into sustainable asset management. The authorities should work with NBIM and other leading financial institutions to assess how best to build up Norwegian research and expertise in sustainable asset management and green finance.

# 3.4 INCLUDE CLIMATE RISK IN THE MANDATE OF THE SUPERVISORY AUTHORITY'S MANDATE

The Norwegian financial supervisory authority Finanstilsynet's mission is to promote financial stability and well-functioning markets. Given the emergence of climate change as a threat to financial stability, it is appropriate for Finanstilsynet's mandate to be expanded to include mapping and analysing the consequences and risks of climate change for the financial sector.

# **CURRENT SITUATION:**

- The supervisory authorities play a key role in the Norwegian financial sector. The sector is regulated and supervised. Oversight has grown in recent years and is increasingly being standardised across Europe. Finanstilsynet supervises the Norwegian financial sector and follows up the government's policies as communicated in its annual allocation letters.
- Climate risk is not specifically included in Finanstilsynet's mandate. The Norwegian authorities have not yet made climate risk an explicit component of oversight and risk assessment in the financial sector. Finanstilsynet's allocation letter for 2018 does include "management of climate risk" as an example of what might be considered during on-site and document-based supervision of banking and finance,<sup>24</sup> but it is not otherwise mentioned.
- In Sweden, sustainable development is part of the supervisory authority's mandate. The Swedish parliament has adopted a new goal for financial market supervision, namely that the financial system is to contribute to sustainable development, and tasked the country's financial supervisory authority with ensuring that this happens.<sup>25</sup>

#### **CHALLENGES AND CONSIDERATIONS:**

- The European Commission is considering further regulation of supervisory authorities. If rules are introduced at European level requiring supervisory authorities' responsibility for climate risk to be formalised, the Norwegian authorities need to be prepared and have the necessary expertise.
- Political guidance for the supervisory authority on climate risk is unclear. There have been no clear signals from either government or parliament on whether or how climate risk should be included in Finanstilsynet's mandate.
- The guidance and mandate for Norges Bank are important for the financial sector and Finanstilsynet. Despite growing financial risks from climate change, Norges Bank's strategy for 2017-2019 does not mention climate risk. This contrasts with the Bank of England, which has published studies and reports on the topic.

# Climate and sustainability at the Swedish financial supervisory authority

The Swedish parliament has adopted a new goal for financial market supervision, namely that the financial system is to contribute to sustainable development. The government's 2018 allocation letter to the country's financial supervisory authority Finansinspektionen asks it to integrate sustainability issues so that they are a natural part of financial supervision and regulation.

Finansinspektionen sees close links between the financial sector on the one hand and climate and sustainability targets on the other, which means that there is a need for stable and well-functioning financial markets. At the same time, the low-carbon transition brings risks that financial institutions need to address, which in turn places demands on supervision. At the Swedish parliament's request, Finansinspektionen has published a number of reports in this area.

- The Norwegian government, via the Ministry of Finance, includes climate risk in Finanstilsynet's mandate. Climate risks and climate effects need to be reflected in its mandate in the same way as financial stability and financial risks.
- The Ministry of Finance, Finanstilsynet, Norges Bank and the financial sector work together on climate competence. Competence and capacity are crucial for ensuring efficient oversight of climate risk by the supervisory authority. Collaboration between the various players will be important here.

# 3.5 FOCUS AND IMPROVE COLLABORATION BETWEEN THE FINANCIAL SECTOR AND THE AUTHORITIES

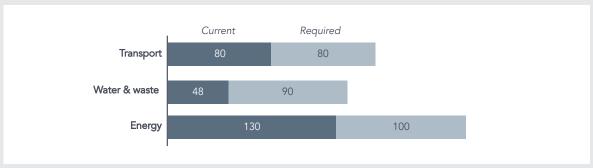
The financial sector's transition is dependent on close collaboration with the authorities to adjust regulatory conditions and ensure good flows of information. When the authorities offer to cover parts of the risk, the threshold is lowered for private capital to finance and invest in green projects and ventures. When nonlife insurers share data with the authorities, work on loss prevention and adaptation to climate change becomes more effective.

# **CURRENT SITUATION:**

• The transition to a low-carbon future depends on large-scale investment in infrastructure. The EU estimates the annual need for investment in order to meet its energy and climate targets for 2030 at EUR 180 billion, or EUR 270 billion when transport, water and waste are also included.<sup>26</sup> There is also a major need for investment in Norway,<sup>27</sup> including in the production and distribution of electricity and infrastructure for digitalisation.

Figure 8: Substantial investment is needed to achieve climate and energy targets

EU's annual need for investment in infrastructure for transport, water, waste and energy in billions of EUR



Source: European Commission 28

- Green projects and businesses are considered immature, with high risks. There is a good supply of capital in general, but it is still challenging to find lenders and equity for projects and businesses that reduce emissions and contribute to the green transition there is a gap between supply and demand.<sup>29</sup>
- There are examples of effective collaborations. Finance Norway led a pilot project on sharing nonlife insurers' claims data with municipalities. In the Netherlands, the central bank has launched a Sustainable Finance Platform to bring the financial sector and the authorities together to work on topics such as climate risks and opportunities. In Norway, the collaboration between the Norwegian Investment Fund for Developing Countries (Norfund), pension company KLP and Scatec Solar on renewable energy is an example of a successful public-private partnership.

# **CHALLENGES AND CONSIDERATIONS:**

- Short track records and unpredictable policy spell a higher threshold for green financing and investment. If risk assessments are based on historical data, it will take time to establish a "correct" risk premium for new asset classes such as infrastructure. An unpredictable regulatory landscape makes it challenging to estimate long-term returns, due partly to uncertainty about taxes and duties.
- Financial analyses and valuations attach more importance to short-term profitability than long-term returns. Infrastructure and renewable energy generally feature higher investment costs and lower operating costs than traditional solutions. Because these areas also have a short investment history and often a more unpredictable regulatory landscape, they can lose out to established projects and companies.

# AGAINST THIS BACKGROUND, IT IS RECOMMENDED THAT:

- The government adjusts the mandates of existing financing and guarantee schemes so that they work better with private capital in the transition to a low-carbon future. With more specific mandates, public players such as Fornybar, SIVA, Norfund and GIEK can take greater risks and provide guarantees and financing arrangements that release more private capital for green solutions, green infrastructure, technological development and climate financing
- Norges Bank leads the work on building a public-private partnership for the green transition. An initiative inspired by the Sustainable Finance Platform in the Netherlands would provide a forum for co-operation between the authorities and the financial sector in Norway. It could also serve as a platform for discussing the exchange of climate-related data and the UN's Sustainable Development Goals.
- Finance Norway initiates a public-private partnership with relevant authorities to improve loss prevention. Political guidance on climate issues comes through a wide range of ministries and authorities, each with different powers, roles, mandates and policy instruments. A more integrated approach through public-private partnerships will result in more accurate risk mapping and is essential for successfully understanding vulnerabilities and the value of prevention.

# The Dutch Sustainable Finance Platform 30

The Sustainable Finance Platform in the Netherlands is a co-operative venture bringing together the country's central bank, financial supervisory authority, finance and environment ministries and various trade bodies representing the banking, insurance and investment industries. The aim is to provide a forum for dialogue on sustainable finance. The platform has two main activities:

- 1. Meetings to promote cross-sectoral knowledge sharing and co-ordinate sustainability initiatives
- 2. Six working groups to explore and develop new initiatives, each focusing on specific aspects of climate risk, education, the circular economy and disclosure

# 3.6 USE DIGITALISATION SKILLS TO SCALE THE MARKET FOR CLIMATE-SMART SOLUTIONS

Digitalisation, the Internet of Things, machine learning and artificial intelligence are transforming consumer behaviour, the competitive landscape and business models. The financial sector should increase digital customisation and data processing to develop and market profitable and climate-smart products and services. In so doing, the sector will also encourage individual customers to choose these products and move their own behaviour in a more sustainable direction.

#### **CURRENT SITUATION:**

- Digitalisation is transforming all sectors, including finance. It brings new opportunities for gathering and processing information, developing new products, and tailoring communication with individual customers.
- Increased digitalisation will make climate-related data more readily available. Greater availability of information on
  individual consumers' behaviour (for example, all Norwegian households are to have digital electricity meters by 2019)
  will lead to greater transparency and more precise measurement and reporting of greenhouse gas emissions. This will
  improve the information available to players in the financial sector.
- Norway is a leader in both digital infrastructure and digital expertise. 97% of the population has access to the Internet, 31 and 90% of bank customers use online banking. 32 The financial sector has already adopted digitalisation as an important efficiency tool in many areas.

# **CHALLENGES AND CONSIDERATIONS:**

- The upsurge in digital solutions requires new skills and new tools. The use of new technologies such as the Internet of Things, machine learning and artificial intelligence will place different demands on skills, systems, customer dialogue and product development. This represents a significant break with how large parts of the financial sector operate today.
- Digitalisation is making it easier for new entrants to challenge established players. The Norwegian financial market
  has historically been dominated by well-established institutions. With increased digitalisation and use of new technology,
  both start-ups and large players in other industries can create efficient new business models that challenge the traditional
  financial sector.
- Data protection rules and expectations are evolving rapidly. The EU's General Data Protection Regulation (GDPR) sets out requirements for system design and data processing for all those who hold personal data, and will apply in Norway from summer 2018. The growing focus on data protection will lead to greater awareness among customers, and it is essential that this is handled well.
- Customers want, and are able to demand, far more information from financial institutions. There is a growing
  awareness of sustainability and climate issues, especially among younger customers. Digital tools will make both
  sharing and requesting information on the climate aspects of financial products and services easier and more efficient.

- Financial institutions develop new products and services, and adjust existing ones, with the climate in mind.

  Better, easier and faster access to climate-related data will enable the financial sector to offer climate-smart products and services, both by developing brand-new solutions and by improving the existing portfolio. Such products can be tailored and marketed to the individual customer and encourage more sustainable choices and behaviours.
- Financial institutions publicise the climate impact of financial products and services. Digitalisation makes it possible to gather and present systematic information on the climate impact of many financial products, including pensions and insurance policies. Good measurement and communication of such information will enable customers to make more informed choices.

#### 3.7 CONTRIBUTE TO INNOVATION AND CHANGE IN OTHER SECTORS

The financial sector has an influence on the rest of the business sector through the way it finances, lends, insures and invests. By building knowledge and understanding of climate risks and opportunities, financial institutions can be a catalyst in the transition to a low-carbon future.

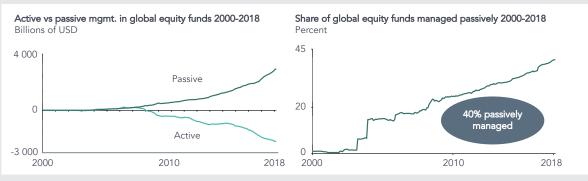
# **CURRENT SITUATION:**

- As a lender, insurer and investor, the financial sector can be a good partner and driver for change in other industries.
   The sector's role is to decide who receives finance and at what cost. Through expectations, requirements, pricing and constructive collaboration and advocacy, the financial sector can drive change both at individual companies and across the business sector.
- The financial sector itself has little direct climate impact. While it is important for the sector to have its own house in order (e.g. through green purchasing and energy-efficient buildings), this pales in significance next to its influence via other industries
- The financial sector has launched numerous activities, but climate issues are not sufficiently integrated into core processes. Example of such activities include requirements for green certification of properties and active engagement on climate issues in asset management. However, there are varying degrees of consistency and considerable differences between institutions.

# **CHALLENGES AND CONSIDERATIONS:**

- Short-termism can lead to climate investments being postponed or restricted. Although a substantial share of the sector's capital is managed for the long term, such as pensions, returns are often measured over a year, quarter or even shorter period. This serves to undermine long-term value creation, including measures to reduce emissions and improve climate performance. A number of players are attempting to introduce a more long-term approach: for example, Unilever 33 has stopped issuing quarterly guidance, and Generation Investment Management 34 and BlackRock 35 are urging the same. Long-term strategies are important for predictability and for long-term profitability in the financial sector. 36
- A large and growing proportion of capital is being managed passively (index investing). This means that managers
  do not make active decisions but attempt to mimic the market (and so market risk) at low cost. With active management,
  the manager is free to choose companies, sectors and markets and can therefore push the portfolio in a more sustainable
  direction. With passive management, there is limited scope to influence the composition of the portfolio. This makes
  it particularly important to use active ownership (vote at general meetings and engage with boards and management).
  Climate risks can also be addressed by adjusting the underlying benchmark index, for example by excluding carbonintensive activities.

Figure 9: Passive management is growing strongly
Active vs passive management in global equity funds 2000-2018



Source: EPFR, Bernstein Analysis

# ABN AMRO's energy rating of its loan portfolio (A or better in 2030) and Global Sustainability Risk Indicator 37

Dutch bank ABN AMRO finances more than 10% of the Netherlands' property stock, and the buildings in its portfolio currently have an average rating of D in the EU's energy performance certificate system. The bank's goal is for all of the buildings it finances to be rated A by 2030. This translates into a substantial reduction in greenhouse gas emissions, given that buildings account for 40% of the country's total emissions. ABN AMRO has also introduced a Global Sustainability Risk Indicator which measures four different aspects of sustainability performance and is to be used when assessing all credit applications.

- The financial sector works more closely with other industries to identify potential improvements and financing needs. This might mean Finance Norway initiating collaboration with other sectors, such as construction, manufacturing or oil and gas, to encourage companies, banks and investors to work together to identify climate risks and bring about change. Financial institutions are in a good position to advise on how businesses with substantial climate exposure can make changes, and be a clear voice in the general debate about how Norway is to achieve its climate targets.
- Financial institutions strengthen their work on active ownership, both individually and collectively. This can be done through dialogue with a company's board and management, voting at general meetings, and working with asset managers to ensure a consistent message and increased opportunities for constructively influencing both individual companies and industry groups. Relevant topics might be strategy, competence and stress-testing of climate scenarios.
- The supply of capital and pricing of products reflect climate risk. For both profitability and the low-carbon transition, it is important to include climate risk as a factor when assessing who should be allocated capital and at what price.
- The Norwegian Corporate Governance Board (NUES) updates its code of practice to recommend that companies no longer provide quarterly earnings guidance. This would encourage a focus on more long-term value creation among both companies and asset managers.



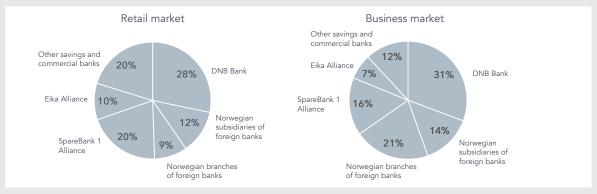
#### **4.1 BANKING**

Banks provide loans, savings products and payment services for both consumers and businesses. They play a key role in society by facilitating flows of capital between those with money to save and those in need of finance. This is important not only for consumers, especially in the property market, but also for businesses so that they have opportunities to grow and create more value. Banks' pricing of risks provides a strong incentive for customers to modify their behaviour and contributes to innovation and change.

# **STRUCTURE**

- The Norwegian banking industry consists of 134 institutions 38 right around the country and has assets of NOK 6 200 billion under management, including loans of NOK 4 700 billion. 39 Consumer mortgages make up 47% of the loan portfolio, and business lending 26%. All in all, real estate accounts for 60% of bank lending. 40
- In 2017, Norwegian banks' earnings were back around the levels seen before the financial crisis in 2007-2008 41

Figure 10: DNB is the biggest player in both the retail and business markets with around a third of all lending Market share in the retail and business markets in 2016



Source: Norges Bank 42

# **REGULATORY LANDSCAPE**

• The Norwegian banking industry is covered by international financial regulation. Since the global financial crisis, the main focus of authorities worldwide has been on ensuring financial stability to avoid future crises. This has led to stronger financial regulation at both global and European level, including Basel III and the EU's Capital Requirements Directive (CRD IV) and Bank Recovery and Resolution Directive (BRRD).

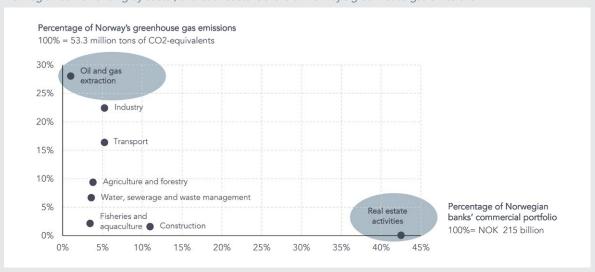
# **DISTINGUISHING FEATURES**

- Norway has a long tradition of savings banks, which have played a key role in local communities and commerce.
   Local and regional savings banks have been important in the modernisation of Norwegian society. The savings bank model means that resources are channelled back into local communities and contributes to commercial development and value creation nationwide. There are currently 100 savings banks in Norway.<sup>43</sup>
- Norwegian bank customers have considerable digital expertise and presence. 90% of bank customers use online banking, and 49% mobile banking.<sup>44</sup> In 2017, 106 banks bought into DNB's mobile payment app Vipps, which is now an independent industry solution.<sup>45</sup> The use of new digital solutions in the banking industry is still in its infancy, however, and countries such as the US and China are ahead of Norway in offering digital banking services.<sup>46</sup>

#### **CURRENT SITUATION**

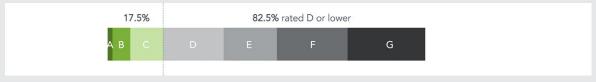
• Real estate accounts for more than half of banks' lending: consumer mortgages make up 47% of the portfolio and commercial property 13%. <sup>47</sup> Although real estate is the source of just 2.8% of Norwegian greenhouse gas emissions, it is behind no less than 40% of energy consumption and so has great potential for energy savings. <sup>48</sup> It should be stressed, however, that the figures from Statistics Norway only cover direct emissions, and emissions from both real estate and oil and gas are significantly higher when the full value chain is included.

Figure 11: Norwegian banks lend most to the sector with the lowest emissions, and least to the sector with the highest Norwegian banks' lending by sector, and each sector's share of Norway's greenhouse gas emissions



Source: SSB<sup>49</sup>

Figure 12: Real estate has low emissions but high energy consumption and so great potential for energy savings Energy performance of Norwegian buildings in 2017



Source: energimerking.no50

- Norwegian banks are offering green products and services to meet new demand. There are now a variety of
  savings and loan products aimed at customers keen to reduce their carbon footprint and contribute to sustainable
  development. Examples include green bonds, sustainable savings products and green car loans and mortgages.
- Bonds are accounting for an increasing share of Norwegian businesses' interest-bearing debt,<sup>51</sup> but few of
  these are green. Elsewhere in Europe and the rest of the world, green bonds are growing more quickly than in
  Norway. Norwegian banks have made little use of green bonds compared to those in Sweden.<sup>52</sup> Internationally, the
  UN PRI has launched an initiative to get credit rating agencies to include climate factors (ESG analysis) in their credit
  risk assessments.<sup>53</sup>

#### Green loans

Green loans are loan products with favourable terms for projects with positive climate or environmental effects. This might mean energy-efficient buildings, companies with a good sustainability rating, or renewable energy. A number of financial institutions, including ING in the Netherlands and Kommunalbanken and SpareBank 1 Hallingdal Valdres in Norway, offer this type of loan product to encourage more investment in green and climate-smart projects. At the end of 2015, Kommunalbanken had issued green loans totalling more than NOK 12 billion, more than half of this for "green newbuilds".

# CHALLENGES AND CONSIDERATIONS

- There is considerable variation in how far sustainability and climate are integrated into banks' core processes.

  There are a few areas where Norwegian banks lead the way in Europe on climate and green solutions (e.g. green car loans and green mortgages), and most report that climate issues are a factor in their credit assessments. At the same time, this is a young area, often somewhat niche, and not fully integrated into credit processes and product offerings.

  Green products still account for only a small slice of the market.
- Regulatory changes could provide new incentives. The EU is currently discussing the possibility of a green capital requirement discount similar to that for exposure to SMEs, with the aim of stimulating increased financing and investment in green projects. Any such changes in Europe would also apply to Norwegian banks.
- It is difficult to understand and compare green products. There is a growing market for sustainable and green bank products, but it is a challenge for customers to navigate this market and compare products from different banks, as there are no clear guidelines for what counts as green.

# AGAINST THIS BACKGROUND AND IN ADDITION TO THE GENERAL RECOMMENDATIONS, IT IS RECOMMENDED THAT THE INDUSTRY:

- Measures carbon-related credit exposure in line with the recommendations from the TCFD. Measurement and reporting will help increase transparency on carbon-related assets. This will be an important tool in understanding and reducing climate risk in the portfolio. It will also help banks identify sectors and projects that contribute to the transition, and new earnings opportunities.
- Makes climate part of the credit process. Both risks (such as high greenhouse gas emissions in production or end-use, fossil solutions and outdated technology) and opportunities (energy efficiency, renewable solutions and new business models such as the circular economy) should be considered and priced in the credit process. This will provide incentives for borrowers to be greener, reduce banks' climate exposure and increase exposure to green growth industries.
- Includes climate criteria in residential and commercial mortgages. By introducing clear requirements, banks will be able to reduce the risk in their loan portfolios, promote a more climate-smart building stock and create jobs to achieve this. A first step might be to offer separate loan products with attractive terms, but in the longer term all loans should carry these requirements. The criteria should be developed in conjunction with the construction industry and players working towards a circular economy, with reference to established standards such as BREEAM and the upcoming EU standard for energy-efficient mortgages, and inspired by agents like ABN AMRO with their quidelines for commercial mortgages.
- Makes the bond market greener, both by including climate factors in prospectuses and issuances of ordinary bonds, and by increasing issuances of green bonds. Norwegian companies have issuances in the ordinary bond market that qualify, but are not necessarily classified, as green. Setting climate criteria in the credit process will pave the way for an increase in banks' own issuances of green bonds, for example to fund green loans. In this way, banks can contribute to increased volumes and liquidity in the market for green bonds.

# **4.2 NONLIFE INSURANCE**

Nonlife insurance provides financial security and support following unwanted events such as accidents, injuries and natural disasters. The industry ensures that consumers and businesses can cope with losses without this causing serious financial problems, and is a driver for loss prevention activities.

# **STRUCTURE**

- Norway has 87 nonlife insurers, with total assets of more than NOK 200 billion.<sup>54</sup> Around half of premium income stems from household policies, the largest class being motor insurance. Nonlife insurers paid out more than NOK 45 billion in claims in 2017.<sup>55</sup>
- Nonlife insurers manage premium volumes of NOK 56.7 billion, breaking down into NOK 36.6 billion from personal
  and household policies and the remainder from commercial and group policies.<sup>56</sup>

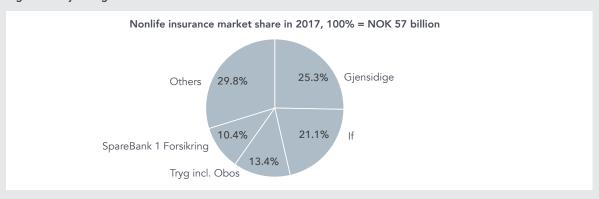
# **REGULATORY LANDSCAPE**

The nonlife insurance industry is largely regulated at European level. The Solvency II Directive (together with the
amendments in the Omnibus II Directive) forms the basis for European regulation of the insurance industry. At the
heart of the directive are the solvency rules intended to ensure stability and security in the industry based on a pillar
structure similar to that in the banking industry.

# **DISTINGUISHING FEATURES**

• The Norwegian nonlife insurance market is dominated by the largest players. Gjensidige and If Skadeforsikring together have 47% of the market, and the four largest (the other two being Tryg and SpareBank 1 Forsikring) more than 70%.

Figure 13: Gjensidige and If command almost half the nonlife insurance market



Source: Finance Norway 57

Claims payments following natural disasters 1998-2017 Claims payments following flooding 2008-2017 NOK million NOK million 1 600 1998-2007 1 400 1 200 4x 2 341 1 000 800 600 2008-2017 Total 2008-2017: 400 NOK 10 billion 8 873 200 0 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

Figure 14: Claims following natural disasters and flooding have soared

Source: Finance Norway, Norwegian Natural Perils Pool 58

# **CURRENT SITUATION**

- Digital solutions and technological advances are bringing new opportunities and challenges for nonlife insurers. Increasing digitalisation and the Internet of Things are enabling insurers to offer products tailored to the individual customer and adjust premiums according to use and behaviour, for example by rewarding safer and greener driving with lower motor premiums. At the same time, technological developments are presenting challenges, such as those associated with driverless cars and issues relating to data and consumer protection.
- Finance Norway has teamed up with the Norwegian Directorate for Civil Protection (DSB) to help prevent unwanted events by sharing claims data that can help DSB in its work.

# **CHALLENGES AND CONSIDERATIONS**

# The partnership between Finance Norway and the Norwegian Directorate for Civil Protection (DSB) 59

On 5 February 2018, Finance Norway and DSB announced a partnership to help prevent unwanted events and ensure effective management of accidents and crises. The project involves exchanging information and communicating claims data and analyses for inclusion in DSB's knowledge base. This will help the authorities to improve work at local level on preventing natural disasters. The partnership is an example of how the authorities can use data from nonlife insurers, and how public-private partnerships can help society avoid major losses.

- There are real competitive advantages to be had from gathering and analysing data. We need to find solutions for sharing data that not only maintain healthy competition between insurers, but also enable local and national authorities to make use of them. Access to data can reduce the costs associated with climate change, prevention and adaptation, and accelerate necessary changes.
- The current system for rebuilds is all about putting back what was there before. Guidelines and incentives for rebuilds following flooding, fire and other damage largely focus on building on the same site and as cheaply as possible. This prevents smarter, climate-friendly, forward-looking approaches.
- Putting damage right is more expensive than effective loss prevention, yet both the authorities and nonlife insurers spend most of their money on repairs and restoration rather than prevention.

Climate change and wetter, wilder weather are leading to higher claims payouts. The industry needs to play a more
active role in loss prevention to prevent spiralling payouts following natural disasters and weather events. The key is
accurate pricing of risk, and pricing new types of risk in a way that encourages reduced emissions and adaptation to
climate change. One important social contribution will be to help maintain insurable markets and wide availability of
insurance cover.

# AGAINST THIS BACKGROUND AND IN ADDITION TO THE GENERAL RECOMMENDATIONS, IT IS RECOMMENDED THAT THE INDUSTRY:

- Exchanges claims and climate data with local and other authorities. A framework that standardises and simplifies the exchange of data will be valuable not only for the industry but also for local and other authorities. This will contribute to better planning and more robust local environments.
- Steps up loss prevention efforts. The industry has played a key role in fire and road safety. Similar preventive work on climate-related social changes could prevent or reduce payouts in the longer term.
- Draws up climate criteria for rebuilds after natural disasters. The industry's knowledge of high-risk areas is important. When combined with the construction sector's knowledge of climate-smart materials and solutions, this could lead to homes being rebuilt in such a way that the risk of future damage is reduced, energy and maintenance costs are lower, and the housing stock greener.
- Develops products that stimulate climate-smart behaviour, a sharing economy and circular solutions.

  A combination of new consumer behaviours and new technology is opening up market opportunities for insurance products that promote change. Examples are motor insurance policies that reward climate-friendly driving, lower premiums for electric cars, home insurance policies that incentivise energy savings, and insurance solutions that also cover car-sharing schemes.

# Finance Norway's pilot project on the use of claims data by local authorities 60

In 2013, Finance Norway launched a research project on the use of insurance claims data in loss prevention work. The project involved a number of insurers, the Western Norway Research Institute (Vestlandsforsking), the University of Bergen, the Norwegian University of Science and Technology and nine pilot municipalities, and was financed by Finance Norway and the Ministry of Climate and Environment. The aim was to explore the potential and requirements for improving the prevention of climate-related natural damage by testing the utility of access to insurers' claims statistics.

# 4.3 INVESTMENT, PENSIONS AND ASSET MANAGEMENT

Investment, pensions and asset management is the industry that provides, manages and administers pension and investment products. Life insurers offer pensions and life and health insurance, while fund managers and other players in the capital market arrange, administer and provide savings, fund and asset management products. The role of asset managers is to provide a return to investors with support from analysts, brokers and sponsors.

#### **STRUCTURE**

• Life insurers, pension funds and fund managers together have assets under management of NOK 2 747 billion.<sup>61</sup>
There are 13 life insurers in Norway, with more than NOK 1 400 billion under management, while private and municipal pension funds manage more than NOK 300 billion.

#### DISTINGUISHING FEATURES

- Historically, Norwegian consumers have invested in their own homes and bank savings rather than in the securities market. The reform of the Norwegian pension system from defined benefits to defined contributions means that the population is increasingly investing in securities, partly through funds. Schemes such as the new share savings account 62 provide an incentive for increased investment in the securities market.
- The management of the Government Pension Fund leads the way in asset management both in Norway and at a global level. Norges Bank Investment Management and Folketrygdfondet are key players, not only as major investors nationally and internationally but also in building expertise in the financial sector. It is especially in active ownership, ethical/sustainability-based exclusions, and the measurement and disclosure of greenhouse gas emissions, that the management of the Government Pension Fund has come to set the standard.<sup>63</sup>

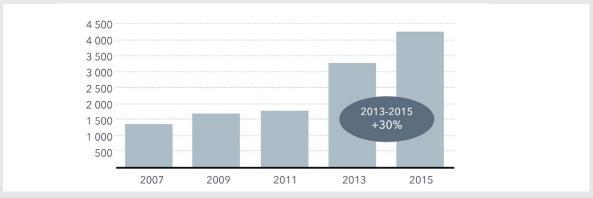
# **CURRENT SITUATION**

- Asset managers and authorities worldwide have put climate on the agenda. Large players are using their power
  and making a difference, both by voting at general meetings (e.g. Exxon's annual meeting in 2017) and by engaging
  directly with companies' board and management. We are also seeing public initiatives such as the TCFD, the EU's work
  on sustainable finance, the UK's Green Finance Task Force and the G20 countries' Sustainable Finance Study Group.
- Increased demand is driving the development of green investment and savings products. Norwegian consumers especially younger ones are more aware of the opportunities for tailoring savings products to their preferences. More and more climate funds are entering the market, and their assets are growing. Customers who make active investment decisions are contributing to increased transparency and disclosure.
- Greater pressure on margins, especially among pension managers, has led to an upsurge in passive management.

  A passive portfolio is based on established benchmark indices. This means that the manager has little freedom to customise the portfolio, and so active ownership becomes more important.
- Norges Bank Investment Management has initiated a reduction in oil price risk by recommending to the Ministry
  of Finance that oil and gas stocks are removed from the Government Pension Fund Global's benchmark. While this
  recommendation is rooted in the risks associated with movements in oil prices, it will also reduce exposure to climate risk.

Figure 15: Active ownership has increased sharply in Europe

Assets under management with engagement and voting as sustainability strategy, millions of EUR



Source: Eurosif 64

# **CHALLENGES AND CONSIDERATIONS**

- Asset management is complex in terms of methods, strategies, asset classes and instruments. Different players employ a variety of different investment strategies. This means that there is no universal approach to how climate can be integrated this must instead be tailored to each manager's strategies.
- There is a lack of high-quality climate data. Although climate disclosure has improved in both quantity and quality in recent years, there are still gaps, and quality varies. The availability of climate data is particularly poor when it comes to small companies and emerging markets.
- Large buyers of pension services wield considerable power. The Norwegian Public Service Pension Fund and municipal and private pension funds are important customers for asset managers, but few are asking for climate-smart pension solutions.
- There is great variation in the integration of climate and sustainability. Most players exclude companies with particularly high greenhouse gas emissions, but it is rare for climate issues to be fully integrated into analysis and management.

# The World Benchmarking Alliance (WBA) 65

This initiative launched by Aviva, the UN Foundation, the Business & Sustainable Development Commission (BSDC) and Index Initiative aims to develop a tool to benchmark how companies contribute to the UN's Sustainable Development Goals. Making corporate disclosures readily available is important to give companies an incentive to make a positive contribution to sustainability efforts. Companies can then draw inspiration and learn from one another. This will also help customers and investors to make decisions based on sustainability considerations. The initiative's point of departure is the BSDC report "Better Business, Better World", which recommends developing this type of tool.

# HSBC and sustainable pension savings

In January 2017, HSBC Bank UK made The Future World Fund the standard solution for its employees' pension savings. This is a global index fund that integrates climate risks by including assessments of greenhouse gas emissions, carbon reserves and green revenue in its analysis. HSBC invested GBP 1.85 billion in the fund with the aim of better risk-adjusted returns, reduced climate risk and more effective active ownership.

# AGAINST THIS BACKGROUND AND IN ADDITION TO THE GENERAL RECOMMENDATIONS, IT IS RECOMMENDED THAT THE INDUSTRY:

- Measures greenhouse gas emissions from the portfolio and sets reduction targets. This will require
  calculation of emissions from the companies behind the securities in the portfolio. For example, emission
  intensity (CO<sub>2</sub> equivalents in relation to revenue) could be adjusted for percentage ownership and aggregated
  to portfolio level. Various strategies can be used to achieve reductions, including lower weighting of carbonintensive businesses and targeted active ownership activities to encourage companies to reduce their emissions.
   If capital owners and managers set targets for their portfolios, this will boost demand for climate data and so
  increase their availability and quality.
- Integrates climate risk into mandates, strategies, analyses and investment decisions. For climate risk assessments to impact positively on both returns and the low-carbon transition, it is crucial that they are integrated throughout the value chain. Investment mandates from asset owners and the associated strategies should include explicit requirements for climate risk assessments (which will therefore also influence the choice of manager).
   Managers in turn will need to have a knowledge of how different sectors, markets and companies are affected by climate factors both risks and business opportunities and use this knowledge in analyses and investment decisions.
- Sets targets for the allocation of capital to forward-looking companies and industries. Concrete targets will encourage positive changes in industry and help ensure that managers actively seek out new investment opportunities. The skills built up will also be relevant to the rest of the investment portfolio.
- Stress-tests the portfolio against zero emissions in 2050 and reduces climate exposure. The financial sector supports Norway's climate targets and the Paris goals. It is therefore important to ensure that we build portfolios that reflect this, and that we adjust these portfolios over time. Stress testing in the form of analysing how robust the portfolio is in a scenario with zero emissions in 2050 will provide a sound basis for long-term management and reduction of climate exposure in the portfolios.

# The European Investment Bank – "Climate in everything we do" 66

The European Investment Bank (EIB) is the EU's investment bank and the world's largest lender, providing total funding of EUR 83.8 billion in 2016. The EIB operates under the mantra "Climate in everything we do" and has made a commitment to dedicate at least 25% of its lending to climate-related projects – 35% in developing countries. In 2016, the EIB approved funding of EUR 19.5 billion for climate-related projects, including EUR 7.9 billion for low-carbon transport and EUR 3.9 billion for renewable energy. The EIB was the first to issue green bonds back in 2007 and has issued more green bonds than any other institution (total of EUR 19 billion).



# 5.1 THE ROADMAP'S CONTRIBUTION

Together, the recommendations in this roadmap are intended to realise the following vision:

The financial sector of 2030 is profitable and sustainable. We lend, manage and insure with the climate in mind, so creating value and contributing to green competitiveness.

The recommendations in the roadmap offer guidance for the financial sector in the transition to a low-carbon future and are designed to be implemented by all players in every part of the financial sector.

The roadmap is also to contribute to the implementation of the roadmaps in other sectors. The financial sector has a crucial role to play if other sectors in Norway are to succeed in achieving the ambitions set in their own roadmaps. This means that we need not only to have a good grasp of the needs and dynamics of other sectors, but also to have come a long way by 2030 if we are to help other sectors realise the ambitions in their roadmaps for 2050.

The roadmap is not an action plan. Its purpose is to set out a vision and make recommendations for realising this vision. An important next step is to produce concrete action plans, including responsibility for implementation and timelines. The responsibility for this rests with a number of different players, both in the financial sector and in the public sector. Wherever possible, we have endeavoured to identify those with a particular responsibility for implementing the individual recommendations in the roadmap. Status checks and appropriate course adjustments will be needed in 2022, 2025 and 2028 in the light of changes in business, society and technology. Finance Norway has a special responsibility here.

The roadmap shows how the financial sector can help Norway to reach its climate targets. A profitable and green financial sector in 2030 will help the country to achieve its aim of being a low-carbon economy in 2050. The roadmap's recommendations will also support change in other sectors and industries.

The vision in this roadmap means that the financial sector of 2030 will include and integrate:

- 1. Openness and access to data and information. Improved disclosure, greater transparency for customers and other stakeholders, and closer collaboration with the authorities will provide better data for decision making.
- 2. Decisions based on an understanding of climate risks and opportunities. Better skills, better data and integration of climate issues into core processes will enable the financial sector to take better and more informed decisions.
- 3. Increased rate of innovation and a green business sector. The financial sector will contribute to change in other sectors by stimulating innovation and serving as a driver for climate-smart and profitable projects, processes and products.

# **5.2 MILESTONES TOWARDS 2030**

The horizon for the roadmap is 2030. Different financial institutions will come from different starting points, and it is not the case that all of the recommendations need to be implemented straight away. At the same time, we need to start work now if we are to achieve our aims by 2030. The recommendations need to be implemented in stages, with documentation of effects, learning and adjustments along the way. The horizon and implementation of each recommendation will vary: some can be carried out quickly, while others will require more time; some can be carried out by individual institutions, while most will require co-operation.

Figure 16: The recommendations need to be implemented in stages, with learning and adjustments along the way



Predictability and time to adjust are crucial. If the roadmap is to become a reality, we need to have an understanding of the direction and the road towards our goal in 2030. This applies both to the financial sector itself and to the companies that the sector finances and insures. Predictability and close co-operation will be critical.

Products and services permit and promote a low-carbon economy A profitable and sustainable financial sector Well-functioning collaboration between financial sector and other sectors and the authorities Data and tools for Climate fully integrated into measuring climate risk core processes (investments, loans, prevention, restoration, Definition of Consumers mandates, strategies) "sustainable finance" understand and call for climate-Climate awareness smart solutions among businesses, authorities and consumers Data access (quality and quantity) Today Norwegian financial sector is a constructive and predictable driver and adviser on change

Figure 17: The financial sector has a number of key milestones through to 2030

#### **5.3 WHAT NEXT?**

The financial sector: Individual institutions can use this roadmap to contribute to the transition through to 2030. All banks, insurers and asset managers will have different starting points, skills and resources for climate work. It is therefore important that each institution assesses where its efforts should be focused, and produces an action plan through to 2030. This should set out what actions need to be taken, when and by whom, the resources and skills required, and any relevant collaboration with other players within or outside the sector. Each institution should report on its progress.

The authorities: The authorities need to adjust the regulatory framework so that it promotes the transition in the financial sector. Most of the recommendations need to be implemented within and by the financial sector itself. At the same time, it is important that the authorities are supportive. New disclosure requirements in line with the TCFD recommendations, new mechanisms for public-private partnerships to release more private capital, Finanstilsynet's role in monitoring climate risk, and integrating climate competence into education and R&D – all are areas where work can start quickly.

Finance Norway will play an active role in uniting the Norwegian financial sector behind the ambitions in the roadmap. This will mean initiating collaboration and dialogue both within the sector and with the authorities and other stakeholders. Finance Norway will also strive to ensure that Norwegian wishes and needs are heard in EU processes concerning sustainable finance, such as the development of a common taxonomy. It is also important that financial institutions' work on the roadmap is monitored and supported, and that Finance Norway ensures that periodic status checks are made in the run-up to 2030.

# **APPENDIX**

# How the roadmap was produced

This roadmap represents the whole of a diverse financial sector, but is not an expression of universally agreed views supported by every single institution. Work on the roadmap was led by the sector's trade body, Finance Norway, and it has been drawn up together with consulting firm SIGLA and Christine Tørklep. Work on developing the roadmap began in September 2017 when Finance Norway's board and industry committees gave the green light.

There was broad consultation in the development of the roadmap, and anchoring the process was important to ensure that the recommendations reflect the sector's climate priorities. The most important element in anchoring the process was two half-day workshops with representatives from the financial sector, environmental organisations, trade bodies and the authorities.

The participants from the financial sector were chosen through Finance Norway's industry committees. The workshops received video greetings from leading figures within and outside Norway, including Christiana Figueres, Erik Solheim, Vidar Helgesen, Justin Welby, Kristin Skogen Lund, Dag O. Hessen, Sarah MacPhee and Auke Lont. Various key players were interviewed in depth, providing an important opportunity to test early hypotheses and obtain valuable information.

Interest in the roadmap has been considerable in various areas of society and led to useful contributions from a number of quarters, including the construction sector. The Norwegian Sustainable Investment Forum (Norsif) was involved and provided valuable input. Finance Norway's board, industry committees and technical committees were kept updated on, and contributed to, the contents of the roadmap.

The steering group working on the roadmap dedicated time throughout the process and provided useful feedback on everything written in the roadmap. This group consisted of staff at Finance Norway representing different parts of the financial sector. The board of Finance Norway and the board of the Norwegian Savings Banks Association made valuable comments on the roadmap's contents and recommendations.

The roadmap is of limited value if it does not achieve its ambition of inspiring the financial sector to start work on concrete plans to realise the recommendations. There is considerable variation across the Norwegian financial sector in terms of progress on climate work, and it is not expected that all institutions will welcome everything set out in the roadmap. The intention is for the roadmap to contribute as a platform for dialogue, both between the players in the sector and with the authorities and others with an interest in the sector's key role in the green transition. Finance Norway has a special responsibility for translating the recommendations into concrete plans and engaging widely both within and outside the financial sector to ensure its implementation.

# Steering group (Finance Norway)

- Idar Kreutzer CEO
- Jan Erik Fåne Executive Director of Communications
- Hege Hodnesdal Executive Director, Nonlife Insurance
- Gry Nergård Executive Director, Consumer Policy
- Tone Meldalen Director, Pensions
- Michael Hurum Cook Senior Analyst

# Working group

- Agathe Schjetlein Finance Norway
- Christine Tørklep Curie
- Ylva Lindberg SIGLA
- Anne Jorun Aas SIGLA
- Bastian Klunde SIGLA
- Simen Kjøsnes Kristiansen SIGLA

# Interviewees:

- David Blood Generation Investment Management
- Martin Skancke Chairman of the Norwegian government's Climate Risk Commission
- Kaj-Martin Georgsen Head of Corporate Responsibility
   Odd Arild Grefstad Group CEO, Storebrand and Public Affairs at DNB
- Nils Bastiansen Executive Director Equities, Folketrygdfondet
- Morten Thorsrud Head of Business Area Private, If Skadeforsikring

  - Reynir Indahl Managing Partner, Summa Equity

# Participants in workshops:

raiticipants in workshops.			
Harald Lund	CICERO	Torunn Brånå	Kommunalbanken Norway
Kjell Fredrik Løvold	Cultura	Birgitte Laird	Norwegian Climate Foundation
Christine Tørklep	Curie	Magny Øvrebø	Nordea
Janicke Scheele	DNB	Monica Mee	Nordea
Anne Margrethe M. Platou	DNB	Ove Dallan	Nordea
Ida Stuve	DNB	Thina Saltvedt	Nordea
Bjørn Slåtto	Eika	Knut R. Skotner	Federation of Norwegian
Jan Digranes	Finance Norway		
Gry Nergård	Finance Norway	Anders Bjartnes	Norwegian Environment Agency
Mia Ebeltoft	Finance Norway	Anne Jortveit	Norwegian Environment Agency
Tone Meldalen	Finance Norway	Eline Skard	Protector Forsikring
Idar Kreutzer	Finance Norway	Ana Maria Vasquez Røsjø	SG Finans
Ellen Bramness Arvidsson	Finance Norway	Bastian Klunde	SIGLA
Hege Hodnesdal	Finance Norway	Ylva Lindberg	SIGLA
Michael Hurum Cook	Finance Norway	Simen Kjøsnes Kristiansen	SIGLA
Jan Erik Fåne	Finance Norway	Anne Jorun Aas	SIGLA
Agathe Schjetlein	Finance Norway	Kjetil Andreas Skudal	Sparebank1 Forsikring
Nanna Ringstad	Finance Sector Union	Svein Skovly	Sparebank1 Forsikring
	of Norway	Hanne Iversen Rye	Sparebank1 Gruppen
Ingrid Margrethe Hagen	Finanstilsynet	Torill Engebakken	Sparebank1 Hallingdal-Valdres
Gro Marthinsen	Research Council	Matthew Smith	Storebrand
	of Norway	Harald Bjugstad-Holm	Storebrand
Eline S. Askeland	Gjensidige	Camilla Skjelsbæk Gramstad	Enterprise Federation of Norway
Sigrid Gåseidnes	Innovation Norway		(Virke)
Inger Solberg	Innovation Norway	Else Hendel	WWF
Stig Schjølset	Norwegian Ministry of	Marius Holm	Zero
	Climate & Environment	Per Sbertoli	Zero
Heidi Finskas	KLP		

# PRINCIPAL SOURCES

The roadmap is based on a wide variety of sources (see endnotes), but in the following we highlight a number of key documents/processes that are helping set the agenda globally, in the EU and in Norway. Further important processes and examples from the financial sector are presented in boxes throughout the roadmap.

# The EU High-Level Expert Group on Sustainable Finance's interim and final reports:

The High-Level Expert Group on Sustainable Finance, consisting of representatives of the European financial sector, international institutions and civil society, has published two reports – an interim report in July 2017 and a final report in January 2018. These reports provide a description of sustainability in the financial system and its various subsectors, and a series of recommendations for the financial system as a whole, individual institutions and the authorities. The final report was the basis for the European Commission's action plan for sustainable finance. Both reports have been important in setting the agenda for sustainable finance in Europe, and so also for this roadmap. The HLEG's publications can be found here: https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance\_en#documents

# The European Commission's action plan for sustainable finance:

In March 2018, the European Commission followed up the High-Level Expert Group on Sustainable Finance's final report (see above) with an action plan: Financing Sustainable Growth. The plan adopts most of the HLEG's recommendations and presents a tentative timeline for how the EU is to work on the recommendations going forward. The action plan is important because it provides a taste of potential regulatory initiatives in sustainable finance which would also apply to Norway through the EEA.

http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0097&from=EN

# The Task Force on Climate-related Financial Disclosures' final report:

The TCFD's final report was published in June 2017 and provides both a framework for disclosure and a tool for understanding climate risks and opportunities. The report's recommendations have attracted considerable attention, and Norwegian institutions such as NBIM, DNB and Storebrand are involved in the continuing work to develop a new disclosure framework. Both the TCFD's approach to climate risk and its framework for disclosure have been important for work on this roadmap. Its publications can be found here:

https://www.fsb-tcfd.org/publications/

# The Expert Committee on Green Competitiveness's report and the Norwegian government's Strategy for Green Competitiveness:

The report of the Expert Committee on Green Competitiveness, published in October 2016, provides a basis for the Norwegian business sector's strategic work on transitioning to a low-carbon economy. It is also the background to the publication of roadmaps by different parts of the business sector, including this one for the financial sector. In October 2017, the Norwegian government launched a Strategy for Green Competitiveness based on the committee's recommendations. This strategy sets out what Norway must do to ensure lasting growth and profitability in a sustainable, low-carbon economy.

https://www.regjeringen.no/contentassets/4a98ed15ec264d0e938863448ebf7ba8/t-1562b.pdf http://www.gronnkonkurransekraft.no/files/2016/10/Strategi-for-gr%C3%B8nn-konkurransekraft.pdf

# The UNEP/World Bank's Roadmap for a Sustainable Financial System:

The UN Environment Programme and the World Bank published their roadmap for a sustainable financial system in November 2017. The document presents key drivers for the transition to a low-carbon economy, and what form the transformation of the financial system might take. It also outlines possible measures to be taken by national and international authorities, and this has helped shape the analysis of public policy in this roadmap for the Norwegian financial sector.

http://unepinquiry.org/publication/roadmap-for-a-sustainable-financial-system/

# **ENDNOTES**

- Expert Committee on Green Competitiveness: "Grønn konkurransekraft" [Green Competitiveness]. http://www.gronnkonkurransekraft.no/files/2016/10/Strategi-for-gr%C3%B8nn-konkurransekraft.pdf
- 2. The Act on Climate Targets (Climate Act) of 16 June 2017. https://lovdata.no/dokument/NL/lov/2017-06-16-60
- 3. Mark Carney: "Breaking the Tragedy of the Horizon Climate Change and Financial Stability", speech at Lloyd's of London, 29 September 2015. <a href="https://www.bis.org/review/r151009a.pdf">https://www.bis.org/review/r151009a.pdf</a>
- 4. Norwegian Ministry of Environmental Protection and Rystad Energy: "Petroleum Production under the Two Degree Scenario (2DS)", 13 August 2013.
  - https://www.regjeringen.no/contentassets/17f83dcdadd24dad8c5220eb491a42b5/2013\_rystad\_energy\_climate\_report\_norwegian\_ministry\_of\_the\_environment.pdf?id=2156290
- Business and Sustainable Development Commission: "Better Business, Better World", January 2017. http://report.businesscommission.org/uploads/BetterBiz-BetterWorld\_170215\_012417.pdf
- OECD: "Investing in Climate, Investing in Growth", June 2017. www.oecd-ilibrary.org/docserver/9789264273528-en.pdf?expires=1525206068&id=id&accname=guest&checksum= 2FFA5ADFB13AD-381D39245DDE53E968E
- 7. Mark Carney: "Breaking the Tragedy of the Horizon Climate Change and Financial Stability", speech at Lloyd's of London, 29 September 2015. <a href="http://www.bis.org/review/r151009a.pdf">http://www.bis.org/review/r151009a.pdf</a>
- 8. OECD: "Investing in Climate, Investing in Growth", June 2017.

  www.oecd-ilibrary.org/docserver/9789264273528-en.pdf?expires=1525206068&id=id&accname=guest&checksum=2FFA5ADFB13AD-381D39245DDE53E968E
- 9. A brief presentation of the principal sources and background material can be found in the Appendix.
- 10. Finance Norway: "Finansnæringen og samfunnet 2016" [The Financial Sector and Society 2016].

 $\underline{www.finansnorge.no/content assets/be 123f8a0a094fe0bbbf127a10c370e3/finansnaringensamfunnet 2016.pdf}$ 

 $Finanstil synet: "Result at rapport for finans for etak 2017" \ [Financial Institutions' Results for 2017].$ 

 $\underline{http://www.finanstilsynet.no/content assets/de14e53407744ba1ba315efbb0c67c3c/resultatrapport-for-finansforetak.pdf}$ 

 $Norwegian\ Savings\ Banks\ Association:\ "Antall\ sparebanker\ 1922-2017"\ [Number\ of\ Savings\ Banks\ 1922-2017].$ 

www.sparebankforeningen.no/banker-og-stiftelser/antall-sparebanker/ Norges Bank: "Norway's Financial System 2017".

 $\label{lem:https://static.norges-bank.no/contentassets/b61eb85db69a4a5aaf298f57cea0972b/norways\_financial\_system\_2017.pdf?v=10/03/2017102933\&ft=.pdf$ 

Statistics Norway: "Statistical Yearbook of Norway 2013, Table 452: Main figures for financial enterprises. 31 December". <a href="https://www.ssb.no/a/english/aarbok/tab/tab-452.html">https://www.ssb.no/a/english/aarbok/tab/tab-452.html</a>

- 11. Figures from Finance Norway.
- 12. Ibid.
- 13. EU High-Level Expert Group on Sustainable Finance.

 $\frac{https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance\_en\#high-level-expert-group-onsustainable-finance\_en\#high-level-expert-group-onsustainable-finance\_en#high-level-expert-group-onsustainable-expert-group-onsustainable-expert-group-onsustainable-expert-group-onsustainable-expert-group-onsustainable-expert-group-onsustainable-expert-group-expert-group-expert-group-expert-group-expert-group-expert-group-expert-group-expert-group-expert-g$ 

- 14. Task Force on Climate-related Financial Disclosures: "Recommendations of the Task Force on Climate-related Financial Disclosures, Final Report", June 2017.
  - www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf
- 15. Norwegian Ministry of Climate and Environment: "Høring Regnskapslovutvalgets utredning om regnskapslovens bestemmelser om årsberetning mv. Høringssvar fra Klima- og miljødepartementet" [Consultation The Accounting Act Committee's review of the Accounting Act's provisions on annual financial disclosures etc. Consultation response from the Ministry of Climate and Environment], November 2016. <a href="https://www.regjeringen.no/no/dokumenter/horing---regnskapslovutvalgets-utredning-om-regnskapslov-ens-bestemmelser-om-arsberetning-mv/id2509221/">https://www.regjeringen.no/no/dokumenter/horing---regnskapslovutvalgets-utredning-om-regnskapslov-ens-bestemmelser-om-arsberetning-mv/id2509221/</a>
- 16. UNEP and World Bank: "Roadmap for a Sustainable Financial System", November 2017.

  <a href="http://unepinquiry.org/wp-content/uploads/2017/11/Roadmap\_for\_a\_Sustainable\_Financial\_System.pdf">http://unepinquiry.org/wp-content/uploads/2017/11/Roadmap\_for\_a\_Sustainable\_Financial\_System.pdf</a>
- 17. Martin Skancke: "Bloomberg-rapporten: Bedre rapportering av klimarisiko" [The Bloomberg Report: Better Disclosure of Climate Risk], article, 2 May 2017.
  - https://energiogklima.no/kommentar/bloomberg-rapporten-bedre-rapportering-av-klimarisiko/
- 18. Supporters of the TCFD recommendations. www.fsb-tcfd.org/supporters-landing/
- 19. Mapped during a workshop held in December 2017 in connection with this roadmap.
- 20. Ibid.
- 21. See, for example, "Utredning om konsekvenser for Norge av klimaendringer i andre land" [Consequences for Norway of Transnational Climate Impacts], Norwegian Environment Agency and EY, February 2018. http://www.miljodirektoratet.no/Documents/publikasjoner/M968/M968.pdf
- 22. This is set out explicitly in the Solberg II government's political platform. www.regjeringen.no/contentassets/e4c3cfd7e4d4458fa8d3d2bb1e43bcbb/plattform.pdf
- 23. One relevant international example is Cambridge University's Institute for Sustainability Leadership, while Maastricht University, Columbia University and Oxford University offer master's degrees in green and sustainable finance.
- 24. Norwegian Government: "Statsbudsjettet 2018 Finanstilsynet tildelingsbrev" [Budget 2018 Finanstilsynet allocation letter] <a href="https://www.regjeringen.no/contentassets/722de1f4316b422fab6e885339a9cdc3/2018\_ft.pdf">https://www.regjeringen.no/contentassets/722de1f4316b422fab6e885339a9cdc3/2018\_ft.pdf</a>
- 25. Finansinspektionen: "Environment and Sustainability". https://www.fi.se/en/financial-stability/sustainability-and-environment/
- 26. European Commission: "Financing Sustainable Growth", factsheet on the European Commission's action plan. <a href="https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth-factsheet\_en.pdf">https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth-factsheet\_en.pdf</a>
- 27. Norwegian Association of Consulting Engineers (RIF): "Norges tilstand 2015 State of the Nation" [Norway 2015 State of the Nation]. <a href="https://www.rif.no/media/5486/rif\_stateofthenation\_2015\_lavopploeselig.pdf">www.rif.no/media/5486/rif\_stateofthenation\_2015\_lavopploeselig.pdf</a>
- 28. European Commission: "Financing Sustainable Growth", factsheet on the European Commission's action plan. <a href="https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth-factsheet\_en.pdf">https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth-factsheet\_en.pdf</a>
- 29. European Commission: "Study on the Potential of Green Bond Finance for Resource-efficient Investments", November 2016. <a href="http://ec.europa.eu/environment/enveco/pdf/potential-green-bond.pdf">http://ec.europa.eu/environment/enveco/pdf/potential-green-bond.pdf</a>
- 30. For more information, see: <a href="https://www.dnb.nl/en/about-dnb/co-operation/">www.dnb.nl/en/about-dnb/co-operation/</a>
- 31. 2017 figure from Statistics Norway: <a href="https://www.ssb.no/statbank/table/11000/tableViewLayout1/?rxid=c33e5daf-3c32-4dcd-bd32-8d112b85296e">www.ssb.no/statbank/table/11000/tableViewLayout1/?rxid=c33e5daf-3c32-4dcd-bd32-8d112b85296e</a>

- 32. Finance Norway: "Dagligbankundersøkelsen 2016" [Retail Banking Survey 2016]. <a href="https://www.finansnorge.no/aktuelt/sporreundersokelser/dagligbankundersokelsen-2016/vi-blir-stadig-mer-digitale-i-var-bankbruk/">www.finansnorge.no/aktuelt/sporreundersokelsen/dagligbankundersokelsen-2016/vi-blir-stadig-mer-digitale-i-var-bankbruk/</a>
- 33. Daily Telegraph: "Unilever's Polman hits out at City's short-term culture", 5 July 2011. <a href="www.telegraph.co.uk/finance/newsbysector/retailandconsumer/8617022/Unilevers-Polman-hits-out-at-Citys-short-term-culture.html">www.telegraph.co.uk/finance/newsbysector/retailandconsumer/8617022/Unilevers-Polman-hits-out-at-Citys-short-term-culture.html</a>
- Generation Investment Management: "Sustainable Capitalism", 15 February 2012. https://www.genfound.org/media/1136/advocacy-3-sustainable-capitalism.pdf
- 35. Blackrock: "A Sense of Purpose", Larry Fink's annual letter to CEOs. www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter
- 36. Folketrygdfondet: "Langsiktige finansielle mål bidrar til langsiktig verdiskapning" [Long-term Financial Targets Contribute to Long-term Value Creation], 28 February 2017.
  - www.folketrygdfondet.no/getfile.php/132609/Dokumenter/Presentasjoner/2017.02.28%20Presentasjon%20NIRF.pdf

    McKinsey Global Institute: "Measuring the Economic Impact of Short-termism", February 2017.

    www.mckinsey.com/~/media/McKinsey/Global%20Themes/Long%20term%20Capitalism/Where%20companies%20with%20a%20

    long%20term%20view%20outperform%20their%20peers/MGI-Measuring-the-economic-impact-of-short-termism.ashx
- 37. ABN AMRO: "Mission 2030: Making Real Estate More Sustainable".

  www.abnamro.com/en/sustainable-banking/our-focal-points/climate-change/sustainable-real-estate/index.html

  ABN AMRO: "No Lending Without the New Sustainability Test".

  https://www.abnamro.com/en/sustainable-banking/newsletter/2016/april/no-lending-without-the-new-sustainability-test.html
- 38. 122 Norwegian banks (100 savings banks) and 12 branches of foreign banks. Finanstilsynet: "Resultatrapport for finansforetak 2017" [Financial Institutions' Results for 2017].
  - https://www.finanstilsynet.no/contentassets/de14e53407744ba1ba315efbb0c67c3c/resultatrapport-for-finansforetak.pdf and the state of t
- 39. Ibid.
- 40. Norges Bank: "Norway's Financial System 2017".
  - $\label{lem:https://static.norges-bank.no/contentassets/b61eb85db69a4a5aaf298f57cea0972b/norways\_financial\_system\_2017.pdf?v=10/03/2017102933\&ft=.pdf$
- 41. Finanstilsynet: "Resultatrapport for finansforetak 2017" [Financial Institutions' Results for 2017]. https://www.finanstilsynet.no/contentassets/de14e53407744ba1ba315efbb0c67c3c/resultatrapport-for-finansforetak.pdf
- 42. Norges Bank: "Norway's Financial System 2017".
  https://static.norges-bank.no/contentassets/b61eb85db69a4a5aaf298f57cea0972
  - $\label{lem:https://static.norges-bank.no/contentassets/b61eb85db69a4a5aaf298f57cea0972b/norways\_financial\_system\_2017.pdf?v=10/03/2017102933\&ft=.pdf$
- 43. Norwegian Savings Banks Association: "Antall sparebanker 1922-2017" [Number of Savings Banks 1922-2017]. <a href="https://www.sparebankforeningen.no/banker-og-stiftelser/antall-sparebanker/">https://www.sparebankforeningen.no/banker-og-stiftelser/antall-sparebanker/</a>
- 44. Finance Norway: "Dagligbankundersøkelsen 2016" [Retail Banking Survey 2016].

  www.finansnorge.no/aktuelt/sporreundersokelser/dagligbankundersokelsen1/dagligbankundersokelsen-2016/
  vi-blir-stadig-mer-digitale-i-var-bankbruk/
- 45. E24: "Over 100 banker går sammen om Vipps" [More than 100 Banks Buy Into Vipps], 13 February 2017. https://e24.no/boers-og-finans/dnb/over-100-banker-gaar-sammen-om-vipps/23923272
- 46. PayPal, Alibaba's MYbank and the payment solutions on Facebook and Amazon are leading examples.
- 47. Norges Bank: "Norway's Financial System 2017".

  https://static.norges-bank.no/contentassets/b61eb85db69a4a5aaf298f57cea0972b/norways\_financial\_system\_2017.pdf?v=
  10/03/2017102933&ft=.pdf
- 48. Statistics Norway: "Emissions of greenhouse gases". https://www.ssb.no/en/natur-og-miljo/statistikker/klimagassn

- 49. Statistics Norway: "Banks and mortgage companies: 08116: Financial corporations. Loans, by borrower industry (NOK million) 2009M05 2017M12". https://www.ssb.no/en/statbank/table/08116/?rxid=329c7aa5-e7c3-4107-892a-dd533b5bb56a
  Statistics Norway: "Emissions of greenhouse gases: Table 5 Emissions to air of greenhouse gases, by industry. 1 000 tonnes CO<sub>2</sub> equivalents." https://www.ssb.no/en/natur-og-miljo/statistikker/klimagassn
- 50. Enova: "Energimerkestatistikk" [Energy rating statistics]. www.energimerking.no/no/energimerking-bygg/energimerkestatistikk/
- 51. Menon Economics: "Hvem finansierer Norge?" [Who's financing Norway?], November 2017. www.menon.no/wp-content/uploads/2017-69-Hvem-finansierer-Norge.pdf
- 52. Climate Bonds Initiative: "The Green Bond Market in the Nordics 2018". <a href="https://www.climatebonds.net/files/files/CBI-The%20Green%20Bond%20Market%20in%20the%20Nordics.pdf">www.climatebonds.net/files/files/CBI-The%20Green%20Bond%20Market%20in%20the%20Nordics.pdf</a>
- 53. PRI: "Shifting Perceptions: ESG, Credit Risk and Ratings (Part 1: The State of Play)", 4 July 2017. https://www.unpri.org/fixed-income/shifting-perceptions-esg-credit-risk-and-ratings-part-1-the-state-of-play/78.article
- 54. Norges Bank: "Norway's Financial System 2017".

  <a href="https://static.norges-bank.no/contentassets/b61eb85db69a4a5aaf298f57cea0972b/norways\_financial\_system\_2017.pdf?v=10/03/2017102933&ft=.pdf">https://static.norges-bank.no/contentassets/b61eb85db69a4a5aaf298f57cea0972b/norways\_financial\_system\_2017.pdf?v=10/03/2017102933&ft=.pdf</a>
- 55. Statistics Norway: "Life and non-life insurance companies, accounts".

  <a href="https://www.ssb.no/en/bank-og-finansmarked/statistikker/forsikring">https://www.ssb.no/en/bank-og-finansmarked/statistikker/forsikring</a>
- 56. Finance Norway: "Antall forsikringer og premierinntekter" [Number of policies and premium income]. www.finansnorge.no/statistikk/skadeforsikring/nokkeltall/premie/
- 57. Finance Norway: "Markedsandeler" [Market share]. www.finansnorge.no/statistikk/skadeforsikring/nokkeltall/markedsandeler/
- Finance Norway: "Vannskadestatistikk" [Water damage statistics].
   www.finansnorge.no/statistikk/skadeforsikring/Naturskadestatistikk-NASK/
- 59. DSB: "Samarbeid om klimakonsekvenser" [Partnership on climate consequences], 5 February 2018. <a href="https://www.dsb.no/nyhetsarkiv/nyheter-2018/klimasamarbeid/">www.dsb.no/nyhetsarkiv/nyheter-2018/klimasamarbeid/</a>
- 60. Vestlandsforskning: "Pilotprosjekt om testing av skadedata fra forsikringsbransjen for vurdering av klimasårbarhet og forebygging av klimarelatert naturskade i utvalgte kommuner" [Pilot project to test the use of claims data from the insurance industry in assessing climate vulnerabilities and preventing climate-related natural damage in selected municipalities], 2014.
  - www.finansnorge.no/contentassets/cef42e224ef645e68d4ec1505dafa9dd/sluttrapport-fra-vestlandsforskning-om-pilotpros-jekte-med-bruk-av-skadedata.pdf
- 61. Statistics Norway: "Statistical Yearbook of Norway 2013, Table 452: Main figures for financial enterprises. 31 December". <a href="https://www.ssb.no/a/english/aarbok/tab/tab-452.html">https://www.ssb.no/a/english/aarbok/tab/tab-452.html</a>
- 62. Norwegian Ministry of Finance: "Ordning om aksjesparekonto fra 1. september" [Share savings account scheme from 1 September], 15 December 2017.
  - https://www.regjeringen.no/no/tema/okonomi-og-budsjett/skatter-og-avgifter/ordning-om-aksjesparekonto-fra-1.-september/id2569039/
- 63. Norges Bank Investment Management: "Responsible Investment 2017".
  - $\label{lem:https://www.nbim.no/contentassets/67c692a171fa450ca6e3e1e3a7793311/responsible-investment-2017---government-pension-fund-global.pdf$
- 64. Eurosif: "European SRI Study 2016". www.eurosif.org/wp-content/uploads/2016/11/SRI-study-2016-HR.pdf
- 65. World Benchmarking Alliance: "Benchmarking Companies as a Driver for Change". www.worldbenchmarkingalliance.org/
- 66. European Investment Bank: "Climate and Environment for Everyone's Future". www.eib.org/projects/priorities/climate-and-environment/index.htm

We chose the bridge as the symbol in our logo because we aim to build bridges between the financial sector and the authorities, between our members and various stakeholder groups, and, not least, between members themselves.

www.finansnorge.no

English translation: chris@anglonordic.biz Layout & Design: mail@frodegranum.com