



KINGDOM OF THE NETHERLANDS— THE NETHERLANDS

FINANCIAL SECTOR ASSESMENT PROGRAM

June 2024

TECHNICAL NOTE ON SUPERVISION AND DISCLOSURE OF CLIMATE-RELATED RISKS

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FINANCIAL SECTOR ASSESSMENT PROGRAM

May 28, 2024

TECHNICAL NOTE

SUPERVISION AND DISCLOSURE OF CLIMATE-RELATED
FINANCIAL RISKS

Prepared By
**Monetary and Capital Markets
Department**

This Technical Note was prepared by IMF staff in the context of the Financial Sector Assessment Program (FSAP) in the Netherlands. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations. Further information on the FSAP can be found at <http://www.imf.org/external/np/fsap/fssa.aspx>

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Glossary

AFM	Autoriteit Financiële Markten (Authority for the Financial Markets)
BCBS	Basel Committee for Banking Supervision
CRD	Capital Requirements Directive
CRR	Capital Requirements Regulation
CSR	Corporate Social Responsibility
DNB	De Nederlandsche Bank – the Central Bank of the Netherlands
EBA	European Banking Authority
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
ESAP	European Single Access Point
ESG	Environmental, Social, Governance
EU	European Union
EUCLID	European Centralized Infrastructure of Data
FSAP	Financial Sector Assessment Program
IAIS	International Association of Insurance Supervisors
IMF	International Monetary Fund
ITS	Implementing Technical Standard
LSI	Less Significant Institution
MOF	Ministry of Finance of the Netherlands
NCA	National Competent Authority
ORSA	Own Risk and Solvency Assessment
RVO	Rijksdienst voor Ondernemend Nederland – Netherlands Enterprise Agency
SFO	Sustainable Finance Office
SI	Significant Institution
S II CDR	Solvency II Commission Delegated Regulation
SREP	Supervisory Review and Evaluation Process
SSM	Single Supervisory Mechanism
WFT	Wet op het Financieel Toezicht (Financial Supervision Act)

EXECUTIVE SUMMARY¹

Dutch financial institutions are exposed to the effects of climate change through both physical and transition risks. Physical risks are mostly represented by flood risk while transition risks are primarily driven by the structure of the Dutch economy, including a significant exposure to agriculture. The Dutch authorities have made significant efforts to respond to climate related risks comprehensively through identification of risk drivers and analysis of their impacts, accompanied by strong policy initiatives aimed for mitigation and adaptation.

Various facets of climate risk-related to financial supervision –have been elaborated by supervisory authorities in the Netherlands. De Nederlandsche Bank (DNB) and the Autoriteit Financiële Markten (AFM) – while building on their specific mandates – have greatly contributed to the regulatory framework in the European Union (EU) and subsequently applied it in the Dutch financial system. Considering that the climate risk agenda impacts topics across the regulatory rulebook – for instance, governance and risk management, or business model and strategy – and presents various challenges, including the need of extended data sets or new modelling approaches, the authorities have decided to sequence their implementation.

Similar to other jurisdictions, the integration of climate-related risks into supervisory processes in the Netherlands faces various challenges. Supervision has been proactive in researching exposures to climate-related risks as well as designing tools to assess how financial institutions identify, monitor and manage these risks. Supervisors have been gradually developing approaches and methodologies to support the supervisory process. Many of these initiatives and projects have been influential in the international debate on climate risk supervision. However, the integration of climate-related risks in the supervisory practice will still require additional steps – specifically bridging additional conceptual challenges, filling data gaps, and strengthening the overall capacity.

The authorities need to translate strategic measures into a concrete roadmap to ensure that the process of setting up climate risk supervision is systematic and continues at a sufficiently ambitious pace. At the same time, it must be recognized that further progress will require additional resources. The implementation of regulatory requirements by financial institutions needs to be further scrutinized by supervisors, and ultimately subjected to routine reviews across the supervisory practice. Financial institutions need to prioritize the implementation of supervisory expectations where interpretation is clear, challenges are manageable, and the effect is substantial (e.g., the governance requirements).

Going forward, climate risk supervision must strengthen quantitative tools and data sets. Essentially, climate risk supervision must find a recipe to accomplish in the following areas:

¹ This Technical Note was prepared by David Lukáš Rozumek, Monetary and Capital Markets Department, and Timo Broszeit, external expert, in the context of the 2023 Netherlands Financial Sector Assessment Program.

- *Utilizing scenario analysis and stress testing in the supervisory process:* Available quantitative approaches, including scenario analysis and stress testing, need to be further intertwined through supervisory tools and approaches, with knowledge transfers spanning across DNB’s functional departments and extending to the industry, allowing constructive feedback.
- *Bridging data gaps:* Gaps in available climate data sets should be mapped, and initiatives to expand and improve available data should be supported, recognizing their criticality for risk management and disclosure by financial institutions. Additionally, financial institutions should be requested to collect data available from their clients.
- *Leveraging disclosures:* In order to maximize the effect of financial institutions’ disclosures, first submissions should be jointly evaluated by the supervisory authorities – the AFM and DNB, lessons learned discussed with financial institutions and auditors, while clearly articulating the urgency of improvements.

Table 1 provides the main recommendations to enhance the supervision of banking and insurance activities conducted in the Netherlands with a direct bearing on its financial stability. These recommendations are focused on the supervision of less-significant institutions (LSI) and insurance undertakings.

Table 1. The Netherlands: Main Recommendations¹				
#	Recommendation	Addressee	Priority	Timeframe
National Coordination				
1.	Establish an interagency body – or facilitate this in an existing platform – to regularly discuss policy implications of climate-related issues, broaden cooperation including data sharing, and coordinate policy actions with implications for financial stability. (¶112).	MOF and other relevant ministries	H	ST
Supervisory Responsibilities, Powers, and Functions				
2.	Further elaborate DNB’s Sustainable Finance Strategy in individual departments’ medium-term plans and strengthen systematic and coordinated development of sectoral agendas. (¶132).	DNB	M	MT
Supervisory Resources and Capacity				
3.	Align resources allocated to direct climate risk supervision with the ambitious strategy, and periodically reflect on further growing capacity demands. (¶135)	DNB	M	ST
4.	Develop a mandatory program that would systematically enhance and regularly update the expertise of supervisors in climate-related risks area. (¶138)	DNB	M	MT

Table 1. The Netherlands: Main Recommendations (Concluded)

Supervisory Approach, Tools, and Technique				
5.	Establish a medium-term plan to develop LSI/insurance climate risk supervision which would include specific milestones and outline resource demands with the aim to incorporate climate-related risk perspective across activities of the supervisory process. (¶143)	DNB	H	ST
6.	Explore opportunities for joint projects involving both supervisors and stress testers. (¶147)	DNB	H	ST
7.	Deepen collaboration among DNB supervisors and DNB stress testers on climate risk supervision to (i) extend quantitative supervisory analyses, (ii) develop supervisory capacity to evaluate modelling approaches used by financial institutions, (iii) inform DNB's stress testing programs with insights of supervisors. (¶150)	DNB	H	ST
Supervisory Expectations on Management of Climate-Related Risks				
8.	Explain application of the proportionality principle for individual sections of the ECB Guide and the DNB Guide, for both internal and external users. (¶154)	DNB	M	MT
Disclosure and Data				
9.	Summarize and communicate initial lessons learned from first mandatory climate-related disclosures; continue a regular exchange of experience among authorities on climate-related disclosures and include major counterparts. (¶167)	AFM, DNB	M	ST
10.	(a) Continue mapping systemic gaps in available climate data sets and explore possibilities to support initiatives focused on strengthening climate-related data sets used by financial institutions for risk management and disclosure. (b) Further strengthen the engagement with financial institutions on the necessity to support their risk management by collecting consistent and granular data and disclosure which is available from their clients. (¶173)	AFM, DNB	H	MT
¹ In terms of priorities, H, M, and L stand for high, medium and low. In terms of time-frame, I, ST, and MT stand for immediate (within one year), short-term (within 1–3 years), and medium-term (within 3–5 years).				

INTRODUCTION

1. **Supervisory authorities across the world are currently working to integrate climate-related risks into their prudential frameworks.** The Netherlands has been standing at the forefront of the development of supervisory frameworks, leading international regulatory initiatives and pro-actively engaging with other supervisors. Significant participation in EU and international discussions have implied some pressures on resources for domestic activities. Still, many investments in collaborative international projects start paying off, for instance, in increased efficiency of rulemaking. Apart from this aspect, climate risk supervision is a complex and still evolving discipline requiring flexible adjustments in terms of resources.
2. **This technical note provides a review of the approach to supervision and disclosure of climate-related risks in Dutch banks and insurers.** For banking supervision, the Basel Committee on Banking Supervision’s June 2022 Principles guide the review. For insurance oversight, the International Association of Insurance Supervisors’ (IAIS) Application Paper on the Supervision of Climate-related Risks of May 2021 was used as a benchmark.² The analysis is part of the 2024 Financial Sector Assessment Program (FSAP) and based on the regulatory framework in place and the supervisory practices employed as of November 2023. This note is based on a review of regulations, market analyses, and meetings with the Dutch authorities, in particular De Nederlandsche Bank (DNB) and *Autoriteit Financiële Markten* (AFM). The FSAP team also met with representatives from the Ministry of Finance (MoF), the Ministry of Infrastructure and Water Management, the *Nationaal Klimaat Platform*, the Dutch Banking Association, the Dutch Insurance Association, academics, rating agencies, audit firms, and other private sector bodies. The work benefited greatly from their readiness to openly discuss critical issues and share information.
3. **The rest of the note is divided into four sections:** The first section introduces the vulnerability of the Netherlands to climate change and elaborate on responses by policymakers as well as by private institutions. The second section summarizes the exposure of financial institutions to climate risk.³ The third section reflects regulatory and supervisory responses and suggests further actions. Finally, the fourth section discusses disclosure and data, including their impact on supervision and management on climate-related risks.

² The IAIS application does not cover all Insurance Core Principles which could be relevant for climate risk supervision, e.g., ICPs 14 (Valuation), 17 (Capital Adequacy) and 19 (Business Conduct) are left out. On these, the IAIS published draft application papers for consultation in November 2023—after the review of the FSAP had concluded.

³ The first and second sections build on the Technical Note on Climate Risk Analysis.

CLIMATE CHANGE AND POLICY RESPONSE

A. Vulnerabilities of the Netherlands to the Effects of Climate Change^{4,5}

4. Due to the unique geographic factors, about 60 percent of the land surface in the Netherlands is vulnerable to flooding from the sea, the large rivers, and lakes (Figure 1).

Nearly 26 percent of the surface in the Netherlands is below sea level, land which has been reclaimed from the sea and lakes over the past 800 years. Heavy precipitation is another cause of flooding in the Netherlands. Climate change poses a potential threat by increasing sea levels and precipitation, thereby heightening the vulnerability of the Netherlands to flooding.

5. In safeguarding the nation from flooding, the Dutch government has developed a comprehensive flood protection system. This system comprises polders—a set of dikes, embankments, dunes and structures that surround reclaimed land or other floodplains along the sea, rivers or lakes. In addition, strategically placed dams and barriers in rivers and estuaries control water levels and withstand elevated wave heights during extreme conditions. These structures have earned the Netherlands global recognition for its robust water management system.

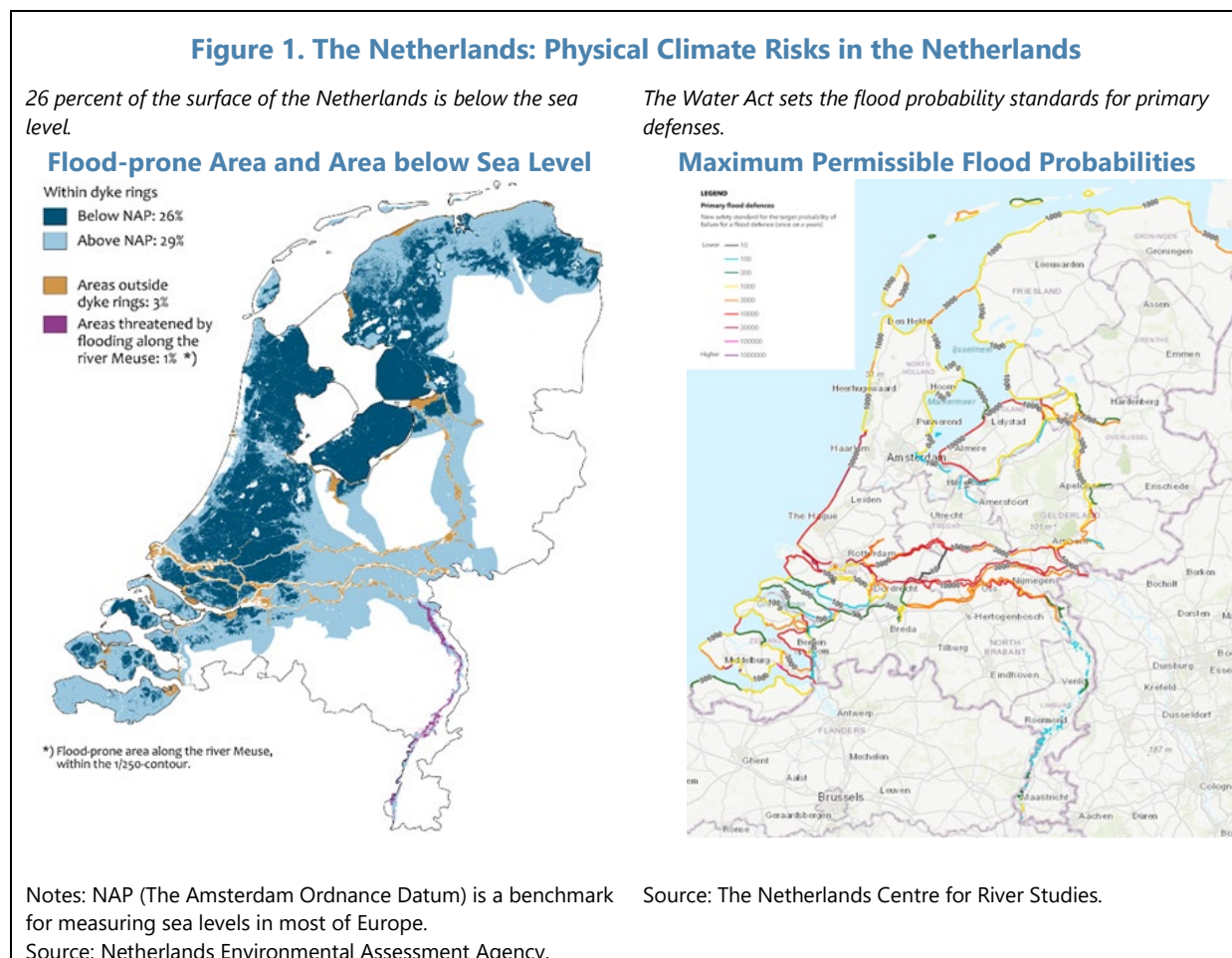
6. The flood defenses have been continuously reinforced since the major flood in 1953, including a supporting legal and administrative framework. The flood, which claimed the lives of over 1,800 people in the southwest of the Netherlands, galvanized continuous reinforcements. The legal framework governing flood protection is the Environment and Planning Act (*De Omgevingswet*), which sets safety standards for defenses and outlines the methodology for monitoring barrier strength. It also requires publication of a policy document every six years for reviewing and planning the latest water policy. Additionally, a Delta Programme Commissioner is appointed to oversee the annual Delta Programme, detailing measures to implement water policies. This program involves the collaboration between the central government, provincial and municipal authorities, water authorities, and stakeholders from private sectors and civil organizations.

7. Since 2017 the Dutch flood risk legislation builds upon a risk-based approach, which takes account of both the probability of a flood and the consequences of a flood. The probability of a flood is determined by water level, hydraulic load, strength, and height of the dike. (Figure 1). The consequences consist of (direct and indirect) economic damage and (direct and indirect) mortality, which are determined by the flood progress and pattern, and the evacuation rate. The goal of current policies is, by 2050 at the latest, to limit the probability of mortality due to flooding behind the dikes to no more than 1 in 100,000 per year (or 0.001 percent). To achieve this

⁴ This section draws on the Technical Note on Climate Risk Analysis.

⁵ The Netherlands is also vulnerable to environment-related infectious diseases, e.g., zoonotic pandemics. Hosting two of the largest transport hubs and the highest livestock density of Europe, the Netherlands could be more rapidly affected by new zoonotic disease types than other countries. However, this particular risk was not covered in this FSAP.

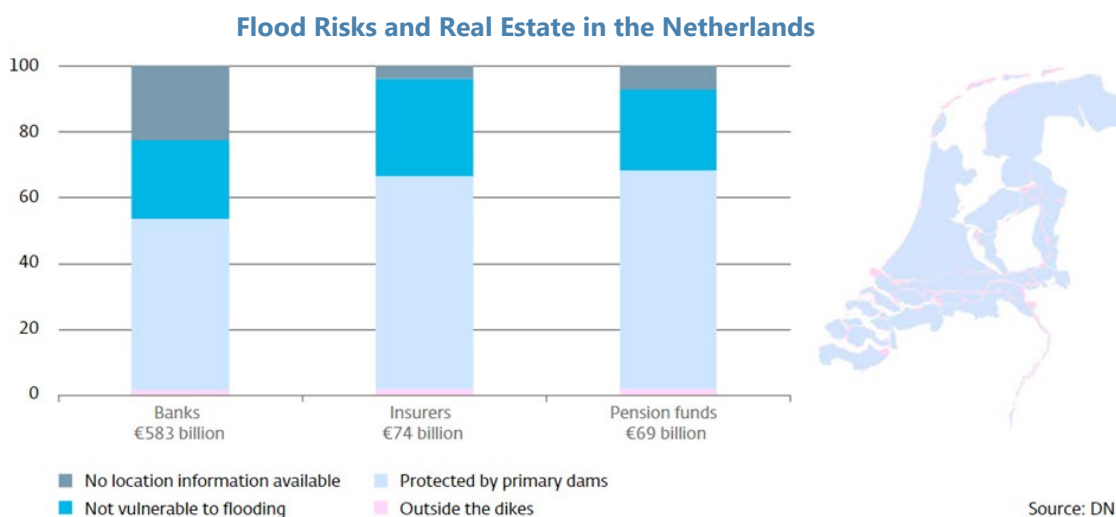
goal, upgrades to approximately 1,500 kilometers of dikes and over 400 engineering structures are planned.



8. Dutch financial institutions are exposed to physical climate risks from floods, due to their substantial holdings of domestic real estate located in areas vulnerable to flooding. Of the total EUR 700bn exposure to real estate, 52 percent, 66 percent, and 65 percent of bank, insurer, and pension fund assets, respectively, are in areas vulnerable to flooding (Figure 2). While most of these areas are protected by flood defenses, in the event of failure of dikes, a substantial portion of the real estate could be damaged by flooding. Moreover, these impacts could increase over time, as sea-level rise and more frequent extreme rainfall intensify.

Figure 2. The Netherlands: Dutch Financial Sector’s Exposure to Physical Risks

Most Dutch financial institutions’ domestic real estate exposures are in areas prone to flooding, giving rise to physical risks.



Notes: The chart reports the percentage of domestic real estate exposures of banks, insurers, and pension funds by location. Locations that can be affected by flooding include areas which are not protected by flood defense systems (outside the dikes) and areas protected by primary defense.

Source: DNB Financial Stability Report, October 2021.

B. Government’s Response and National Coordination

9. The Dutch government published a state-level strategy to mitigate and manage climate change impacts.⁶ The Netherlands is aiming for a 60 percent reduction in carbon emissions by 2030. The strategy envisages the Dutch economy to be climate-neutral, fossil free, nature-inclusive and fully circular by 2050 at the latest. In accordance with this strategy and with reference to Article 2.1(c) of the Paris Agreement, the Netherlands is committed to provide incentives for sustainable investments, eliminate greenwashing and promote credible climate action across the financial system.

10. A central management role is assigned to the Government. The coordinating minister for energy and climate bears the (ultimate) responsibility for achieving the goals in the Climate Act. Individual ministers are responsible for defining and executing initiatives for their respective mandates.

11. For the financial sector, the Minister of Finance sets a strategic agenda⁷ specifying the state-level objectives. One of these objectives is to accelerate the role of financial institutions in financing the transition. The voluntary climate commitments aim at a similar objective (see below). Additionally, DNB established the Sustainable Finance Platform where financial sector representatives, supervisory authorities and government ministries coordinate sustainability

⁶ [The Netherlands’ Global Climate Strategy | Publication | Government.nl](#) (December 2022)

⁷ [Kamerbrief Beleidsagenda voor duurzame financiering | Kamerstuk | Rijksoverheid.nl](#) (June 2022)

Box 1. KPMG Survey to 50 Institutions Committing to the Paris Agreement

KPMG conducted survey among 50 banks, insurers, pension funds and asset managers and their organizations which had committed to contribute to the realization of the Paris and Dutch Climate Agreements. According to the results of this survey:

- 100 percent of participating financial institutions have a climate action plan published.
- 96 percent have the ambition to align their portfolio with the 1.5 °C scenario and 'a net zero' by 2050 at the latest portfolio.
- 90 percent have an interim target for 2030.
- 94 percent have had their action plan approved by the executive board and/or the supervisory board; 78 percent of these use these insights to focus its action plan on these sectors, for example for formulating the objectives or for the actions, such as engagement or divestments.

VULNERABILITY OF FINANCIAL SYSTEM TO CLIMATE RISK¹⁵

17. Banks, insurers, and pension funds are exposed to physical climate risks, especially from floods (Box 2). Insurance penetration is limited, with damages from major flooding primarily borne by those directly affected and potentially the government. These impacts could increase over time, as sea-level rise and more frequent extreme rainfall intensify.

18. Flood risks in the Netherlands need to be differentiated and require different considerations both in risk modeling and deliberating policy options.

- inundation outside diked areas ("Type A");
- breach of primary flood defenses, in particular along the shore or major rivers ("Type B");
- breach of non-primary flood defenses, along smaller rivers ("Type C");
- inundation of regional water systems ("Type D").

19. Financial risks from the transition to a greener economy – especially from the "nitrogen crisis" – could also be sizeable. Nitrogen depositions currently exceed critical values and need to be reduced drastically by 2030. Measures would target specific sectors: agriculture, transport, and construction, with implications for the banking and insurance sector.¹⁶ The measures have been vocally opposed by farmers, with policy direction highly uncertain given ongoing government coalition talks.

¹⁵ See the Technical Note on Climate Risk Analysis for additional details.

¹⁶ The impact on both sectors, though, is different: generally, the share of domestic assets is higher in the banking sector than in the insurance sector. Furthermore, exposures towards the agricultural sector are mainly through bank loans.

20. Litigation risk is becoming a significantly growing concern with considerable financial and reputational implications. As some corporates have already been successfully sued, financial institutions need to pay due attention to litigation risk as well.¹⁷

Box 2. Key Publications by DNB

DNB has conducted several studies to assess the impact of climate and environmental related risks to determine how climate-related and environmental risks transmit to the Dutch economy and financial sector, including:

- [Time for Transition: an exploratory study of the transition to a carbon-neutral economy](#) (2016)
- [Waterproof? An exploration of climate related risks for the Dutch financial sector](#) (2017)
- [An energy transition risk stress test for the financial system of the Netherlands](#) (2018)
- [Values at risk? Sustainability risks and goals in the Dutch financial sector](#) (2019)
- [Indebted to nature. Exploring biodiversity risks for the Dutch financial sector](#) (2020)

In these studies, DNB – among others - estimated that EUR 510 billion of financial institutions' exposures is highly or very highly dependent on one or more ecosystem services (a positive benefit that ecosystems provide to people), representing 36 percent of the portfolio that was examined. For these exposures, the loss of ecosystem services would lead to substantial financial losses, with the highest dependence on groundwater and surface water. Other risks that were assessed are among others the loss of animal pollination, activities in biodiversity hotspots and the possible expansion of protected areas, the measures taken in response to the Dutch nitrogen crisis and involvement in controversial activities or reputational damage due to inadequate information provision about deforestation risks.

- [Flood risk and financial stability: Evidence from a stress test for the Netherlands](#) (2021)
- [Balancing sustainability, Integrating sustainability risks into the core processes of the financial sector](#) (2021)
- [Towards more sustainable lending](#) (2022)
- [Floods and financial stability: Scenario-based evidence from below sea level](#) (2023)
- [The economic and financial stability repercussions of nature degradation for the Netherland: Exploring scenarios with transition shocks](#) (2021/2023)

Also, these documents provide evidence that Dutch financial institutions are significantly exposed to transition risks. For instance, banks are exposed through their loan portfolios where debtors can be under pressure from tighter government policies, judicial rulings or changing consumer preferences. These factors can result in financial losses for these debtors, and – potentially - subsequent losses for banks.

¹⁷ See e.g., "*Milieudefensie et al. v. Royal Dutch Shell plc*": In April 2019, seven non-governmental organizations, together with more than 17,000 individual claimants, filed a class-action lawsuit against Shell, arguing that the company should change its business model and reduce its emissions in line with the Paris Agreement. A failure to do so would violate Shell's duty of care according to Dutch civil law as well as European Convention on Human Rights. In May 2021, the Hague District Court ordered that Shell's current sustainability policy was insufficiently concrete, and that Shell must indeed reduce its global emissions by 45 percent by 2030 compared to 2019 levels. While Shell has appealed the decision, the decision is provisionally enforceable, i.e., Shell's reduction obligations are not suspended pending the appeal. In January 2024, *Milieudefensie* indicated that *ING* was not living up to its responsibilities when it comes to climate change and that *Milieudefensie* may initiate legal proceedings against *ING* if it does not comply with their request ([Potential climate case | ING](#)),

22. The estimated banking sector's exposure¹⁸ to high nitrogen-emitting sectors amounts to 34 billion euros in domestic loans, constituting 6.5 percent of total loans and 1.5 percent of total assets. The nitrogen emission intensity metric, which measures the amount of nitrogen emission per unit of value-added, serves as an indicator of a bank's involvement in nitrogen-emitting sectors, particularly when weighted by the bank's exposure to these sectors. While the nitrogen emission intensity has exhibited a decline, this reduction is primarily attributable to policy interventions and economic agents' effort to reduce nitrogen rather than a shift in banks' portfolio toward greener sectors. Banks' efforts to support low-emission borrowers might be obscured in this metric due to the limitations imposed by high-level sector classifications.

23. The banking sector could face transition risks through the credit channel, especially if loans are extended to financially vulnerable firms in high nitrogen-emitting sectors. These firms often exhibit higher leverage and financial constraints compared to companies in other sectors, making them more susceptible to the economic impacts of nitrogen emission reduction policies. To assist banks in mitigating potential losses, clarity on the policy path towards reducing nitrogen deposition is an essential input to banks' decision making. In the interim, banks can proactively incorporate environmental disclosure information into their credit risk assessments in anticipation of the potential impact of new policies.

B. Insurance

24. The insurance sector is exposed to physical climate risks mainly through its non-life underwriting. Domestically, the most important natural perils are windstorms, hail, and floods—some of which are expected to become more frequent and/or severe with climate change. While the scientific evidence for a higher future frequency or severity of European windstorms is not clear-cut, hailstorms are expected to occur more often and are difficult to model given their very local nature. More precipitation and a rise in sea levels increase the risk of floods.

25. Not all flood risks can be insured in the private market. While primary flood defenses ("Type B") are not insured by private insurers,¹⁹ non-primary defenses ("Type C")—in particular along rivers—form the largest exposure of the property & casualty insurers. Additionally, inundation outside diked areas ("Type A") and inundation of regional water systems ("Type D") can be insured. Expected loss distributions are different for these flood types, with particularly fat tails for Type C. For all three flood types covered, Dutch primary insurers retain very limited exposure to events with lower occurrence probabilities and are instead covered by reinsurance. Outside the Netherlands, Dutch insurers hardly underwrite any risks in lines of business which could be vulnerable to flood risks—however, foreign entities within Dutch insurance groups could certainly have local exposures.

26. The largest insurance losses from natural disasters in the Netherlands (2007-2022) are related to hail and storm events, while floods have caused only few large claims (Table 2). By far the most severe flood event over the last decades occurred in the province of Limburg in July

¹⁸ For both SIs and LSIs.

¹⁹ Instead, compensation for such damages is provided by the government.

2021, when at the same time also neighboring regions in Germany and Belgium were hit. The insured losses in the Netherlands of this event amounted to around EUR 250m.

27. The net claims effect—after reinsurance—of a non-primary regional flood event on Dutch insurers is limited (Figure 4). The impact of historic and hypothetical flood events was tested for a sample of five large property & casualty insurers. A repetition of the 2021 flood in Limburg, based on today's exposures and assuming a 25 percent increase in maximum precipitation during the event, would result in net claims of EUR 180m for the sample. The SCR ratio for the median insurer would drop by less than 5 percentage points to 153 percent. However, modeling approaches used by insurers vary markedly, including on the likelihood of such a hypothetical event.

Table 2. The Netherlands: Insurance Losses from Natural Disasters (2007-2022)

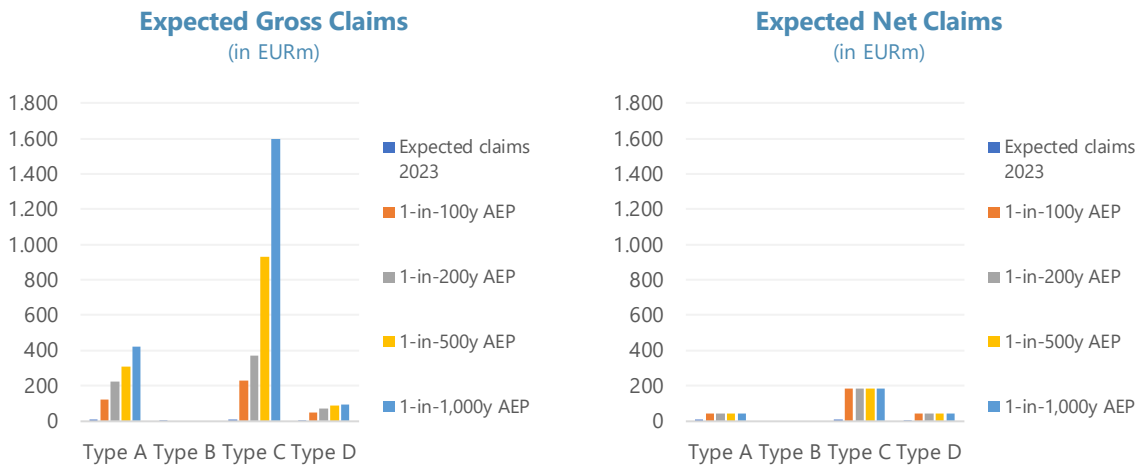
Date	Type	Insured Loss (EURm)
06/23/2016	Hail	667
02/18/2022	Storm	611
01/18/2018	Storm	538
01/18/2007	Storm	332
10/28/2013	Storm	211
08/30/2015	Hail	121
06/22/2008	Hail	118
07/15/2021	Flood	115
07/14/2021	Flood	109
05/26/2009	Hail	106
02/09/2020	Storm	104
08/31/2015	Hail	84
02/19/2022	Storm	83
07/28/2014	Rain	81
06/18/2021	Storm	80
01/03/2018	Storm	78
06/28/2011	Hail	75
03/31/2015	Storm	73
05/10/2019	Storm	68
05/29/2018	Rain	67

Source: Dutch Insurance Association, Klimaatschademonitor

Figure 4. The Netherlands: Insurance Physical Climate Risk Analysis

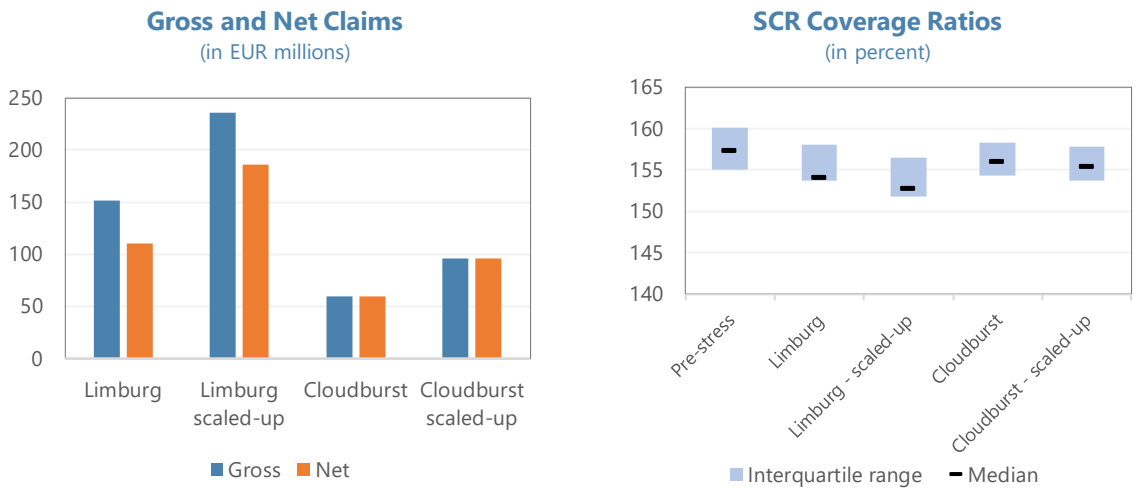
Non-primary flood coverage ('Type C') would cause the highest losses (which increase substantially for lower occurrence probabilities)...

... but the use of reinsurance limits the net claims for the Dutch primary insurers significantly.



A repetition of the 2021 Limburg flood with 25 percent higher maximum precipitation would cause net claims of around EUR 190m for insurers in the sample...

... resulting in a minor reduction of the SCR ratio of less than 5 percentage points for the median insurer.



Notes: 'Type A' floods refer to inundation outside dike areas; 'Type B' is a breakthrough of primary flood defenses; 'Type C' is a breakthrough of non-primary flood defenses; 'Type D' describes inundation from regional water system.

The 'scaled-up' events refer to the Limburg flood of July 2021 and the cloudburst of July 28, 2014, respectively, in each case assuming a maximum precipitation 25 percent higher than historically observed.

Source: IMF staff calculation based on company submissions.

REGULATORY AND SUPERVISORY RESPONSES

28. Climate risk banking supervision builds on the EU primary frameworks, mostly the Capital Requirements Directive (CRD)/Capital Requirements Regulation (CRR). CRD/CRR set essential elements of prudential regulation applicable also to climate related risks²⁰ and mandates competent authorities with their supervision.²¹ CRD/CRR are further elaborated by EBA implementing measures and guidelines. The Dutch legal framework transposes these requirements, for instance, in Section 24a of the Decree on Prudential Rules for Financial Undertakings (*Besluit prudentiële regels – Bpr*), which expands on Section 3:17 of the Financial Supervision Act (*Wet op het financieel toezicht – Wft*), requiring a bank to have in place robust, effective and comprehensive strategies and procedures to ensure that the level, composition and division of its own equity capital are in accordance with the size and the nature of the risks it faces not only in the short term, but also in the long term. In view of the long-term nature of climate-related risks, DNB considers this provision applicable with respect to climate-related risks. Additionally, CRR introduces specific regulations for environmental, social and governance risks²² and anticipates amendments to the current frameworks following the EBA assessment.²³ While some of these requirements were already specified by the EBA,²⁴ others are still subject to the EBA’s assessments and discussions.²⁵ For SIs, the ECB articulated its expectations for climate and environmental risks in its Guide on Climate-related and Environmental Risks²⁶ while also recommending its proportionate application to LSIs which is followed by DNB.

29. Sustainability risks were incorporated in EU insurance regulation through an amendment of the Solvency II Commission Delegated Regulation (S II CDR) in 2021.²⁷

According to Article 260 of the S II CDR, which is directly applicable in EU Member States, insurers

²⁰ For instance, Article 73 CRD requires institutions to have in place sound, effective and comprehensive strategies and processes to assess and maintain on an ongoing basis the amounts, types and distribution of internal capital, or Article 74(1) CRD requires institutions to have robust governance arrangements, or Article 79 CRD sets out specific legislative requirements for credit and counterparty risks.

²¹ For instance, Article 83(1) CRD provides that competent authorities shall ensure that policies and processes for the identification, measurement and management of all material sources and effects of market risks are implemented, or Article 431(3) CRR requires institutions to adopt a formal policy to comply with the disclosure requirements.

²² For instance, Article 449a CRR anchors disclosure of environmental, social and governance risks (ESG) risks, including physical and transition climate-related risks.

²³ See Article 501c CRR, prudential treatment of exposures related to environmental and/or social objectives.

²⁴ Implementing Technical Standards (ITS) on prudential disclosures on ESG risks in accordance with Article 449a CRR, or Joint EBA and ESMA Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP) under Directive (EU) 2019/2034, which includes ESG risks.

²⁵ See [Report on the role of environmental and social risks in the prudential framework of credit institutions and investment firms](#), October 2023.

²⁶ [ECB Guide on Climate-related and Environmental Risks](#), November 2020.

²⁷ Commission Delegated Regulation (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II)

shall consider sustainability risks²⁸ in their underwriting and reserving, and identify, assess and manage sustainability risks relating to the investment portfolio.²⁹ The S II CDR further spells out the responsibilities of the risk management function (Art. 269) and the actuarial function (Art. 272). Finally, the remuneration policy of an insurer shall include information on how it takes into account the integration of sustainability risks in the risk management system (Art. 275). Domestically, DNB has published the “Guide to managing climate and environmental risks” in March 2023 which addresses insurers, pension funds, investment firms and institutions, and electronic money and payment institutions.

30. Supervisory practice centers around annual reviews of financial institutions’ practices which are based on their self-assessments. DNB started with a thematic review of C&E financial risks by Dutch LSIs in 2019. Since 2021, the reviews are benchmarked against the ECB Guide on climate-related and environmental risks for banks. The reviews’ findings are summarized in a sector-level press release³⁰ and in an individualized management letter communicated to institutions. The feedback letter is then discussed with each institution in a bilateral meeting.

A. Supervisory Responsibilities, Powers, and Functions

31. DNB anchors climate risk supervision on the existing framework of powers and responsibilities, while focusing on material climate-related risks. According to Section 1:24 of the Financial Supervision Act (*Wet op het financieel toezicht – Wft*), prudential supervision performed by DNB ensures the stability of individual financial institutions and the financial system. This broad mandate covers climate-related risks to the extent they relate to the resilience objectives. Additionally, according to Section 3:17 of *Wft*, Dutch financial institutions are obliged to manage their operations in a sound and ethical manner, which include the management of climate-related risks. Regulatory powers are defined sufficiently broadly (Section 1:28 of *Wft*) to integrate climate-related risks in regulatory frameworks. Finally, following risk-based frameworks, supervisors can accommodate climate risk agenda in their current programs.

32. DNB sets sustainable strategic programs across its functions and establishes governance to execute these programs. The Sustainable Finance Office (SFO) ensures strategic steering to climate-related activities while the supervisory and central banking functions execute this strategy. SFO acts as a facilitator and catalyst for the Sustainable Finance Strategy (SFS)³¹ and the Strategic Sustainable Finance Program (SSFP). SFO also coordinates a knowledge hub for sustainability within DNB. SFO is working closely with the teams involved in implementing SFS and SSFP. While SFS is clearly articulated, the activities of individual supervisory departments could be better framed by medium-term plans executing this strategy. Such an approach would allow clear

²⁸ Sustainability risk in the sense of the S II CDR means an environment, social or governance event or condition that, if it occurs, could cause an actual or a potential negative impact on the value of the investment or on the value of the liability (Art. 1(55c)).

²⁹ Article 275 S II CDR adds further requirements under the prudent person principle.

³⁰ For years 2022 and 2024.

³¹ See Appendix – Objectives of Sustainable Finance Strategy of DNB.

prioritization across DNB and over the medium-term horizon. Additionally, it could support the resource planning process.

33. Recommendation 2: Further elaborate DNB’s Sustainable Finance Strategy in individual departments’ medium-term plans and strengthen systematic and coordinated development of sectoral agendas.

B. Supervisory Resources and Capacity

34. Supervision of LSIs leverages on practices developed at EU level or within the Single Supervisory Mechanism (SSM) as well as on outcomes of available research. The EU primary frameworks for banking supervision – CRD/CRR – comprehensively describe prudential requirements applicable to climate risk supervision, while these requirements are further specified by the EBA technical measures and guidelines and by the expectations of the ECB Guide on Climate-related and Environmental Risks.³² DNB greatly benefits from the robust EU/SSM framework in LSI supervision, however – at the same time – this comprehensive rulebook is resource-demanding in its application.

35. LSI and insurance supervisors are increasingly expected to dedicate part of their capacity to climate risk supervision while the overall resources for supervisory tasks have remained unchanged. Although DNB’s approach is efficient (for regulatory work, the burden is largely with the EU/SSM institutions; additionally, SSM is a knowledge center producing valuable research and setting supervisory benchmarks), growing demands of supervising more complex approaches by financial institutions from a larger number of perspectives requires a gradual increase in human resources. This observation applies across supervisory functions and includes staff specifically dedicated to the climate-related risks agenda as well as account supervisors.³³

36. Recommendation 3: Align resources allocated to direct climate risk supervision with the ambitious strategy, and periodically reflect on further growing capacity demands.

37. DNB has established a systematic approach to develop the skills and expertise of its staff. An internal sustainability network facilitates the exchange of knowledge among sustainability experts from various divisions, including beyond supervision. Expert sessions with academia, non-governmental organizations, financial and public sector experts are regularly organized to gather new insights and increase internal knowledge.

38. DNB’s dedicated experts provide training to LSI account supervisors, flexibly reflecting their specific needs, and in insurance supervision, a structured training program is being developed with a kick-off scheduled for 2024. While the current DNB’s internal capacity development seems to be effective for long established agendas or specific topics with clearly

³² [ECB Guide on Climate-related and Environmental Risks](#), November 2020.

³³ For account supervisors, the FTE capacity dedicated to the agenda will differ across institutions, however it will not be negligible for any of them. As comes to the dedicated team, consideration needs to be given to the fact that it provides support and coordinates activities internally but also conducts external activities (for instance, towards the ECB).

defined scope, the climate risk agenda is still evolving and impacts staff across different supervisory functions. A mandatory program composed of an introductory training and complemented by regular updates (e.g., delivered in pre-recorded short online lectures) would usefully complement the existing programs.

39. Recommendation 4: Develop a mandatory program that would systematically enhance and regularly update the expertise of supervisors in climate-related risks area.

C. Supervisory Approach, Tools, and Technique

40. DNB has developed a practice of annual reviews of financial institutions’ practices which are based on their self-assessments. These thematic reviews are defined by a methodology for each year, to support consistency across the sector. For LSIs, the elaborated reviews were started in 2021, while in the insurance sector, a first review was kicked off in 2023.³⁴ The 2021 exercise for LSIs focused on: (i) banks’ materiality assessments of climate-related and environmental risks; (ii) banks’ selected practices for climate-related and environmental risks; (iii) banks’ implementation plan for management of climate-related and environmental risks. In 2022, DNB followed up on the progress made by LSIs and deepened its review of materiality assessment while formulating its views on soundness and comprehensiveness of these assessments. DNB also partially opted-in to the 2022 ECB thematic review of climate-related and environmental risks and ESG risks disclosure exercise. The 2023 cycle was closely coordinated with the SSM, and its main focus remained similar as in previous years; in addition, a thorough survey was conducted for the following areas: Business environment & strategy; Governance; Risk management; and Disclosures. The assessment methodology has gradually built on similar reviews run by the SSM for SIs. The methodology is sufficiently detailed to guide account supervisors in their reviews and ensure consistency.

41. The findings for banks are summarized in a published sector-level report and more detailed observations are communicated in an individualized management letter communicated to institutions. DNB has been providing feedback in letters to Boards and typically also in bilateral meetings with financial institutions. In response, institutions submitted action plans to reflect identified shortcomings and DNB followed up on these action plans, including in a next year exercise. DNB also summarized the findings of first reviews in publicly available reports, including in the reports by the SSM.³⁵

42. The findings of the self-assessment for insurers are summarized in a press release and during the annual insurance conference organized by DNB. Additionally, it is planned to discuss

³⁴ The self-assessment included 25 questions, clustered in the following topics: strategy and business model, governance, risk management, information provision, investments, insurance (covering underwriting policy, pricing policy, and gathering of ESG data).

³⁵ [Balancing sustainability, Integrating sustainability risks into the core processes of the financial sector](#), December 2021; [Considerable room for improvement in dealing with climate-related and environmental risk in medium-sized and small Dutch banks \(dnb.nl\)](#), April 2022; [Walking the talk – Banks gearing up to manage risks from climate change \(europa.eu\)](#), November 2022; [The importance of being transparent - A review of climate-related and environmental risks disclosures practices and trends \(europa.eu\)](#), April 2023.

the findings during the regular supervisory dialogue. For 2024, another round of the self-assessment is planned, with all insurance undertakings being included.

43. Although the thematic reviews served the purpose of establishing the agenda, their limited connection with the supervisory process necessitates further steps to be taken. The thematic reviews have been useful in incentivizing the industry to incorporate climate-related risks in their practices, and in creating platform for an effective supervisory dialogue. The interactions between supervisors and financial institutions led to significant improvements in financial institutions' frameworks, including the Internal Capital Adequacy Assessment Process (ICAAP) and the Internal Liquidity Adequacy Assessment Process (ILAAP) frameworks, and strengthening supervisory benchmarks. With these advances, climate-related risks can be increasingly discussed in connection with general prudential requirements and gradually incorporated into the existing supervisory tools and approaches, the Supervisory Review Process. Considering the complexity of this task and remaining gaps, the related efforts should be sequenced, and framed by pre-defined steps. Such steps can be defined around milestones which would include: (i) elaborate the annual review to other areas to verify compliance with the ECB Guide and the DNB Guide for non-banks; (ii) sequentially incorporate the climate perspective into regular supervisory analyses; (iii) develop quantitative dashboards, and expand those already used in insurance supervision; (iv) enhance the onsite examination program by the climate-related risk dimension; (v) reflect supervisory findings in individual risk assessments and incorporate these assessments into the Supervisory Review Process; (vi) integrate climate risk supervision across the entire supervisory process.

44. Recommendation 5: Establish a medium-term plan to develop LSI/insurance climate risk supervision which would include specific milestones and outline resource demands with the aim to incorporate climate-related risk perspective across activities of the supervisory process.

45. DNB has started measuring the ESG risk level of insurers' investments and presenting them in a dashboard. By using data from supervisory reporting in combination with ESG data provided by external providers, like MSCI and ISS ESG, DNB estimates the exposure of an insurer to transition-sensitive sectors like 'energy'. Currently the risk level is based on the following indicators: weighted average carbon intensity (WACI), exposure to transition sensitive sectors, exposure to companies with 'fossil activities'. However, DNB has limited look-through information on investment funds, which account for a significant share of investments of many insurers.

46. DNB is also preparing a dashboard to support LSI supervision. DNB identified relevant data sources, including publicly available data. Additional data could be collected with the expansion of DNB's powers and amendments to the EU reporting framework. DNB has formulated supervisory indicators, which are being tested. The pre-defined indicators could be complemented by ad hoc quantitative analyses.

47. Emerging practices in the scenario analysis could usefully support supervision, if collaboration is further strengthened through the process of developing and applying stress testing tools. Supervision could usefully expand their insights in quantitative aspects of climate-related risks by deepening cooperation on the scenario analysis and similar exercises, currently

performed by financial stability experts. Closer cooperation among supervision and financial stability within DNB could result in formulating specific projects, which would benefit from the perspectives of both DNB functions while not duplicating ongoing initiatives.³⁶

48. Recommendation 6: Explore opportunities for joint projects involving both supervisors and stress testers.

49. DNB is establishing a stress testing capacity with the potential to explore new frontiers of emerging risks. DNB was the first major central bank to conduct a comprehensive transition risk stress test for banks, insurers and pension funds in 2018.³⁷ DNB also performed a PACTA analysis on banks' loan portfolios (including a selection of LSIs) to analyze the extent of transition risks.³⁸ However, DNB did not perform a comprehensive supervisory climate risk stress test for banks yet, as it decided to first learn from the experience collected in the ECB exercise.

50. Supervisors and other users largely benefit from the outcomes of stress testing exercises. Emerging practices in stress testing could usefully support supervision in the development of quantitative supervisory tools, complementing – among others – supervisory dashboards. If the design of individual 'stress testing' exercises is sufficiently internalized by supervision, their outcomes can be smoothly incorporated in the supervisory practice. Additionally, with the expansion of modelling capabilities of financial institutions, supervisors will need to extend their expertise. For this purpose, supervisors could also benefit from internal knowledge transfers, for instance, including in the Supervisory Review and Evaluation Program (SREP) for LSIs. At the same time, similar benefits from internal collaboration can be expected on the side of stress testers, e.g., in insurance supervision gathering information from the scenario analyses used by insurers in their Own Risk and Solvency Assessment (ORSA).³⁹ Ultimately, financial institutions will also benefit from high-quality feedback from DNB.

51. Recommendation 7: Deepen collaboration among DNB supervisors and DNB stress testers on climate risk supervision to (i) extend quantitative supervisory analyses, (ii) develop supervisory capacity to evaluate modelling approaches used by financial institutions, (iii) inform DNB's stress testing programs with insights of supervisors.

D. Supervisory Expectations on Management of Climate-Related Risks

52. Insurance and LSI supervision are framed by EU/SSM regulations, leaving limited space for national approaches. The regulatory requirements for LSIs are primarily formulated in

³⁶ The EU-wide Fit-for-55 climate scenario analysis.

³⁷ [An energy transition risk stress test for the financial system of the Netherlands](#), 2018.

³⁸ [Towards More Sustainable Lending \(dnb.nl\)](#), June 2022.

³⁹ A similar recommendation is made in the Technical Note on Financial Stability and Stress Testing of the Banking, Insurance, Pension Fund, Household and Corporate Sectors: It was noted that flood risk models used by insurers produce very different outputs, specifically related to the likelihood of certain flood scenarios. Investigating these differences further could provide useful input to the scenario generation for macrofinancial climate risk stress tests.

CRD/CRR, including related technical standards and guidelines. While many articles of regulation implicitly refer to climate-related risks, there are several provisions which are dedicated exclusively to climate-related risks. The emphasis on the specifics of climate-related risks is articulated across the Pillars of the framework, specifically in the following references: (i) climate risk disclosures (Pillar 3);⁴⁰ (ii) the role of climate related risks in the Pillar 1 framework, and beyond;⁴¹ (iii) climate risk considerations for Pillar 2.⁴² The EU already established the Pillar 3 requirements; these requirements are effective and first disclosures have been already published.⁴³ The EBA also published its report analyzing ‘the role of environmental and social risks in the prudential framework’,⁴⁴ while recommending risk-based enhancements to the risk categories of the Pillar 1 framework (Box 3); however, the EBA does not support the introduction of a green supporting factor or a brown penalizing factor at this stage, considering the balance of pros and cons arguments from a prudential risk-based perspective, notwithstanding the suggestions by several stakeholders. Finally, climate-related risks were already discussed with the adoption of the current version of the EBA Guidelines,⁴⁵ however they will be fully incorporated with CRD VI. Regarding insurance supervision, EIOPA has published—inter alia—an application guidance on running climate change materiality assessment and using climate change scenarios in the ORSA,⁴⁶ methodological principles for the climate change component in insurance stress testing,⁴⁷ and a discussion paper on the prudential treatment of sustainable assets and liabilities.⁴⁸

53. The ECB’s ‘Guide on Climate-related and Environmental Risks’ as well as DNB’s respective Guide for non-banks represent central regulatory tools for LSI and insurance climate risk supervision in the Netherlands. The ECB Guide was developed in parallel with the similar guidelines by the EBA, which is effective for the entire EU, and prior to the BCBS Principles on Supervision and Management of Climate-related Financial Risks. The content of these documents largely overlaps, while the ECB Guide provides greater detail (Figure 5). The SSM performed a self-assessment of the Guide against the BCBS Principles and found it fully compliant (links between individual chapters and principles are captured in the following chart).

⁴⁰ See Article 449a CRR, disclosure of environmental, social and governance risks (ESG) risks.

⁴¹ See Article 501c CRR, prudential treatment of exposures related to environmental and/or social objectives.

⁴² See Section III CRD, Supervisory Review and Evaluation Process (the latest version CRD V).

⁴³ [SSM Selected Pillar 3 Information 2022](#).

⁴⁴ [Report on the role of environmental and social risks in the prudential framework.pdf](#), October 2023

⁴⁵ [BoS 2018 xx Revised SREP GL including amendment for reference.docx](#), March 2022.

⁴⁶ [Application guidance on climate change materiality assessment and using climate change scenarios in the Own Risk and Solvency Assessment](#), August 2022.

⁴⁷ [Methodological principles of insurance stress testing – climate change component](#), January 2022

⁴⁸ [Discussion paper on the prudential treatment of sustainable assets and liabilities](#), December 2022

Box 3. EBA Recommendations on Enhancements of Pillar 1

EBA has put forward recommendations for short-term actions to be taken over the next three years as part of the implementation of the revised Capital Requirements Regulation and Capital Requirements Directive (CRR3/CRD6). In particular:

- Include environmental risks as part of stress testing programs under both the internal ratings-based (IRB) and the internal model approaches (IMA) under the Fundamental Review of the Trading Book (FRTB).
- Encourage inclusion of environmental and social factors as part of external credit assessments by Credit Rating Agencies.
- Encourage the inclusion of environmental and social factors as part of due diligence requirements and valuation of immovable property collateral.
- Require institutions to identify whether environmental and social factors constitute triggers of operational risk losses.
- Progressively develop environment-related concentration risk metrics as part of supervisory reporting.

Taking a medium-to-longer term perspective, the Report also presents possible revisions of the Pillar 1 framework reflecting the growing importance of environmental and social risks. These include:

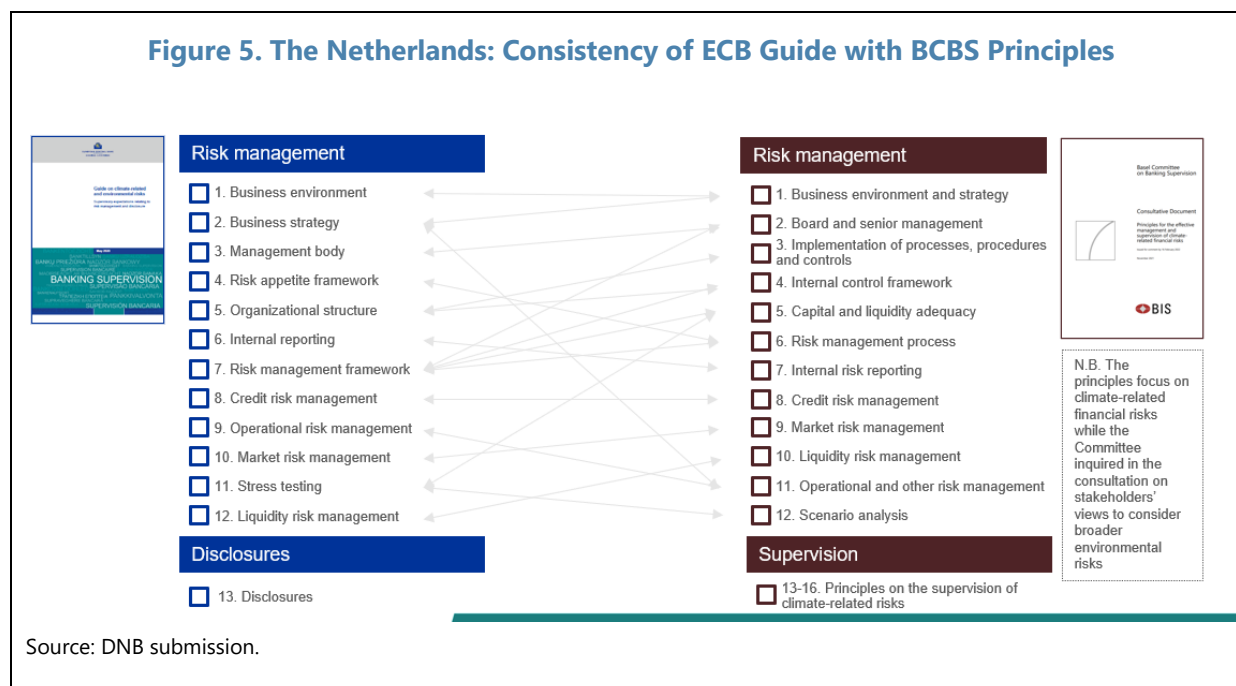
- The possible use of scenario analysis to enhance the forward-looking elements of the prudential framework.
- The role that transition-plans could play in the future as part of the development of further risk-based enhancements to the Pillar 1 framework.
- Reassessing the appropriateness of revising the IRB supervisory formula and the corresponding standardized approach (SA) for credit risk to better reflect environmental risk elements.
- The introduction of environment-related concentration risk metrics under the Pillar 1 framework.

Alongside other policy initiatives outside the prudential framework, the EBA will continue to strengthen the integration of environmental and social risks across all pillars of the regulatory framework.

54. The ECB Guide and the DNB Guide are applied proportionately while the application is flexibly adjusted for a concrete case. DNB applies a broad supervisory judgement in applying both Guides and its outcome communicates at individual occasions to involved financial institutions. In order to achieve a consistent application of the ECB Guide and the DNB Guide and increase the transparency of the supervisory approach, further guidance on the proportionality principle is warranted. The boundaries of proportionality can be defined in absolute terms (e.g., if some area is fully applied) or aligned with certain circumstances or (at least) indicated by the underlying application logic, however main criteria should be clearly set and their relevant features communicated on outside, to influence expectations/behavior of supervised institutions. As discussed during the mission, for the application of the ECB Guide, DNB might consider coordinating its approach with partners in the SSM.

55. Recommendation 8: Explain the application of the proportionality principle for individual sections of the ECB Guide and the DNB Guide, for both internal and external users.

56. Climate-related and environmental risks are being explicitly addressed in fit-and-proper interviews. The assessment file prepared by the bank or insurer and submitted to DNB must already include information on the candidate's knowledge and experience with regard to such risks. DNB may ask candidates in a subsequent interview about their knowledge, relevant legislation, and their impact on the institution.



E. Conduct Supervision

Protection gaps, Insurability and Affordability

57. The insurance sector has developed proposals for improving the insurability of flood risks. At the same time, the government is reviewing the regulatory framework for damage compensation. While some other European countries have different types of flood risk coverage in place, e.g., the public-private Flood Re system in the United Kingdom or a dedicated insurance for natural disasters in France, it is not advisable to simply copy a regime. In any case, a potential public-private partnership for the coverage of natural disaster risks should follow the principles set out by the ECB and EIOPA in a recent discussion paper.⁴⁹ In particular, it should provide prompt payouts of claims to policyholders, incentivize risk mitigation and adaptation measures, reduce moral hazard, and lower the share of economic losses borne by the public sector over the long term.

58. While discussions on protection gaps are ongoing, it will be critical to improve transparency on available insurance solutions. Information on availability and terms of disaster coverage through private insurance should be communicated actively to (prospective) policyholders. While such kind of communication is the primary role of the private insurance sector, public

⁴⁹ ECB, EIOPA (2023), [Policy options to reduce the climate insurance protection gap](#), Discussion Paper, April 2023.

authorities might have a role in ensuring that relevant information also reaches those households that are financially vulnerable and/or financially less literate. This could also include a more systematic monitoring of pricing trends for flood coverage by the authorities.

F. Practice by Financial Institutions⁵⁰

Management of Climate-Related Risk by LSIs

59. The reviews of self-assessments indicate a growing capacity of LSIs to assess the materiality of climate-related risk, while multiple market initiatives aim at improving banks' practices. The summarized outcomes of annual horizontal reviews by DNB indicate improvements in LSIs practices, particularly in materiality assessments. However, the mission had only a limited opportunity to verify this progress, as it did not have access to a sample of related supervisory files. From publicly available information, it is obvious that LSIs pay enormous attention to climate-related and environmental risks, gradually adjust their business models and products, disclose their policies – including short- and medium-term targets – as well as relevant data, following international disclosure frameworks. In meetings with two LSIs, the mission discussed challenges in implementing regulatory frameworks and banks' own innovative approaches in improving risk management processes, to capture climate-related risks. Similar discussions the mission held with the Dutch Banking Association, private consultants and representatives of academia – all are witnessing extraordinary efforts to advance approaches to address climate-related risks.

Management of Climate-Related Risk in Insurance

60. The large insurers are front runners in implementing ESG policies. Some of them have been publishing climate plans for several years now and have joined various alliances, like the Net Zero Insurance Alliance and the Net Zero Investment Alliance. These large insurers have dedicated staff specialized on ESG and climate topics, engage with the Dutch Insurance Association, actively take part in market discussions, and even share good practices with their peers.

61. Most insurers have already incorporated an assessment of climate risk in their ORSA, and most of them use various scenarios to identify material risks. At the end of 2019, DNB has published a Q&A on how to include climate risks in the ORSA⁵¹ and started assessing insurers' ORSAs in 2020/21. As the topic is relatively new, DNB identified room for improvement. The results of DNB's assessment were communicated individually to insurers and to the sector as a whole, encouraging undertakings to include material climate-related risks into the day-to-day business, like strategy and governance.

⁵⁰ See Box 4 for information on Climate Risk Oversight in the Pension Sector.

⁵¹ [Good Practice – Integrating climate-related risks in the ORSA.](#)

Box 4. Climate Risk Oversight in the Pension Fund Sector

According to Section 143 of Pension Act (*Pensioenwet*), Dutch pension funds are obliged to manage their operations in a sound and ethical manner, which include the management of climate-related risks.

For the large Dutch pension fund sector, DNB applies a supervisory framework for climate-related risks which is very similar to the approach in the insurance sector. This includes in particular:

- Self-assessment piloted in 2023: For a sample of the 39 pension funds, DNB piloted the self-assessment in 2023 with questions on (a) strategy and business model, (b) governance, (c) risk management, (d) information and disclosure, and (e) investments.
- Dedicated on-site inspections: Over the past two years, DNB has conducted six on-site assessments with some of the larger pension funds—ESG risk management practices were investigated during a span of three weeks. Furthermore, DNB also conducted eleven light reviews with pension funds to assess their risk management practices and gather insights into best practices.
- Dashboard for transition risk: Like in the insurance sector, the dashboard comprises the weighted average carbon intensity of investments, exposure to transition-sensitive sectors, and exposure to companies with fossil activities.

Further work is planned on the supervisory methodologies and data, aiming for consistent approaches across sectors and supervisory departments. For 2024, DNB plans to consider formally including ESG-related risks in the supervisory assessment framework, to increase knowledge of supervisors, and to explore the availability of data to improve the measurement of sustainability risks. Challenges remain with regard to the absence of standardized benchmarks to make a comprehensive evaluation of the extent of pension funds' risk management; furthermore, indicators are lacking on physical risks or biodiversity loss, mainly due to insufficient and unreliable data.

62. The internal control framework of insurers is still in the process of incorporating fully the responsibilities for overseeing the management of climate risks. Based on on-site investigations and discussions with insurers during 2022/23 and preliminary results from the self-assessment, DNB has concluded that almost 80 percent of the insurers' key function holders have a dedicated responsibility on 'climate risk'. DNB has not yet assessed the specific 'charters' of the key function holders on this topic but plans to perform at least two on-site investigations in 2024, where this will be one of the focal points. Assigning climate-related responsibilities and reporting lines across the three lines of defense appears not to be implemented yet at a large scale among insurers.

63. Embedding the management of material climate-related financial risks in policies, processes and controls across all relevant functions and business units seems to be at an early stage only. DNB has currently very limited evidence on how this works in practice—while the topic seems to have the attention of insurers, few implementation steps have been taken on a larger scale.

DISCLOSURE AND DATA

64. Disclosure and data are key to improve management of climate-related risks, while there are still many gaps to be filled. Data, disclosures and taxonomies depend on and reinforce each other. For that reason, it is necessary to progress on all these fronts in a coordinated manner. A number of EU initiatives provide strong support to the Dutch authorities. However, the national implementation and local projects still have a key role in strengthening climate information architecture and subsequently contribute to risk management practices across financial institutions. It is critical that the efforts in this area are not fragmented and there is a strong coordination among public and private sectors, and issues are tackled holistically at the level of the financial system and the economy.

A. Disclosure

65. The AFM and DNB have observed developing practices in disclosure, following various frameworks based on international or private initiatives. Dutch financial institutions have been frontrunners in applying various disclosure frameworks. A number of financial institutions pioneered the application of the Task Force on Climate-Related Financial Disclosures (TCFD) framework while gradually enriching their practice by implementing complementary frameworks, including Partnership for Carbon Accounting Financials (PCAF) standards. A legal footing for climate disclosures has been provided by the EU directives and guidelines. With the Non-Financial Reporting Directive (NFRD),⁵² the EU introduced non-financial reporting requirements for companies and financial institutions. In a next step, NFRD will be replaced by the Corporate Sustainability Reporting Directive (CSRD)⁵³ and the underlying European Sustainability Reporting Standards (ESRS).⁵⁴ In addition, the EU introduced the Sustainable Finance Disclosure Regulation (SFDR)⁵⁵ which requires financial market participants to provide transparency on the sustainability characteristics and objectives of their financial products in pre-contractual disclosures, in product information on the website and on a periodic basis.

66. Banking supervision is experiencing the first application of Pillar 3 disclosures of climate-related risks. The EBA's ESG Pillar 3 disclosures rules came into force for large financial institutions at the end of 2022. By 2025, with the introduction of CRR3, the EBA Pillar 3 disclosures on ESG risks will apply to all banks in the EU while the EBA has introduced proportionality measures that should help facilitate banks' disclosures, including a sequential implementation period from 2023 to 2025. Disclosures are required to be made, including to these ESG-related risk categories:

- Climate-change related transition and physical risks;

⁵² [Non-Financial Reporting Directive \(europa.eu\)](https://european-council.europa.eu/media/en/press-room/data/2014/14/P14_10001.pdf).

⁵³ [Corporate Sustainability Reporting Directive \(europa.eu\)](https://european-council.europa.eu/media/en/press-room/data/2023/23/P23_10001.pdf).

⁵⁴ [European Sustainability Reporting Standards](https://european-council.europa.eu/media/en/press-room/data/2023/23/P23_10001.pdf).

⁵⁵ [Sustainability Finance Disclosure Regulation \(europa.eu\)](https://european-council.europa.eu/media/en/press-room/data/2019/19/P19_10001.pdf).

- Institutions' mitigating actions supporting their counterparties in the transition to a carbon neutral economy and in the adaptation to climate change;
- Key Performance Indicators on institutions' asset-financing activities that are environmentally sustainable according to the EU green taxonomy (Green Asset Ratio and Banking Book Taxonomy Alignment Ratio);
- Qualitative information on how ESG considerations are being incorporated into governance, strategy, business model, and risk management frameworks.

Banking supervision is currently analyzing the first Pillar 3 disclosures.

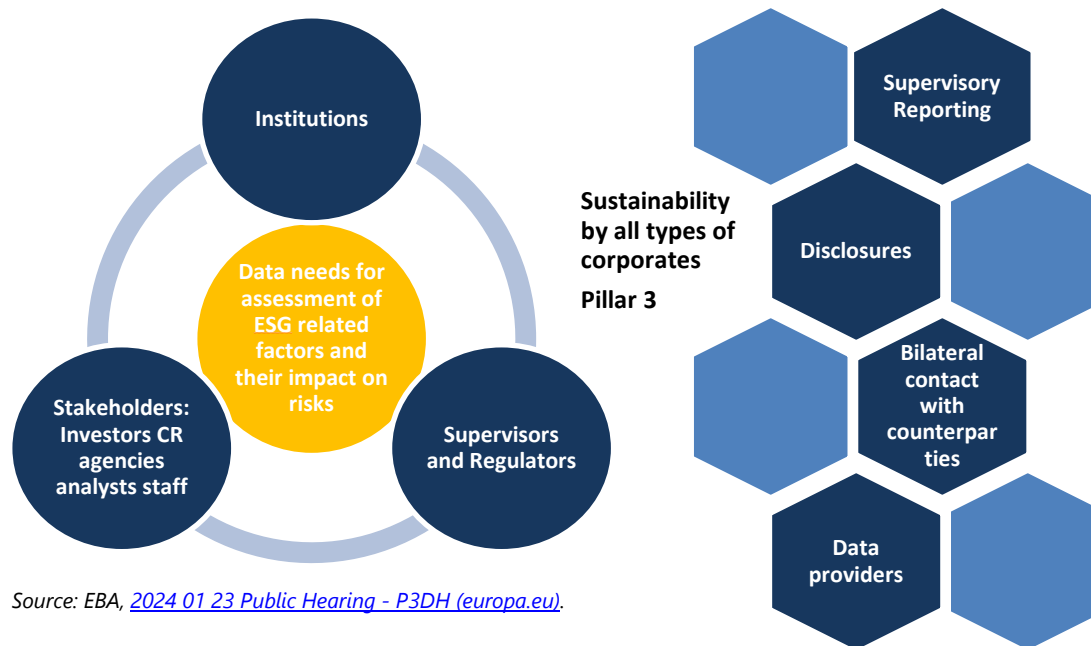
67. Also, the AFM is planning a review of the first CSRD mandatory corporate climate disclosures. While disclosure frameworks are built on similar methodologies (CSRD and SFDR) and disclosed information will be strongly interconnected across reporting entities, the AFM and DNB could join forces to evaluate initial lessons learned, for instance, by a joint working group. The outcomes could be used for internal purposes while key messages would be communicated to stakeholders, using appropriate communication channels. A regular exchange of experience with major counterparts could be facilitated by a multilateral format, in addition to bilateral meetings.

68. Recommendation 9: Summarize and communicate initial lessons learned from first mandatory climate-related disclosures; continue a regular exchange of experience on climate-related disclosures among authorities and include major counterparts.

B. Data

69. Multiple initiatives – both private and public – have been introduced across the EU to improve data (Figure 6). A major pan-EU project is the European Centralized Infrastructure of Data (EUCLID) which could centralize disclosure data. The first submission of Pillar 3 disclosures has already been published by the ECB. Additionally, the EBA's Pillar 3 hub project should later contribute to the European Single Access Point (ESAP) and – among others – further accelerate the development of Climate Information Architecture at the EU level. ESAP aims to offer free access to financial and sustainability-related information disclosed by selected EU corporates and related to a defined group of investment products. Data on physical risks are typically shared by national public authorities, in various formats and granularities. In 2023, the ECB started publishing a set of [climate-related statistical indicators](#).⁵⁶ EIOPA has introduced a [dashboard on the insurance protection gap for natural catastrophes](#) which presents data on current and historic protection gaps to particular perils (e.g., floods, storms, earthquakes) for each member state. Furthermore, EIOPA provides an open-source application ([CLIMADA-App](#)) which allows users to estimate the economic damage of extreme-weather hazards as well as potential increases due to climate change. Finally, there are a number of private vendors offering data covering the EU jurisdiction.

⁵⁶ These include indicators on sustainable finance, on carbon emissions financed by financial institutions, and on climate-related physical risks.

Figure 6. The Netherlands: Contribution of Disclosure to Climate Information Architecture

Source: EBA, [2024 01 23 Public Hearing - P3DH \(europa.eu\)](https://www.eba.europa.eu/en/public-hearings/2024/01/23-public-hearing-p3dh).

CRR 3: Pillar 3 Data Hub

Centralizing the prudential disclosures and making prudential information readily available through a single electronic assess point.

Planned Benefits:

- (i) increase the use of data;
- (ii) allow cross-bank comparisons in a harmonized format;
- (iii) reduce compliance costs with Pillar 3

70. In the Netherlands, plans to improve primary data collected by financial institutions have been formulated by associations and other groups. This includes the initiative by the Dutch banking association to prepare a set of schemes supporting the collection of data for different types of products and asset classes. Projects on improving data and sharing know-how on modelling approaches have also been outlined by the Association of Insurers. Finally, there are projects supporting sustainability topics that are outlined, including in the Sustainable Finance Platform.⁵⁷

71. Both climate disclosures and firms' risk management practices suffer from the lack of consistent and comparable data based on transparent/elaborated methodologies. The data issue has several layers – while there are areas of apparent data gaps, there is also climate data which is available, however the format or granularity does not match the needs of financial institutions, or there is data available only to some financial institutions (which can be associated

⁵⁷ Further examples of data sources for climate risk management are elaborated in Box 5.

with their market position). In addition, even when climate data is publicly available, it is not always current or lacks accuracy. For these reasons, the data issue requires a comprehensive, rigorous and independent review – to identify how and where relevant data can be sourced. Additionally, there should be a consensus on a set of data which does not constitute a competitive edge for a particular institution but should be broadly (and potentially freely) available to all institutions—taking into account any limitations when dealing with personal data according to the provisions of the General Data Protection Regulation⁵⁸—in order to strengthen their practices and consequently also foster the resilience of the financial system.

72. Data issues were highlighted by a wide range of stakeholders during the mission, touching upon quite different topics each. With regard to physical risks, financial institutions remarked that public authorities collect and publish numerous data, however the format is not always convenient to be directly used for risk management, calling for more standardization. The idea of creating a single access point that summarizes climate risk data from different sources resonated through several meetings. A specific issue that was also repeatedly referred was exposures of small and medium-sized enterprises to physical and transition risks. Encouraging research institutions, government agencies and financial institutions to jointly tackle this issue was seen as a way forward. In addition, the mission team experienced some issues while performing climate risk analysis—especially flood risk models used by property & casualty insurers can produce very different outputs, complicating comparisons and an aggregation of results.

Box 5. Examples of Available Data Sources for Climate Risk Management

- Rijksdienst voor Ondernemend Nederland (RVO)
 1. [Warmteatlas.nl](#); e.g. a dataset that shows the average gas supply per individual property in a postal code area – allowing for a cross analysis against a bank’s mortgage loan book to derive a first and simple view on transition risk exposure;
 2. [Open data Dutch government](#); e.g. datasets on Natura 2000 areas and areas exposed to increased subsidence;
 3. [EP-online](#); database that holds all issued energy labels;
- [Nationaal Georegister](#); e.g. datasets on water quality – next major theme in the Netherlands after climate and nitrogen that has the potential to cause substantial economic impact;
- [Klimaateffectatlas](#); data maps on flooding, waterlogging, drought and heat; an initiative by the public sector, private institutions and academia, managed by the Climate Adaptation Services Foundation;
- [Regionale klimaatmonitor](#); core dataset that combines data from various public authorities such as Statistics Netherlands (CBS) and RVO in a single dataset that covers a number of indicators to monitor emissions and energy use;
- [Klimaatschademonitor](#); information on historic insured losses from weather-related natural disasters, provided by the Dutch Insurance Association.

⁵⁸ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data.

73. The discussion on data gaps needs to be well structured and coordinated. Opening a discussion with the existing collaborative platforms or initiatives could be a useful first step. Creating a working group to review data needs and data sources could be another one. This step already requires the cooperation of public authorities which are involved in the agenda, including the collection of useful data. The discussion can conclude in an initiative led by an inter-agency body, similar to the one proposed in Recommendation #1.

74. Recommendation 10: (a) Continue mapping systemic gaps in available climate data sets and explore possibilities to support initiatives focused on strengthening climate-related data sets used by financial institutions for risk management and disclosure. (b) Further strengthen the engagement with financial institutions on the necessity to support their risk management by collecting consistent and granular data and disclosure which is available from their clients.

Appendix I. Sustainable Finance Objectives of DNB

A. Objectives 2025

DNB has set the ambition of integrating sustainability into all elements of its core tasks by 2025. In its Sustainable Finance Strategy, DNB translates this ambition into a set of targets, by each area of activity, for 2025.

A financial system resilient to sustainability risks

Supervision, financial stability and resolution

- Sustainability embedded in supervisory methodology: In its supervisory methodology and own (digital) supervisory processes, DNB embeds its expectations with regard to the management of material ESG risks and DNB takes appropriate measures if management is insufficient. DNB is transparent in its expectations towards the financial sector to manage these risks adequately. In addition, DNB monitors the progress institutions make on their voluntary sustainability commitments.
- Forward-looking toolkit applied in monitoring financial stability: DNB regularly and consistently identifies macroprudential sustainability risks, including through the Financial Stability Report and climate stress tests. DNB explores, as a pilot, how to factor nature-related risks into its macro analyses.
- Legal and regulatory framework, standards and supervisory toolkit developed further: DNB uses its influence in the various international fora to advance the development of standards and (forward-looking) supervisory instruments such as stress tests and scenario analyses for identification and assessment of sustainability risks, in particular, the Basel Committee for Banking Supervision (BCBS), the European regulatory authorities (EBA, EIOPA), the Financial Stability Board, the Network for Greening the Financial System and the International Sustainability Standards Board.

More sustainable monetary tasks and payments

Monetary tasks and payment system

- Monetary tasks more aligned with climate targets: Given its primary objective of pursuing price stability, DNB takes climate-related risks into account wherever possible in the performance of its monetary tasks. Based on its expertise and acting at the forefront, DNB actively contributes to the ECB's action plan to incorporate climate considerations into monetary policy and operations, thereby supporting the EU's climate policy.
- Reduced environmental impact of payment systems: Where it is within its control, DNB reduces the environmental impact of cash, thereby seeking alignment with international targets such as the Paris Agreement.
- Access to financial products and services stimulated: DNB monitors and promotes universal access to financial services and products, such as payment accounts, pensions, insurance and mortgage loans.

Informed debate on creating a sustainable economy

Economic research and advice

- Sustainability themes put on the agenda through research and advice: DNB fuels and stimulates the public debate on sustainable prosperity with agenda-setting economic research and advice on themes such as climate change, the energy transition, sources of prosperity and inclusive policies, devoting special attention to the most vulnerable groups in society.
- Environmental impact included in economic models: The main economic models and metrics that DNB uses take into account changes in the environment and their long-term effects on prosperity.

Robust sustainability data and statistics

Statistics

- Use of appropriate methodology: DNB has reliable sources and methods for producing and using sustainability statistics. DNB will also use its influence to advance the development of national and international data, statistics and standards.
- High-value data and reporting: Its data allows us to keep track of the current and estimated CO2 emissions of the Dutch financial sector and monetary system, including through adequate reporting from financial institutions.

Sustainable organization

Reserve management and internal operations

- Own investments 'Paris-aligned': Its reserve management is designed in a responsible, sustainable manner that is in line with internationally leading ESG standards and international climate targets.
- Sustainable internal operations: As an organization, DNB is climate-neutral (including its offices) and as circular as possible. DNB aims to obtain the BREEAM Outstanding and DNBL Platinum labels for its (renovated) headquarters. DNB carefully selects its suppliers and critically evaluates whether their service and social return match its sustainability standards.
- Transparent reporting and its transition plan: Through comprehensive and accessible reporting, DNB is transparent about sustainability risks inherent in its work and how DNB deals with them. Within this context, DNB will also prepare a transition plan to meet nationally and internationally agreed targets. In this plan, DNB will detail the objectives DNB aim to achieve, such as carbon emission reductions.
- Diverse, safe, inclusive work environment: DNB ensures that all its staff members can be themselves, feel at home and be appreciated for who they are - in all their diversity.