

Climate change and central banking – a Nordic perspective

Welcome remarks by Ida Wolden Bache at the conference "Climate change and central banking – a Nordic perspective"

Good morning everyone. It is a great pleasure for me to welcome you to Norges Bank and this workshop titled "Climate change and central banking – a Nordic perspective".

Climate change is one of the greatest challenges of our time. The global average temperature is over 1 degree Celsius higher than 100 years ago, and the climate system is changing in unprecedented ways.^[1] Increasingly, we see the consequences. This summer we have seen heat waves in many different parts of the world, flooding in Europe and fires in the US and in Siberia. If global warming continues unchecked, the human as well as the economic costs can become enormous.

To reach the goal set by the Paris Agreement to limit global warming to 1.5 degrees Celsius, emissions of carbon and other greenhouse gases must be cut sharply. The transition to a low-carbon economy *has* gained momentum over the past few years. More and more countries are setting ambitious goals to cut emissions. In Europe, emission allowance prices have risen substantially over the past years. Investment in renewable energy is growing rapidly worldwide. And, in financial markets, more and more investors are demanding sustainable behaviour and disclosure of firms' climate-related risks.

The prime responsibility and the most effective tools to mitigate climate change lie with governments. However, climate change and the transition to a low-carbon economy may have profound effects on the financial system and the broader economy. Therefore, it also affects the core responsibilities of central banks.

Over the past few years, central banks all over the world have intensified their efforts to understand the effects of climate-related changes and manage climate risk.

Norges Bank is no exception. Climate risks have long been on the agenda in the management of the Government Pension Fund Global. The objective for the management of the fund is the highest possible return with moderate risk. Responsible investment supports this objective.^[2] Norges Bank Investment Management (NBIM) published its first expectations on how companies should address climate change in 2009. Through its contributions to standard setting, investor expectations and active ownership, Norges Bank seeks to ensure that the companies in its portfolio are well equipped to manage risks and opportunities associated with the low-carbon transition. Norges Bank has also reduced its exposure to climate risk through targeted risk-based divestments

and exclusions based on ethically motivated guidelines that include criteria for greenhouse gas emissions and coal divestments.

Another part of Norges Bank's mission is to promote a stable and robust financial system. Climate risk, both physical risk and transition risk, may entail risks to financial stability. Changes in climate regulation, new technology and changing investor and consumer preferences will likely have a significant impact on businesses in coming years. Borrowers who are unable to tackle these changes adequately will pose risks to the banking sector. In Norway, the transition of the oil and gas industry poses a special challenge. It is important that banks take climate risks into account in their risk assessments of both new and existing loans. As central banks and supervisory authorities, we can promote financial stability by ensuring that the financial sector includes climate risks in risk assessments and that all risks are backed by sufficient capital.

Authorities, including central banks, can also promote financial stability by contributing to strengthening and refining reporting requirements. Adequate company reporting is crucial to identifying and managing climate risk. Common reporting standards can facilitate assessment and comparison of climate risk in individual institutions, and lead to a more correct pricing of risk.

While there is an abundance of scientific data on climate change, it has been difficult to obtain good data on exposures at a firm level. This is critical for a proper analysis of financial risks. The Task Force on Climate-related Financial Disclosures (TCFD) was established in 2015 to develop consistent disclosures, for use by companies, banks, and investors, in order to provide information to stakeholders. This work is beginning to pay off, and follow-up work to establish formal reporting standards is well underway. The International Financial Reporting Standards Foundation is working on new standards to help meet this demand, and the European Commission will include new reporting requirements in European legislation. Norway is in the process of adapting new regulation to be in line with developments in Europe.

At Norges Bank we have over the past two years highlighted climate-related risks in our *Financial Stability Report*.^[3] Going forward, we will work actively to better understand the effects of climate change and associated risks for the financial sector. We will also seek to integrate climate risk in our credit risk and systemic risk assessments, with a view to including climate scenario analyses in stress testing.

Climate change and society's adaptation to it will also have implications for monetary policy. The macroeconomic effects of climate-related changes are increasingly becoming visible. They are no longer only risks to future economic outcomes, but are impacting key macroeconomic variables over the typical monetary policy horizon.

One example is the weather-related and low-carbon transition effects on energy prices. Another example is the impact the climate transition is having on business investment. According to our latest forecasts^[4], electrification projects on the Norwegian continental shelf and substantial investment in

batteries, hydrogen and carbon capture and storage will significantly boost investment growth in Norway in the years ahead.

One potential implication of more frequent extreme weather events is larger fluctuations in inflation^[5] and output, making it more difficult to distinguish between temporary and permanent shocks.^[6] Extreme weather events may also pull inflation and output in opposite directions, and, if the effects persist, have implications for monetary policy trade-offs. As the effects of climate change and the transition will likely vary across groups and sectors, the transmission mechanism of monetary policy could also be affected. Another key question for monetary policy is how climate-related changes will affect potential growth, and if so, how that will influence the equilibrium real rate of interest in the long run.

In periods of structural change and large uncertainties, such as those created by climate change, delivering on the objectives of price stability and economic stability is more important than ever. Flexible inflation targeting is, in my view, a good starting point for monetary policy to manage new developments, shocks and risks generated by climate change. Going forward, Norges Bank will step up its efforts to analyse the impact of climate-related changes on the Norwegian economy. As with other shocks and structural changes, we will seek to take these effects into account in our forecasts and policy analysis.

Central banks must also recognise the implications climate change and the low- carbon transition may have for their operational frameworks and for the implementation of monetary policy. Central banks may acquire financial assets through monetary policy operations, such as collateral pledged for open market operations or as part of asset purchase programmes. If these assets are exposed to climate risks, the same will be true for central bank balance sheets. Central banks may therefore find it prudent to introduce measures to reduce this risk, for example by reducing the carbon intensity of collateral pledged and asset purchases. When designing such measures, central banks must consider potential implications for the effectiveness of monetary policy transmission.^[7]

To keep short-term money market rates close to the policy rate, Norges Bank manages the level of reserves in the banking system through market operations. In order to borrow reserves from Norges Bank, banks must pledge securities as collateral. Norges Bank only accepts certain types of high-quality securities as collateral. Covered bonds and government bonds make up the largest portion of collateral pledged to Norges Bank. To limit the exposure to risk, a haircut is applied to the securities pledged when determining loan values. So far, we have not considered it necessary to make specific adjustments to these haircuts to account for climate risks.

Central banks typically also hold significant amounts of financial assets in their foreign exchange reserve portfolios. These are contingency funds available for use in foreign exchange market transactions as part of the conduct of monetary policy or to promote financial stability, and to meet the central bank's international commitments.

For liquidity purposes, the majority of Norges Bank's foreign exchange reserves is invested in bonds issued by selected sovereigns.^[8] About 20 percent of the reserves is invested in global equities. The equity portfolio is managed by NBIM according to the same principles for managing climate-related risks as the Government Pension Fund Global.

Lastly, and beyond our core mandate, Norges Bank is committed to embedding sustainability in our own operations. Norges Bank is a certified Eco-Lighthouse. This certification applies to the Bank's work in the areas of waste management, energy use, procurement and transport, and includes numerical targets and measures for reducing the environmental impact of the head office. As part of the certification, Norges Bank prepares an annual carbon account for the operation of the head office. In our *2020 Annual Report*, we disclosed Norges Bank's climate-related risks based on the TCFD framework for the first time. Going forward, Norges Bank will continue to develop its climate and sustainability reporting and set specific emission reduction objectives for its own operations.^[9]

Addressing climate change is a global challenge. Our understanding of how climate change is affecting the economy and financial markets, and thereby the core responsibilities of central banks, is evolving rapidly. This underlines the crucial role international cooperation and knowledge sharing plays. Central Banks and Supervisors Network for Greening the Financial System (NGFS), which was established in 2017 – and of which all the central banks participating at today's workshop are members – has been a catalyst in this regard. The membership has grown rapidly, and the NGFS currently consists of 95 members and 16 observers.

The primary objective of the NGFS is to create an arena for central banks and financial supervisors to exchange experiences and share best practices in climate risk management in the financial sector. Over the past year, the NGFS has made a considerable effort to establish a set of transparent, open and reliable climate scenarios. These scenarios provide central banks and supervisors, as well as the broader community, with a common starting point to assess climate risks to the economy and the financial system. The NGFS scenarios will be an important reference point for future work on climate risks at Norges Bank.

Sharing views and experiences on how central banks should address climate change is also the aim of today's workshop. I am delighted that deputy governors and colleagues from all the Nordic central banks are joining us. Our countries have much in common, but there are also important differences – with regard to geographical and topographical conditions, industry structure as well as monetary policy regimes. In my view, the commonalities and differences among the Nordic countries are an excellent starting point for a fruitful discussion. Thank you all for taking the time to be here today. I very much look forward to hearing your perspectives.

Footnotes

[1] Intergovernmental Panel on Climate Change (2021) *Climate Change 2021: The Physical Science Basis*. IPCC, August

[2] See *Responsible Investment Government Pension Fund Global 2020*. Norges Bank Investment Management.

[3] See *Financial stability report 2019*, Chapter 4 and *Financial stability report 2020*, Chapter 4. Norges Bank.

[4] See *Monetary Policy Report 3/21*. Norges Bank.

[5] See for instance Parker, M. (2018): "[The Impact of Disasters on Inflation](#)." *Economics of Disasters and Climate Change*, Springer, vol. 2(1), April, pages 21-48

[6] See The Network for Greening the Financial System (2020): "[Climate Change and Monetary Policy: Initial takeaways](#)." *NGFS Technical Document*, June

[7] For an in-depth discussion, see the Network for Greening the Financial System (2021) "[Adapting central bank operations to a hotter world - Reviewing some options](#)". *NGFS Technical Document*, March

[8] The bond portfolio of the foreign exchange reserves is invested in sovereign bonds issued by the US, France, Germany, the UK, Japan and China.

[9] See [Norges Bank website](#) for an overview of Norges Bank's work on climate-related issues.