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Bridging the climate financing gap with public policy instruments

Deliverable 2. Good practice report

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A report submitted by ICF S.A.
in association with Wise Europa

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Executive Summary

The goals of the EU Sustainable Finance agenda and the development of the Capital Markets Union are convergent. Adopting a clear path for the transformation of capital markets across Europe which integrates these different objectives is therefore key to:

- Improve the functioning, stability, predictability and transparency of financial markets;
- Increase investment opportunities for businesses and investors; and,
- Ensure the appropriate scale of funds are directed towards the sustainable transition of the real economy.

Given the EU's leadership in sustainable finance, and the rapidly evolving regulatory landscape, the design of operational Sustainable Finance Roadmaps and Action Plans at national level is key to complement EU initiatives and guide the transition of national capital markets and their supporting financial systems. Building on the latest literature and good practices identified across Europe, and in particular in Austria, Ireland, Italy, France, and Lithuania, the objective of this report is to inform the design of Poland's Sustainable Finance Roadmap.

Roadmaps, strategies and action plans represent a multitude of solutions. However, their common feature is to support the overarching objective of both achieving climate neutrality by 2050 and identifying a set of policies and measures to ensure the financial sector plays its role in this transition. While each country adopts its own approach towards sustainable finance, existing roadmaps also show commonalities. This report focusses on five types of recommendations which were identified as being particularly relevant for the Polish context:

- General approach to sustainable finance;
- Non-financial reporting, disclosure & data collection;
- Risk Management;
- Capital supply & allocation: innovative financial products; and,
- Stakeholder's engagement, capacity building & sustainable finance literacy.

It is clear that across Europe, the impetus for action at national level is largely driven by the actions taken by the EU and the implementation of the Sustainable Finance Agenda and the European Green Deal. Among the reviewed Member States, Austria, Ireland and Lithuania all developed their Sustainable Finance Roadmaps and Strategies in the last couple of years. At the same time, Member States that acted as a pioneer in this area (e.g., France) have served as a model for solutions being developed at EU level, giving them and their financial market a competitive advantage. EU-level solutions should therefore be considered as a point of reference for the design of the Polish Sustainable Finance Roadmap.

While there are many opportunities to learn from the good practices identified in this report, it is important to recognise that the development of the sustainable finance agenda and policies and measures is still a new and evolving process, so many of the actions included in national roadmaps or strategies have not yet been fully evaluated, making it difficult to identify effective good practices.

The table below provides an overview of the general trends and good practices identified for each thematic area discussed in this report.

Thematic area	General trends and good practices
General approach to sustainable finance	■ Despite the presence of a strong EU Sustainable Finance agenda, there is no uniform approach to sustainable finance at national level among the analysed Member States. ■ The absence of a national overarching roadmap or action plan makes it more difficult for financial and non-financial institutions operating at national level to navigate the sustainable transition and to obtain a comprehensive overview of relevant developments and expected next steps. ■ The existing roadmaps and action plans follow different structures, but all support a specific vision or set of objectives. ■ Ministries of Finance in different Member States often play a leading role in the design and implementation of sustainable finance roadmaps and action plans; it is therefore key to equip Ministries of Finance with the right skills and capabilities and to ensure strong cooperation with other relevant ministries.
Non-financial reporting, disclosure & data collection	■ The relevance of reporting and disclosure of ESG risks and impacts in the financial industry is widely recognised by all stakeholders within the finance sector, making it one of the most common recommendations adopted in sustainable finance roadmaps. ■ The Task Force on Climate-Related Financial Disclosures (TCFD) is one of the most common frameworks, however the sheer number of sustainability reporting frameworks and standards has led to confusion and inconsistent disclosure in the market. ■ Many nations struggle to achieve a balance between global standards and developing national standards best suited to their local context, resulting in incomparable and inconsistent approaches. ■ In line with the EU approach to non-financial reporting, a double materiality approach is vital to understand the full scope and impact of climate change on financial aspects and vice versa.
Risk Management	■ The EU is driving national policies which aim to reorient capital flows towards more sustainable sectors, through greater stringency in sustainability-related risk management. ■ Independent risk management guidance is required for different stakeholders – credit institutions, investment fund managers, pension companies, insurers, domestic and international banks, state, and public bodies. ■ Most institutions have a blind spot for physical and other institutional risk drivers, such as biodiversity loss and pollution, as awareness about these transition risks is less advanced. ■ Several countries have developed plans for risk management, but the quality of plans varies significantly.
Capital supply & allocation: innovative financial products	■ Policies and measures to increase the supply of capital to sustainable activities are at the core of all reviewed sustainable finance roadmaps. ■ All the countries included in this review have emitted sovereign Green, Social and/or Sustainability (GSS) bonds to date and plan to continue to do so in the future. The volumes of issuance vary considerably, however, from one country to the other, with France clearly standing out in this group. ■ Governments have so far opted for the issuance of green bonds tied to expenditures, although alternatives such as sustainable bonds, and to a lesser extent transition and sustainability-linked bonds, are now also being considered. ■ Governments are designing and implementing measures to support the development of their corporate GSS bond markets.

Thematic area	General trends and good practices
	■ Governments are using traditional financial instruments (e.g., guarantee, loans, etc.) to leverage private finance for the financing of sustainable activities alongside the innovation cycle. ■ In addition to "traditional" ways to mobilise private capital towards sustainable activities (e.g., public guarantee or loan), the reviewed Member States are also exploring measures to promote innovation and the leverage of technology to create new sustainable finance products and solutions. ■ Finally, multiple countries are considering how to support the development of a local green fintech ecosystem to support their sustainable finance transition.
Stakeholder's engagement, capacity building & sustainable finance literacy	■ The lack of awareness and appropriate skills and capabilities is a major obstacle for the implementation of Sustainable Finance Action Plans (SFAPs) and a threat to the growth of robust and credible sustainable finance ecosystems. ■ It is essential to raise awareness and accelerate the engagement of finance professionals, corporates and other stakeholders on sustainable finance to support the sustainable transition of the real economy. ■ All the reviewed Member States have established a coordinating body which aims to gather together public and private stakeholders to inform the design of their SFAPs and Roadmaps. However, the scope and governance of these bodies varies considerably. ■ A necessary step is to accelerate the training and capacity building of relevant staff within financial institutions, corporates and public administrations. ■ Sustainable finance must be integrated into the curricula of universities and other relevant educational institutions.

1 Introduction

The objective of this report is to inform the design of Poland's Sustainable Finance Roadmap (SFR) and associated Sustainable Finance Action Plan (SFAP). This is done through the identification of good practices in the field of sustainable finance policies across the EU and, more specifically, in Austria, Ireland, Italy, France, and Lithuania. The ultimate goal is to ensure the Polish Ministry of Finance and the Polish Sustainable Finance Platform can efficiently build on existing good practices and solutions to fast-track the sustainable transition of the Polish capital market.

This "Best practice report" is the second Deliverable of the project "*Bridging the Climate financing gap with public policy instruments*", funded by the European Union (EU) via the Technical Support Instrument, managed by the European Commission Directorate General for Structural Reform Support (DG REFORM). The project is implemented by a team led by ICF and supported by Wise Europa, in cooperation with the European Commission and for the benefit of the Polish Ministry of Finance (MoF).

The project seeks to support the alignment of the Polish financial market with sustainability objectives and increase its role on the path of decarbonisation of the Polish national economy. In recent years, important steps were taken at EU level to reorient capital flows towards a more sustainable economy. However, sizeable financing gaps remain and fulfilling them will require strong cooperation between the public and private sectors. As the issuer of the first ever Sovereign Green Bond (SGB) issuance back in 2016, Poland was a pioneer in this field. However since then, Polish players have only issued slightly more than EUR 6 bn in Green, Social and Sustainable (GSS) bonds, far behind the European market leaders such as France (around EUR 400 bn), Germany (around 250 bn) and the Netherlands (around EUR 140 bn).[1] Poland is therefore far from being a European leader in sustainable finance. Furthermore, the Polish economy is one of the most fossil-fuel intensive among developed countries[2]; and estimates compiled during this project revealed a cumulative investment need of EUR 1,640-2,043 bn for the period 2028-2050 to transition Poland to climate neutrality by 2050.[3] To materialise this transition, and ensure Poland can meet the objectives set out in the EU Climate Law, the volume of public and private finance directed towards sustainable activities will have to drastically increase in the coming years.

The objective of this project, which will be deployed over a 19-month period, is therefore very clear: support the MoF to engage with all the relevant market players and stakeholders in Poland, to design a coherent, comprehensive, and actionable SFAP, in order to accelerate the transition of the Polish financial market. This best practice report represents the first step in this journey.

The rest of the report is structured as follows:

- Section 2 presents an overview of the methodology implemented to develop this report;
- Section 3 introduces the concept of a SFAP and/or strategy and how it has been used to date as a policy instrument;

[1] Data extracted from Environmental Finance Bond Database.
[2] International Energy Agency, *Poland 2022 Energy Policy Review*, *https://iea.blob.core.windows.net/assets/b9ea5a7d-3e41-4318-a69e-f7d456ebb118/Poland2022.pdf#page9*
[3] These estimates were computed by ICF and Wise Europa for a previous project. They are currently being updated in the framework of this new project.

- Section 4 presents the results of the benchmarking analysis between Poland and five other Member States (Austria, Ireland, Italy, France, and Lithuania);
- Section 5 presents the best practices identified by key thematic areas; and,
- Section 6 presents our concluding remarks.

2 Methodology

A three-step methodology was deployed to inform this report, with each step described below.

Step 1: Selection of five EU Member States

A series of socio-economic criteria (i.e., GDP, GDP per capita, total fixed assets and employment) and several criteria linked to the level of maturity of Member States on sustainable finance (i.e., volume of sovereign and non-sovereign GSS bond issuance to date, presence of a national sustainable finance platform, existence of a national SFR or SFAPs) were agreed with the MoF and DG REFORM in order to characterise EU Member States.

Based on a mapping of the EU-27, five EU Member States were selected. This selection was based on their level of leadership and/or recent policy developments in the field of sustainable finance and the common characteristics between their capital market and the Polish capital market. The overall rationale for selection is set out in Box 1 below. The final selection was also validated by the MoF and DG REFORM.

Step 2: Detailed analysis and interview

Based on the "*Dashboard on scaling up green finance*"[4], designed by the Network for Greening the Financial System (NGFS), each of the selected Member States was analysed, based on a detailed fiche covering both quantitative and qualitative information. The NGFS dashboard, which was designed to measure the progress of any specific market in green finance, was complemented with three elements: (1) more specific indicators on the state of the capital market; (2) an assessment of the key barriers limiting the flow of finance towards sustainable activities; and, (3) a detailed mapping of existing sustainable finance policies and measures (PaMs) put in place in each Member State. Each detailed analysis was then used as a basis for the organisation of a semi-structured interview with the national ministries responsible or co-responsible for sustainable finance policies. Five interviews were organised in total with the following ministries:

- **Austria:** Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)[5];
- **France:** Ministry for the Ecological Transition and Territorial Cohesion[6];
- **Ireland:** Department of Finance[7];
- **Italy:** Ministry of Economy and Finance[8]; and,
- **Lithuania:** Ministry of Finance[9].

[4] https://www.ngfs.net/sites/default/files/medias/documents/ngfs_dashboard_scaling_up_green_finance_october_2022.pdf
[5] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (bmk.gv.at)
[6] Accueil | Ministères Écologie Énergie Territoires (ecologie.gouv.fr)
[7] gov.ie - Department of Finance (www.gov.ie)
[8] Ministero dell'Economia e delle Finanze - Home page (mef.gov.it)
[9] Ministry of Finance of the Republic of Lithuania (lrv.lt)

Box 1 Rationale for the selection of the five Member States

- **Austria**: The government of Austria is currently working to adjust its legal framework to ensure the Austrian finance sector is aligned with the Paris climate targets. The objective is for Austria to achieve climate neutrality by 2040. In May 2022, the Austrian Ministry for Climate Action launched the Green Finance Alliance to support financial companies on their pathway towards achieving climate neutrality. It is one of the only government-backed initiatives calling upon financial companies to make a voluntary, yet binding [10], pledge to align their portfolios with the 1.5-degree climate target set by the Paris Agreement[11] (this requirement will soon enter into EU law). The geographic proximity to Poland also makes Austria an interesting case to learn from.
- **France**: France is regarded as a pioneer in the EU in the field of sustainable finance. In 2017, the French government commissioned the report titled "French strategy for green finance"[12] to gather recommendations on how France could progress on this topic. This initial scoping report, which does not represent an official strategy of the government, was followed by multiple political and regulatory initiatives in this field. The government also adopted very progressive legislation in the field of non-financial reporting[13], creating important potential for peer-to-peer learning.
- **Ireland**: After launching the sustainable transition of its financial market, the 'Ireland's Sustainable Finance Roadmap'[14] was published in 2021, resulting from the collaboration of multiple stakeholders from both public and private sectors. The roadmap is not an official document, yet it falls under the "Ireland for Finance" strategic framework supporting the further development of the international financial services sector in Ireland to 2025. In a short period of time Ireland managed to mobilise key actors to inform its sustainable finance roadmap and acquire a strong sustainable finance maturity.
- **Italy**: Italy scored high in our ranking due to its recent progress in the field of sustainable finance. In 2021, the Italian government issued a total of EUR 13.5 bn in SGBs (with the first tranche of EUR 8.5 bn[15] establishing a new Eurozone record for an inaugural SGB). It also set up a new inter-ministerial committee to support the transition of its finance market. In 2020-21, the Italian Ministry of Economy and Finance benefited from the support provided by DG REFORM, and implemented together with ICF, for the design of their national SFAP and they went through the same process as that envisaged under this project, creating important peer-to-peer learning opportunities.
- **Lithuania**: Although a much smaller economy than Poland, Lithuania shows a number of common socio-economic characteristics to Poland, for example, in terms of GDP per capita and employment level. Given its more recent transition to a free market and the EU, Lithuania also shows similar characteristics to the Polish economy for example in terms of the level of development of its capital market. Interestingly, Lithuania also benefited from the support of DG REFORM implemented together with the EBRD to design their national SFAP, which was published in December 2021 and is now being implemented.[16]

[10] This means that while financial companies do not have to make a commitment but if they decide to do so their commitment becomes binding.
[11] https://www.bmk.gv.at/en/green-finance/alliance.html
[12] https://www.vie-publique.fr/rapport/37266-pour-une-strategie-francaise-de-la-finance-verte

Step 3: Comparative analysis

Based on the results of Steps 1 and 2, a comparative analysis was completed to identify the best practices of most relevance to the Polish capital market. This comparative analysis was complemented by a review of the most recent grey literature on the topic. This forms the body of this report.

3 The role of sustainable finance roadmaps in greening capital markets

It is now generally accepted that public financing will be far from sufficient to finance the sustainable transition of our society. Private capital will therefore have a key role to play to fill the funding gap, which is estimated to total EUR 350 bn in additional investment per year across the EU to meet the 2030 greenhouse gas (GHG) emissions reduction targets[17]. In this context and as recognised by the European Commission in its Communication "Strategy for Financing the Transition to a Sustainable Economy": "*Well-integrated and efficient capital markets should act as a catalyst for effective mobilisation and allocation of capital towards sustainable investments*"[18].

Although green capital markets are growing rapidly across the EU, the European Central Bank (ECB) warned in a recent Macroprudential Bulletin that "*without further efforts to enhance underlying capital market structures and standards, the risks of national fragmentation and greenwashing remain high and can inhibit the development of integrated and resilient green capital markets, further growth in green finance and ultimately the transition towards carbon neutrality*"[19]. PaMs are therefore needed to not only accelerate the sustainable transition of capital markets, but also strengthen their overall functioning, notably by progressing on the EU Capital Markets Union (CMU). As summarised by the European Commission: "*The sustainable finance framework and the Capital Markets Union reinforce each other, creating more opportunities for businesses and investors*"[20].

It is therefore important to consider these different transitions (i.e. sustainable, digital and capital market) in an integrated way, given an obstacle on any of them could potentially slow down the others. The European Banking Federation (EBF)[21] recently identified three key reasons why more liquid, efficient and integrated capital markets are crucial for the financing of the sustainable transition:

- First, the financing of the green (and digital) transition will require increased levels of risk capital in the coming years to complement bank-based financing to support innovation and in the presence of intangible assets.

[13] Article 29 of the French Law Energy Climate, that was adopted in 2019, and the following Delegated Act, requires investor with more than EUR 500 million under management to report on their biodiversity footprint for example. Source:https://www.tresor.economie.gouv.fr/Articles/2021/06/08/publication-du-decret-d-application-de-l-article-29-de-la-loi-energie-climat-sur-le-reporting-extra-financier-des-acteurs-de-marche
[14] Irish-SusFinance-Roadmap-FINAL-FINAL-OCTOBER-2021.pdf (sustainablefinance.ie)
[15] https://www.mef.gov.it/en/focus/Btp-Green-the-new-sovereign-bond-to-finance-Italys-ecological-transition-00001/
[16] https://finmin.lrv.lt/uploads/finmin/documents/files/Strategy_and_Action%20Plan_2021-12-30_small.PDF
[17] Overview of sustainable finance (europa.eu)
[18] https://eur-lex.europa.eu/resource.html?uri=cellar:9f5e7e95-df06-11eb-895a-01aa75ed71a1.0001.02/DOC_1&format=PDF
[19] https://www.ecb.europa.eu/pub/financial-stability/macroprudential-bulletin/focus/2021/html/ecb.mpbu_focus202110_3.en.html
[20] Ibidem.
[21] https://www.ebf.eu/market-securities/between-old-and-new-challenges-the-role-of-the-capital-markets-union-in-achieving-inclusive-and-sustainable-growth-in-europe/

- Second, better performing capital markets are key to "crowding-in" investors to scale up and accelerate the green transition. These elements are mutually reinforcing, as the absence of more integrated markets can undo the successes achieved on other fronts.
- Finally, completing the CMU remains essential to enabling secure, trusted and sustainable financial innovation in the digital space.

In this context, the design of SFRs is key to guide the transition of national capital markets and their supporting financial systems.

3.1 The role of sustainable finance roadmaps and action plans in the toolbox of policy makers

3.1.1 What do we mean by Sustainable Finance?

In the grey literature, terms like low-carbon finance, climate finance, green finance and sustainable finance are very often used interchangeably. As illustrated in Figure 3.1, there are, however, important differences between these concepts and their exact coverage: sustainable finance covers the full spectrum of environmental-, social- and governance-related issues.

Figure 3.1 Scope of low carbon, climate, green and sustainable finance

Source: ICF, 2022. Based on: World Bank Group (adapted from UNEP) - Toolkits for policymakers to green the financial (2021), available at: https://documents1.worldbank.org/curated/en/374051622653965991/pdf/Toolkits-for-Policymakers-to-Green-the-Financial-System.pdf

Due to the usual emphasis on climate and environmental issues, there is a common misconception that sustainable finance exclusively addresses climate and/or environmental concerns. However, the social and governance factors are equally important and should form a vital part of any SFR and action plan. Indeed, the social pillar of sustainable finance covers crucial issues, such as gender equality and just transition, human rights, education, and health care amongst others; while the governance pillar, which refers to the inclusion of sustainable development objectives in the organisational and management structure of public and private institutions, is key to ensuring the inclusion of social and environmental considerations in the decision-making process.

Reflecting this broad vision, the European Commission defined sustainable finance as: "*the process of taking* ***environmental, social and governance (ESG) considerations*** *into account when making investment decisions in the financial sector, leading to more long-term investments in sustainable economic activities and projects*"[22]. Given the low-carbon transition is accelerating, giving financial players the right incentives and tools to play their role in reinforcing this movement is also key to ensure both their own competitiveness and the long-term competitiveness of the capital markets in which they operate.

Adopting such a comprehensive approach to sustainable finance might be considered as excessively broad. However, it is in reality crucial to prevent the adoption of a "*carbon tunnel vision*"[23], which disregards the complex interactions between the climate emergency and broader environmental and social crises. To solve any of these crises, it is indeed crucial to fully understand their interconnectivity and develop solutions that maximise synergies and minimise trade-offs. To avoid the pitfall of focusing on climate mitigation only, it is crucial for governments to adopt an integrated approach and vision to sustainable finance.

3.1.2 Why do we need Sustainable Finance Roadmaps?

A key building block to progress on this journey is to design a comprehensive SFR and supporting SFAP. This step is identified by the World Bank as the first step to be completed by policy makers in their journey to green their financial system.[24] The Coalition of Finance Ministers for Climate Action, of which the Poland is a member, and which is presented in more details in Box 2, also recognises the importance of SFR to effectively help Ministries of Finance work collaboratively to overcome the country- and sector-specific barriers to private finance. They define SFR as "*a way for Ministries of Finance to organize the different actors involved in sustainable finance around a common conception of their roles and responsibilities*"[25].

[22] https://finance.ec.europa.eu/sustainable-finance/overview-sustainable-finance_en
[23] https://digitally.cognizant.com/moving-beyond-carbon-tunnel-vision-with-a-sustainability-data-strategy-codex7121
[24] https://documents1.worldbank.org/curated/en/374051622653965991/pdf/Toolkits-for-Policymakers-to-Green-the-Financial-System.pdf
[25] https://www.financeministersforclimate.org/sites/cape/files/inline-files/Synthesis%20Report%20-%20Strengthening%20the%20Role%20of%20MoFs%20in%20Driving%20Climate%20Action%20%28Draft%20v1.1%29.pdf

Box 2 Coalition of Finance Ministers for Climate Action

The Coalition of Finance Ministers for Climate Action brings together fiscal and economic policymakers from over 80 countries in leading the global climate response and in securing a just transition towards low-carbon resilient development. The Coalition was launched in 2019 and is focused on six workstreams:

- Aligning policies towards the Paris Agreement
- Sharing experience and expertise
- Promoting carbon pricing measures
- Mainstreaming climate in economics perspective
- Mobilising climate finance
- Engaging in Nationally Determined Contributions (NDC) development

In November 2022, the Coalition released a draft of a forthcoming report titled "*Strengthening the Role of Ministries of Finance in Driving Climate Action: A Framework and Guide for Ministers and Ministries of Finance*"[26].

With the design of SFRs and SFAPs, the ultimate goal is to provide a strategic framework and set-up a comprehensive policy package to deepen sustainable finance markets and accelerate positive environmental, social and governance actions consistent with sustainable development priorities. A SFR is required to mobilise finance towards targeted green and social objectives to create a stable, sound, and resilient economy. In particular, the need to incorporate climate change considerations into financial decisions has become an integral part of a nation's strategic development to overcome the challenges posed by climate change.[27] SFRs play a key role in prioritising actions and coordinate activities among stakeholders including policy makers, supervisors, regulators, associations, corporates and other financial sector participants to accelerate the expansion of sustainable finance.[28]

3.2 Common characteristics of existing sustainable finance roadmaps

Once the need to design a SFR has been confirmed, one needs to turn to the question: how should such a roadmap be designed and what should be included? Two documents provide very useful guidance for governments starting this journey:

1. The "Toolkits for policymakers to green the financial system", developed by the World Bank (2021)[29]; and,
2. The "Analysis of sustainable finance roadmaps: Charting the path to financial system transformation", commissioned by the Coalition of Finance Ministers for Climate Action (2021)[30].

This second document identified 13 key criteria required to develop an effective SFR. They are presented in Table 3.1 below.

[26] https://www.financeministersforclimate.org/news/global-consultation-strengthening-role-finance-ministers-driving-climate-action
[27] Sustainable Finance Roadmaps Report - Nov 2021.pdf (financeministersforclimate.org)
[28] Sustainable Finance Roadmaps Report - Nov 2021.pdf (financeministersforclimate.org)
[29] Toolkits accessible at: https://documents1.worldbank.org/curated/en/374051622653965991/pdf/Toolkits-for-Policymakers-to-Green-the-Financial-System.pdf
[30] Report accessible at: Sustainable Finance Roadmaps Report - Nov 2021.pdf (financeministersforclimate.org)

Table 3.1 Criteria for an effective SFR and SFAP

Criteria	Description
Input from a diverse range of stakeholders	A broad consultative process involving policymakers, technical experts, academics, financial market participants, and representatives of environmental organisations and other civil society groups can help produce a comprehensive and feasible roadmap that secures the buy-in of key actors in the public and private sectors.
Designated policy champion	To ensure that it is a meaningful guide to public policy, and not merely an aspirational statement, the SFR requires appropriate institutional leadership.
Strong narrative	The roadmap should clearly explain the case for aligning the national financial system with SDGs and should ground that process within the context of the country's national policy framework and international commitments.
Comprehensive needs assessment	The roadmap should describe the requirements for aligning the financial system with SDGs over a given time horizon, based on projected business-as-usual financial flows to high-carbon sectors.
Low-carbon financing estimate	To convey the magnitude of the challenge, the roadmap may include an estimate of the investment gap in low-carbon sectors.
Analysis of barriers to sustainable finance	The roadmap should identify general challenges, such as underdeveloped capital markets or remuneration policies that encourage an excessive focus on short-term outcomes, as well as sustainability-specific obstacles, such as the inadequate mainstreaming of environmental impact into financial decisions.
Analysis of alternative scenarios	The roadmap should include multiple projected scenarios for the evolution of the financial system that reflect the diverse risks and opportunities facing the country, as well as their respective probabilities of materialising.
Precise, actionable recommendations	Appropriate policy measures will vary by country but often relate to disclosure, business practices, financial instruments, and knowledge-sharing networks. The roadmap should include concrete and detailed recommendations in these and any other relevant areas.
Prioritisation and sequencing	The roadmap should clearly indicate which measures are the most urgent and/or feasible in the near term, and it should identify actions that are prerequisites for deeper reforms.
Capacity-building plan	Aligning the financial system with SDGs will require the development of new organisational competencies, as the scope of financial policy and regulatory mandates must expand to encompass a broader set of objectives and a more complex framework for institutional coordination.
Monitoring arrangements, including progress indicators	A sound framework for measuring progress can highlight areas for further improvement, while also evaluating the effectiveness of measures that have already been implemented. Robust monitoring arrangements must include clearly defined oversight responsibilities and a regular reporting schedule.
Accountability mechanisms	Accountability for results helps to sustain reform momentum and prevent policy reversals. The roadmap should identify the agency or institution responsible for implementing each recommendation within a given timeframe.
Ongoing analysis and public engagement	Periodically evaluating the overall state of sustainable finance is crucial to keep policymakers and the public informed about the larger trajectory of the government and financial industry's efforts to achieve its environmental objectives. Continual public engagement promotes financial actors' compliance with their obligations, and regular analysis

Criteria	Description
	and reporting signals to the private sector, civil society, and the international community the strength of the government's commitment to aligning its financial system with SDGs.

Source : https ://www.financeministersforclimate.org/sites/cape/files/inline-files/Sustainable%20Finance%20Roadmaps%20Report%20-%20Nov%202021.pdf

The World Bank toolkit identified a few additional principles such as the need to:

- Address both the supply and demand of green finance;
- Consider both possible synergies and trade-offs between objectives in the financial sector and environmental policy areas; and,
- Ensure alignment with relevant climate or environmental objectives.

In reality, each country adopts its own approach towards sustainable finance and our research has identified a variety of roadmaps in terms of scope, level of details, endorsement, etc. These elements are discussed in detail under section 5.1. Despite any differences between them, all these documents are used for the same purpose by government: to guide the transition of their financial and capital markets towards the financing of sustainable activities.

In terms of content, existing roadmaps obviously show similarities. In its recent 'Analysis of Sustainable Finance Roadmaps' report mentioned above the Coalition of Finance Ministers for Climate Action analysed the structure and characteristics of 41 SFRs developed by 30 countries between 2014 and 2021. Table 3.2 provides an overview of the type of PaMs that are typically included in these roadmaps and the percentage of analysed roadmaps including them. This already provides a good sense of the required ingredients to build a comprehensive SFR.

Table 3.2 Summary of recommendation types & prevalence in roadmaps assessed by the Coalition of Finance Ministers for Climate Action

Type of recommendation	Share of roadmaps including them
Reporting & disclosure *Wide range of transparency and accountability measures, guidelines, and best practices, either voluntary or mandatory.*	93%
Institutional responsibility *Measures to allocate responsibility for environmental impact among financial institutions—for example, by clarifying the relevance of ESG issues within the context of fiduciary duty.*	80%
Capital supply & allocation *Measures to increase the supply of capital to activities and sectors with a positive environmental impact, such as fiscal incentives for sustainable investment or the use of innovative financing mechanisms such as green bonds.*	73%
Risk management *Measures to strengthen institutional capacity for environmental risk management, including the introduction of climate change risks into supervisory frameworks.*	71%
Capacity building *Skills development and training programmes for staff at financial institutions.*	71%
International standards	66%

Type of recommendation	Share of roadmaps including them
The adoption of existing international standards for sustainable finance, such as those promulgated by the Task Force on Climate-related Financial Disclosure (TCFD), as well as the development of new standards.	
Product & market innovation *Measures to promote innovation and leverage technology to create new sustainable finance products and market systems.*	63%
Regulation *Reforms designed to strengthen the credibility, predictability, and transparency of regulatory oversight.*	61%
Data collection *The creation, upgrading, or expansion of data collection systems, as well as other improvements in data quality and availability.*	39%
Formal education *Activities that incorporate sustainable finance into formal educational curricula, either by expanding existing undergraduate and graduate-level programmes or by developing new ones.*	32%
Research *Analytical work either prepared or commissioned by national governments in the field of sustainable finance.*	32%
Fiscal incentives *Fiscal policies explicitly designed to promote sustainable finance, such as tax exemptions, subsidies, and favourable loan terms.*	27%

Source : https://www.financeministersforclimate.org/sites/cape/files/inline-files/Sustainable%20Finance%20Roadmaps%20Report%20-%20Nov%202021.pdf

4 Benchmarking of the Polish capital market against peers

Before diving into the presentation of the general trends and good practices identified among the analysed Member States, this section provides more details about their specificities and how these differ to the Polish context. By benchmarking the Polish capital market against these five peers, this section enables a proper contextualisation of the identified good practices. Building on the "*Dashboard on scaling up green finance*", designed by the NGFS, this section is organised around five sub-sections that build on the dashboard designed specifically for this project:

- Real economy;
- Sustainability reporting;
- ESG risk management;
- Resource mobilisation; and,
- Capital market.

The section ends with a discussion of the key barriers limiting the greening of capital and financial markets across the five selected Member States.

4.1 Real economy

The indicators discussed under this section have been identified to assess the impact of green finance developments on the real economy.

4.1.1 GDP, GHG emissions and decoupling

Representing 3.9% of the EU GDP, the Polish economy is the 6th largest economy in the EU in terms of size of the Gross Domestic Product (GDP) in 2020. It ranks behind France (2nd) and Italy (3rd), but above Austria (9th), Ireland (10th) and Lithuania (22nd). The Polish economy has been developing at a rapid pace since the early 1990s, and its GDP grew by 154.1% since its adhesion to the EU in 2004[31]. This growth, which started in the early 1990s was driven by structural transformations in the labour market, the inflow of foreign capital and the high rate of productivity growth. Despite the growth of the Polish economy, the country ranks 20th within the EU in terms of GDP per capita in 2020 (12,810 euro per capita), which is almost five times lower from the highest GDP per capita in the EU, i.e., Ireland (62,570 euro per capita), and two times lower than the average GDP per capita across the EU-27[32].

Relatively to its total GDP, Poland also ranks high in terms of total GHG emissions, reaching the 4th position among the EU-27 in absolute numbers. The level of GHG emissions per capita is also strong in Poland (10 tonnes of CO_2e per capita in 2020) as the country ranks 5th on this ranking, only behind Luxembourg, Ireland, Czech Republic, and Cyprus.[33]

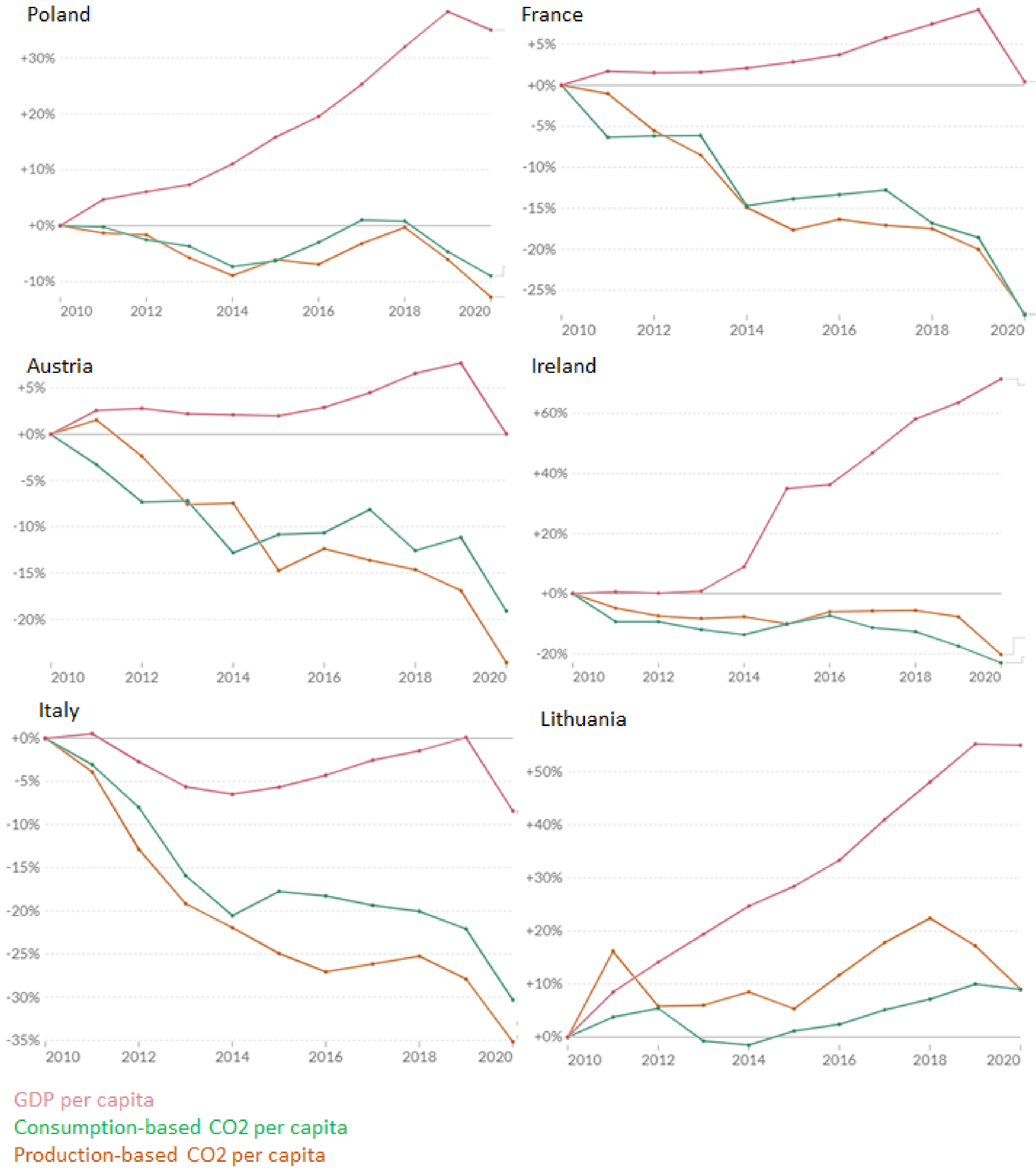
Historically CO_2 emission have been strongly correlated with GDP, resulting from the fact that consumption drives GHG emissions upwards. However, in the last decades, multiple countries have managed to decouple their economic growth from their GHG emissions. While part of this decoupling is, of course, linked to the delocalisation of high-emitting activities to other parts of the world, this is not the only explanation factor. Decoupling has been driven by: (1) the replacement of fossil fuels by low-carbon energy sources in the energy mix of these countries; and, (2) improvements in production efficiency.

As illustrated in Figure 4.1 below, in our sample of six EU Member States, all countries achieved some level of decoupling during the last decade, i.e. their GDP per capita always increased faster than their production-based and consumption-based GHG emission by capita. The level of decoupling is however stronger in Austria, France, Ireland and Italy, which experienced higher declines in GHG emissions per capita. GHG emissions per capita actually increased in Lithuania, although to a much lesser extent than its GDP per capita. In such a case, we talk about relative decoupling, i.e. both economic growth and fossil fuels consumption keep growing, but at different rates, with the former growing faster than the latter. Poland was on a similar trajectory to Lithuania, although its GDP and GHG emissions per capita experienced a strong decline from 2019-20, as a consequence, among others, of the COVID-19 pandemic.

It is important to recognise that decoupling is far from being the only answer to the climate crisis. Indeed, as stressed by recent reports: "*even countries that have achieved absolute decoupling are still adding emissions to the atmosphere thus showing the limits of 'green growth' and the growth paradigm*"[34]. As emphasised by the Intergovernmental Panel on Climate Change (IPCC), absolute decoupling is therefore not sufficient to avoid consuming the remaining CO_2 emission budget under the global warming limit of 1.5°C or 2°C.[35] As concluded by the IPCC, "*pursuing climate goals in the context of sustainable development requires holistic thinking including on how to measure well-being*"[36].

[31] Source Eurostat: GDP and main components (output, expenditure and income) - Products Datasets - Eurostat (europa.eu)
[32] Source Eurostat: Real GDP per capita - Products Datasets - Eurostat (europa.eu)
[33] Source Eurostat: Net greenhouse gas emissions (source: EEA) - Products Datasets - Eurostat (europa.eu)
[34] https://www.sciencedirect.com/science/article/pii/S2666792421000664
[35] https://www.climateforesight.eu/seeds/decoupling-emissions-from-economic-growth/
[36] https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf

Figure 4.1 Changes in per capita CO_2 emissions and GDP for Poland and five other EU Member States (Austria, France, Ireland, Italy and Lithuania)



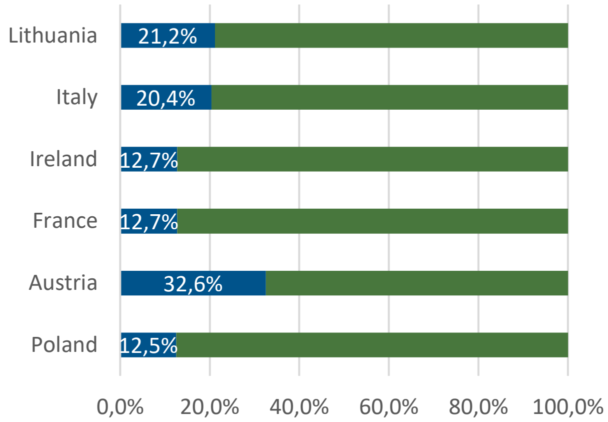
Source: Our World in Data based on data compiled from multiple sources by World Bank, Our World in Data based on the Global Carbon Project. Available at: https://ourworldindata.org/co2-gdp-decoupling

4.1.2 Energy mix and share of renewables

The level of renewable energy in the overall energy mix depends on the energy structures and infrastructures of the country. It also includes the relative importance of energy-intensive industries in total production, the technological advancement of other industries, the level of household wealth and the degree of decarbonisation of heat sources and means of transport. In 2020, the share of renewables and biofuels in the primary production of energy in Poland amounted to 21.6% (see Figure 4.2, left graph). In comparison, France reached 22.8%, while Austria and Lithuania respectively produced 84.9% and 83.9% shares. Countries with the lowest share of renewables in their total gross final energy consumption were Poland (16.1%) and Ireland (16.2%) – see the right graph in Figure 4.2. France's share amounted to 19.1% and Italy's was 20.4%. Lithuania had a high share of renewables at 26.6%, while Austria had the highest share among the countries analysed, totalling 36.5%.

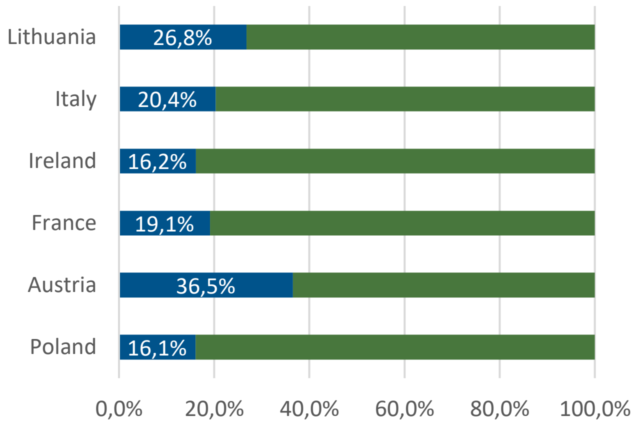
Figure 4.2 Share of renewables in total energy primary production (left) and energy consumption (right)

Share of renewables and biofuels in total energy primary production per country in 2020 (%)



Source: ICF based on Eurostat (2022) – Simplified energy balance (2020), available at: Simplified energy balances – Products Datasets – Eurostat (europa.eu)

Share of renewables in total energy gross final consumption per country in 2020 (%)



Source: ICF based on Eurostat (2020) – Share of renewable energy in gross final energy consumption (2020), available at: Share of renewable energy in gross final energy consumption by sector – Products Datasets – Eurostat (europa.eu)

The difference between energy balances is explained by the different national energy mix, energy production capacities and energy importations dependency. Indeed, the Polish low share of renewable energy in the energy mix is the result of policy choices, availability of investments and other variables. Despite a significant increase in the share of renewable energy sources (RES) in Poland, the transformation of Poland's energy sector is a massive undertaking, and could cost up to EUR 135 bn by 2030[37]. The achievement of EU objectives, set out in the "Fit for 55" package, as well as in the REPowerEU plan, raise concerns for Poland, as coal accounts for 70% of electricity generation, and fossil fuels account for 85% of the total energy supply. The transition to greater RES implies a technological transformation of energy systems, for production and demand. Under these circumstances, Poland's energy sector transformation is a much more extensive and expensive process than for most other EU Member States. The country also has a dependency on energy imports (about three quarters of available energy in the country) which is itself dominated by carbon intensive energy[38].

The energy and fossil-fuel intensiveness of the Polish economy, coupled with its reliance on energy imports, puts the resilience and national security of Poland at risk and draws attention to the need to support the development of domestic renewable energy production capacities. Moreover, the energy crisis following the war in Ukraine highlighted the dependency of all EU Member States to fossil fuels, in particular from

[37] Poland's energy transition will cost EUR 135bn by 2030, report finds – EURACTIV.com
[38] Source Eurostat Complete energy balances - Products Datasets - Eurostat (europa.eu)

Russia, stressing the need to accelerate the phasing out of fossil fuels, the development of RES in Europe and support for the transition to climate neutrality.

4.1.3 Environmental tax revenues and fossil fuel subsidy

Another component covered by the "real economy" chapter of the NGFS dashboard relates to environmental tax revenues and fossil fuel subsidies. These are two important instruments for governments to shape the relative prices of goods and services and influence consumer preferences. The results of our analysis, detailed in Table 4.1 below, shows that Poland is positioned in the average of the six analysed Member States for both indicators. In view of the transition to a low-carbon economy, the withdrawal of environmentally harmful subsidies is, of course, a key lever for governments, as they risk jeopardising efforts being implemented in parallel to reduce GHG emissions and other drivers of environmental degradations.

Table 4.1 Detailed results of the dashboard: real economy

Indicator	PL	AT	FR	IE	IT	LT
GDP per capita (2020, euro)[39]	12,810	35,480	30,550	62,570	24,890	14,050
GHG emissions per capita (2020, tonnes CO_2e)[40]	10	8.4	5.9	11.8	6.5	7.3
Share of renewable and biofuels in primary production of energy (%)[41]	21.6%	84.9%	22.8%	45.5%	72.6%	83.9%
Share of renewable energy in gross final energy consumption (%)[42]	16.1%	36.5%	19.1%	16.2%	20.4%	26.8%
Share of renewable and biofuels in gross available energy (%)[43]	12.5%	32.6%	12.7%	12.7%	20.4%	21.2%
Environmentally related tax revenue (2020, % of GDP)[44]	2.41%	2.1%	2.38%	1.2%	3.08%	1.98%
Fossil fuel subsidy (2020, % of GDP)[45]	3.2%	1.47%	3.91%	5.74%	6.2%	5.12%

4.2 Sustainability reporting

The indicators discussed under this section have been identified to provide insights in the level of transparency of national economic players in relation to the environment and sustainability.

In Europe, a good proxy to get a sense of the level of transparency in the market is to look at the number of companies falling under the reporting obligations of the Non-Financial Reporting Directive (NFRD). Indeed, since 2018, companies have been required to disclose information on their non-financial performance under the NFRD. However, given this is an EU Directive, leaving some room of manoeuvre to Member States in terms of transposition, the coverage of companies subject to the NFRD varies greatly across Member States. For instance, the application of the NFRD is very broad in France and covers 5,700 entities. In France, the NFRD applies to all non-listed companies (i.e., non-Public Interest Entities) with more than 500

[39] Source Eurostat : Real GDP per capita - Products Datasets - Eurostat (europa.eu)
[40] Source Eurostat : Net greenhouse gas emissions (source: EEA) - Products Datasets - Eurostat (europa.eu)
[41] Source Eurostat: Simplified energy balances - Products Datasets - Eurostat (europa.eu)
[42] Source Eurostat : Share of renewable energy in gross final energy consumption by sector - Products Datasets - Eurostat (europa.eu)
[43] Source Eurostat: Simplified energy balances - Products Datasets - Eurostat (europa.eu)
[44] Source OECD : Environmental policy - Environmental tax - OECD Data
[45] Source Fossil Fuel Subsidy Tracker : Country Data - Fossil Fuel Subsidies (fossilfuelsubsidytracker.org)

employees, as well as annual turnover and total assets of more than EUR 100 million.[46] In addition, France had implemented its own national legislation on non-financial reporting before the adoption of the NFRD, preparing its market for this transition. Other countries that have transposed the NFRD in a broad way include Spain and Romania.

By comparison, in the four other Member States analysed, the companies that are required to report under NFRD are defined narrowly, as shown in Table 4.2 below. In preparation for the introduction of the recently adopted Corporate Sustainability Reporting Directive (CSRD), which will increase the number of reporting companies and expand the scope of reporting, Member States must improve the reporting capacity of companies operating in their territory. This is especially challenging, given that the CSRD will also apply to SMEs that will face a steep learning curve in order to meet such reporting requirements. In Poland, the number of companies covered by the NFRD is estimated to be between 136 and 170[47], by comparison initial estimates of the number of companies covered by the CSRD amount to 3,660 entities.[48] This implies that more than 3,000 companies will have to very rapidly comply with new reporting requirements in order to comply with the CSRD timeline. Box 3 below provides more details about that timeline.

Box 3 Timeframe for the implementation of the CSRD

The 27 EU Member States should transpose the new Directive into national law 18 months after its entry into force. Companies already subject to the NFRD will need to comply with the amended rules for fiscal years beginning on or after 1 January 2024 (reporting in 2025 on 2024 data).

Other large companies not subject to the NFRD must start reporting from 1 January 2025 onward (reporting in 2026 on 2025 data). So that the reporting burden on affected SMEs is minimised, they will not need to start reporting until 1 January 2026 (reporting in 2027 on 2026 data). For third-country companies, the new requirements apply from 1 January 2028 (reporting in 2029 on 2028 data).

*Source :*EUR-Lex - 32022L2464 - EN - EUR-Lex (europa.eu)

Table 4.2 Detailed results of the dashboard: reporting

Indicator	PL	AT	FR	IE	IT	LT
Estimated number of companies subject to NFRD[49]	136	165	5,708	242	548	3
Share of SMEs in economic activities (% of total number of companies)[50]I	99.3%	98.1%	99.3%	99%	99.6%	99.3%

4.3 ESG risk management

The indicators discussed under this section have been identified to put in perspectives the different levels of exposure and readiness to manage climate-related financial transition and physical risks.

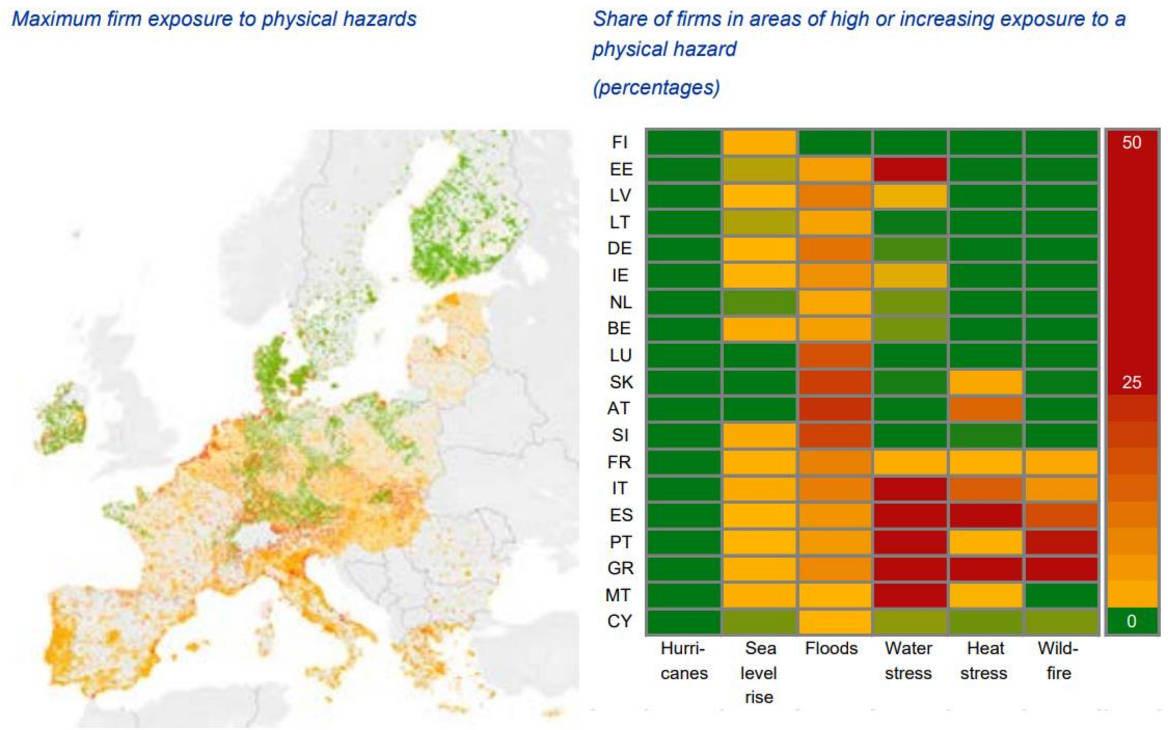
Climate change is already impacting Europe. The last few years have demonstrated that climate-related hazards, such as temperature extremes, heavy precipitation and

[46] https://www.ceps.eu/wp-content/uploads/2021/04/EV0220277ENN.en_.pdf
[47] CEPS estimated the number of Polish companies covered by the NFRD to be of 136 (source: https://www.ceps.eu/wp-content/uploads/2021/04/EV0220277ENN.en_.pdf), while Instrat estimated that number to be of 170 (Source: https://esg.instrat.pl/csrd-csdd/).
[48] Estimated list of companies subject to CSRD and NFRD in Poland (2020): https://esg.instrat.pl/csrd-csdd/
[49] https://www.ceps.eu/wp-content/uploads/2021/04/EV0220277ENN.en_.pdf
[50] Entrepreneurship - Enterprises by business size - OECD Data

droughts, pose important risks to human health and can lead to substantial economic losses. Due to the nature of these events (i.e., high variability from year to year and a small number of unique events responsible for a large proportion of the total economic losses), it is difficult to identify trends. However, the Intergovernmental Panel on Climate Change (IPCC) is clear that climate-related extreme events will become even more frequent around the world and in Europe. Looking at the numbers (see Table 4.3), we see that amongst the analysed Member States, France, Italy and Austria have been particularly impacted to date. In fact, if one looks at absolute figures, they were the second and third most impacted Member States (behind Germany), in terms of economic loss, in the period 1980-2020. At the other end of the spectrum, Lithuania and Poland experienced far fewer losses per capita to date.

Two additional indicators are used to complement this assessment of risk: the level of vulnerability to climate change[51] and the level of readiness to improve resilience[52]. These two indicators are summarised in two indices that are referred to by the NGFS. They show that the analysed Member States show a fairly similar level of vulnerability to climate change, while their readiness to improve their resilience varies. Austria, France, Ireland and Lithuania show a higher level of readiness than Italy and Poland. This stresses the need to reinforce adaptation investments within the business and institutional environments in both countries. Another useful source to compare the extent to which EU Member States are exposed to physical risks linked to climate change are the reports on “Climate-related risk and financial stability” published by the European Systemic Risk Board as illustrated in the Figure below.

Figure 4.3 Physical risks to firms in Europe stemming from climate change mainly arise from floods, wildfires, heat stress or water stress



Source : https ://www.esrb.europa.eu/pub/pdf/reports/esrb.climateriskfinancialstability202107~79c10eba1a.en.pdf

[51] Measures a country's exposure, sensitivity and capacity to adapt to the negative effects of climate change. See the details here: https://gain.nd.edu/our-work/country-index/methodology/
[52] Measures a country’s ability to leverage investments and convert them to adaptation actions. See the details here: https://gain.nd.edu/our-work/country-index/methodology/

Table 4.3 Detailed results of the dashboard: risk

Indicator	PL	AT	FR	IE	IT	LT
Losses from climate-related extremes per capita to date (euro)[53]	423	1,404	1,606	738	1,556	406
Vulnerability to climate change (Index)[54]	0.33	0.28	0.31	0.32	0.32	0.38
Readiness to improve resilience (Index)[55]	0.55	0.69	0.65	0.6	0.52	0.6

4.4 Resource mobilisation

The indicators discussed under this section have been identified to provide some insights into the capital flows that provide opportunities for greening the economy. Given there are not many datasets allowing for a clear identification of sustainable financing flows, we focused this part of the dashboard on the volume of sovereign and non-sovereign GSS Bonds issued to date. This of course only represents one part of the market and Deliverable 4 of the report will dive into a much more detailed analysis of the existing financing flows directed towards sustainable activities in Poland.

As illustrated in Table 4.4, to date, all six analysed Member States have issued sovereign and non-sovereign GSS bonds. Issuance volumes vary considerably, however, from one country to the other, with France clearly standing out in this group, both in terms of sovereign and non-sovereign issuance. While Poland has issued USD 2.2 bn of SGBs to date, it is worth flagging that the last SGB issuance was back in 2019. The Polish non-SGB market is considerably lagging behind its peers, since it only represents around USD 2 bn to date; it is also far behind leading Member States such as France and Italy. This shows the potential for growth of this market segment in Poland.

Looking at the volume of sovereign and non-sovereign GSS bonds issued by each country until 2022 against its national GDP[56], France is the most mature country for the issuance of sovereign GSS bonds, while Italy is the most advanced for non-sovereign GSS bonds.

Table 4.4 Detailed results of the dashboard: resource mobilisation

Indicator	PL	AT	FR	IE	IT	LT
Volume of sovereign GSS bonds issued to date (USD bn)[57]	4.3	5.2	52.5	5.6	22.0	0.13
Volume of non-sovereign GSS bonds issued to date (USD bn)[58]	2.2	12.0	160.5	11.3	92.9	0.12

4.5 Capital market

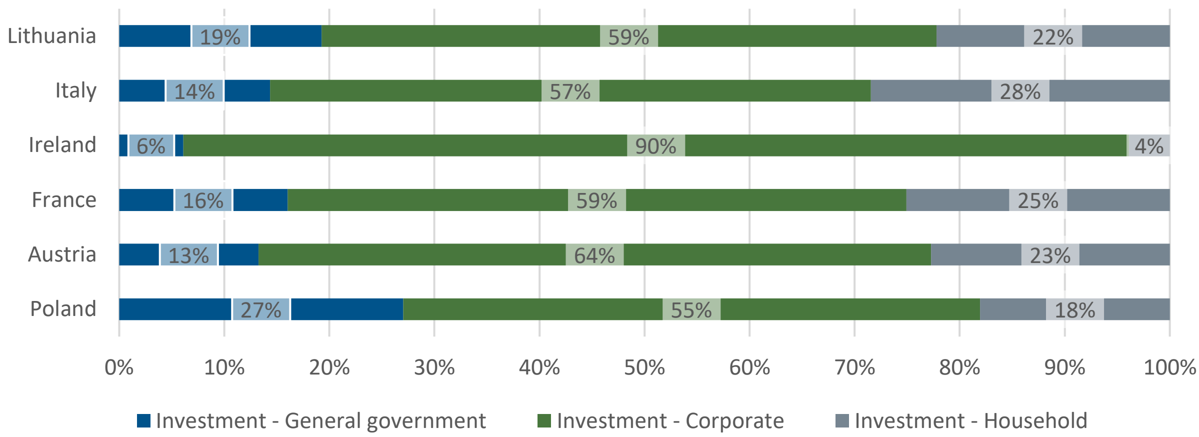
The indicators discussed under this section have been added to the NGFS dashboard, in order to provide insights into the key characteristics of the financial and capital markets of the analysed Member States.

[53] https://www.eea.europa.eu/ims/economic-losses-from-climate-related
[54] https://gain.nd.edu/our-work/country-index/rankings/
[55] https://gain.nd.edu/our-work/country-index/rankings/
[56] The year 2020 was taken as comparator for this exercise.
[57] Environmental Finance, Bond Database, Sovereign issuance only, data extracted on 16 November 2022.
[58] Environmental Finance, Bond Database, Corporate and Financial institution issuance only, data extracted on 16 November 2022.

4.5.1 Origins of investments in the real economy

Important investments are needed to finance the decarbonisation of the EU economy and, as already stressed in section 3, public investment only will not be sufficient to cover the investment gaps. As illustrated in Figure 4.4, across the six Member States analysed, overall investments in fixed assets are in majority led by the private sector. However, Poland is the country with the lowest share of corporate investment in the total of Gross Fixed Capital Formation (GFCF)[59]. In contrast, in Ireland, private investments from companies amounted to 90% of total investments in 2020. Private investments from households even represent a higher share of investments than the public sector. Given households in Poland do not compensate for the low level of investments from corporates, Poland is particularly reliant on public sector investment for its capital expenditures. As stressed in the latest economic forecast for Poland issued by the European Commission, this trend will continue in 2023, since "*low confidence, elevated cost pressures and increasing financing costs are expected to weigh on private investment growth […]. Still, a rise in public defence spending and local government investments is set to more than outweigh the drop in private investment, leaving total investment growth in 2023 well into positive territory*"[60]. This shows the need to accelerate the reform of the Polish financial market to mobilise more corporate and household financing.

Figure 4.4 Share of investments by sector in 2020 (% of Gross fixed capital formation)



Source: ICF based on OECD (2022), Investment by sector (indicator). Doi: 10.1787/abd72f11-en (Accessed on 13 December 2022)

4.5.2 Role of debt in financing public and private expenditures

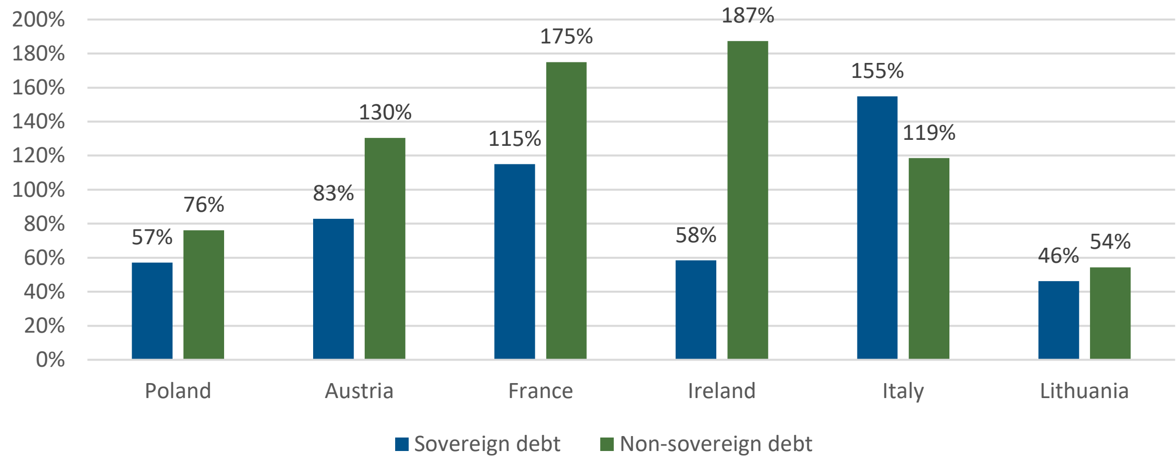
As shown in Figure 4.5, there are strong disparities in terms of public and private indebtedness among Member States. While Poland could be seen as performing relatively well in that group, since it shows a moderate level of sovereign debt (representing 57% of its GDP in 2020) compared to countries like Italy (155%) and

[59] Gross fixed capital formation consists of resident producers' investments, deducting disposals, in fixed assets during a given period. It is an estimate of net capital expenditure by both the public and private sectors. Examples of capital expenditure include spending on plant and machinery, transport equipment, software, new dwellings and other buildings, and major improvements to existing buildings and structures, such as roads Source: https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/ashortguidetogrossfixedcapitalformationandbusinessinvestment/2017-05-25
[60] https://economy-finance.ec.europa.eu/economic-surveillance-eu-economies/poland/economic-forecast-poland_en#:~:text=The%20latest%20macroeconomic%20forecast%20for,adjustment%20to%20higher%20commodity%20prices.

France (115%), with high inflation and geopolitical instability, the general macroeconomic outlook is worsening. The COVID-19 pandemic, the consequence of the Russian war in Ukraine, and the energy crisis, have also led to the accumulation of expenditures that had not been included in the original budget of the Polish government (e.g. lower VAT rates, cash heating subsidies to households and a multi-annual support scheme for energy-intensive industries).[61] Furthermore, the Polish fiscal framework contains a constitutional public debt break limiting gross debt to 60% of GDP. In this context and giving the existing macro-economic constrains, sustainable financing offers a continue route to raising funds at a greenium[62] and in this way also strengthening the credibility of Poland's transition pathway by giving predictability to investors and firms in an unstable macroeconomic environment.

Poland is also performing relatively well in terms of private debt, as Figure 4.5 shows the second level of indebtedness compared to GDP just behind Lithuania in that group. While this can be seen as a positive sign, since it means private entities can make a much more extensive use of private debt to contribute to the financing of the sustainable transition, it can also be regarded as a sign that private entities in Poland simply make less use of credit financing to support their activities. In the current macro-economic context, the ability and readiness of private firms to invest is however likely to be limited. The 2022 edition of the EIB's Investment Survey revealed, for example, that Poland is the second EU Member State with the largest share of firms (18%) with no investment planned in the next three years, behind Cyprus (33%) and with the same score as Latvia.[63]

Figure 4.5 Share of sovereign and non-sovereign debt per country in 2020 (% of GDP)



Source: Source: ICF based on Eurostat (2022), General government gross debt - Products Datasets - Eurostat (europa.eu) Private sector debt, consolidated - % of GDP - Products Datasets - Eurostat (europa.eu)

[61] https://economy-finance.ec.europa.eu/economic-surveillance-eu-economies/poland/economic-forecast-poland_en#:~:text=The%20latest%20macroeconomic%20forecast%20for,adjustment%20to%20higher%20commodity%20prices.

[62] Greenium or green bond premium is defined here as the difference in yield between a green bond and an equivalent non-green bond. If this difference is negative, it implies that an investor is paying a premium (or higher price) to buy a green bond as compared to a non-green bond of the same issuer (which results in lower yield for the investor). This de facto means a lower cost of borrowing for the issuer. Source: https://www.eib.org/attachments/ev/ev_report_evaluation_eib_climate_awareness_bonds_en.pdf

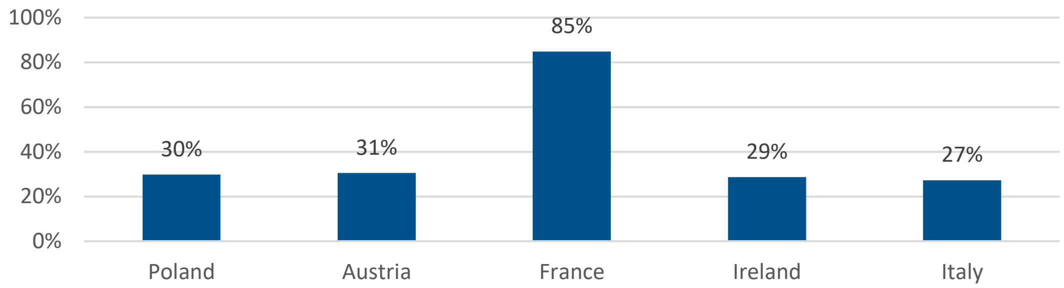
[63] https://www.eib.org/attachments/lucalli/20220219_econ_eibis_2022_eu_en.pdf

4.5.3 Domestic capital market value

As illustrated in Table 4.5, Poland's domestic capital market, compared to its GDP, is similar in size to that of Austria, Ireland and Italy. France outperforms the selected peers, as well as most other European countries, as it has the second largest market value in Europe when compared to its GDP.

Supporting the domestic capital market is therefore fundamental, as it provides easier access to equity and corporate bond financing to domestic firms, which allows them to diversify their financing sources and therefore mitigate potential negative shocks. This is particularly relevant for the sustainable transition of national economies as academic studies have demonstrated that equity-driven financial systems have been found to allocate capital more rapidly to cleaner industries. Moreover, as reported by the European Capital Markets Institute: *"countries with deeper stock markets are associated with more green innovation in carbon-intensive sectors, and facilitate the adoption of cleaner technologies in polluting industries"*.[64]

Figure 4.6 Share of market capitalised companies in 2020 (or latest year available) (% of GDP)



Source: ICF based on World Bank (2022), Market capitalisation of listed companies, available at : World Bank: Market capitalization of listed domestic companies (% of GDP) | Data (worldbank.org)

Role of patient capital

Poland's pension fund assets represent 7% of its GDP, which is the same range as the pension fund assets present in Austria (7%), Italy (10%) and Lithuania (10%). *This topic will be further developed in the context on the Sustainable Finance Platform working groups in Poland.*

Table 4.5 Detailed results of the dashboard: capital market

Indicator	PL	AT	FR	IE	IT	LT
Public investment (2020, % of GFCF)[65]	27%	13%	16%	6%	14%	19%
Corporate investment (2020, % of GFCF)[66]	55%	64%	59%	90%	57%	59%
Household investment (2020, % of GFCF)[67]	18%	23%	25%	4%	28%	22%
Total Market capitalisation of listed companies (% of GDP)[68]	30%	31%	85%	29%	27%	No data

[64] https://www.ceps.eu/wp-content/uploads/2022/03/From-NGEU-to-a-Green-Capital-Markets-Union.pdf based on: https://www.ecb.europa.eu//pub/economic-research/resbull/2019/html/ecb.rb191127~79fa1d3b70.en.html
[65] Source OECD. Investment by sector – OECD Data
[66] Source OECD. Investment by sector – OECD Data
[67] Source OECD. Investment by sector – OECD Data
[68] Source World Bank: Market capitalization of listed domestic companies (% of GDP) | Data (worldbank.org)

Indicator	PL	AT	FR	IE	IT	LT
Stock traded, total value (% of GDP)[69]	14%	9%	55%	8%	95%	2%
Total volume of pension fund assets (% of GDP)[70]	7%	7%	3%	34%	10%	10%
Total sovereign debt (% of GDP)[71]	57%	83%	115%	58%	155%	46%
Total non-sovereign debt (% of GDP)[72]	76%	130%	175%	187%	119%	54%

4.6 Barriers limiting the greening of capital and financial markets across the five selected Member States

Structural changes within the financial sector are necessary to achieve sustainability objectives and support the decarbonisation of Member State economies. The countries within our analysis are taking actions to fulfil their climate commitments. However, implementing these actions remains challenging, and require coordinated cooperation between stakeholders from the public and private sector, across multiple sectors.

A first step to transform the financial sector is to develop and implement financing strategies with the capacity to unlock sustainable investments, from both the public and private sector, to support effective climate actions. Finance ministries have an important role in developing, implementing and coordinating this transition, while safeguarding economic interests.

The five Member States analysed in this report have put in motion the implementation of SFAPs at a national level. These countries benefit from their strengths to achieve their commitment to transform the finance sector. However, they also face barriers which limit the flow of finance toward sustainable activities.

Structural barriers

Structural barriers to sustainable finance are similar to the barriers limiting wider economic functioning. The analysed countries are suffering from the consequences of the COVID-19 pandemic and the Ukrainian war, showing the limits to the resilience of their economic systems. National Recovery Plans emphasise the need to conduct an efficient use of resources, a key to improve the competitiveness of the countries, while also minimising their environmental impacts. Energy efficiency measures, changes in the energy mix, or support to the circular economy, are examples of measures taken and to be further supported by investments. The national economic landscape (i.e., the number and size of companies, economic specialisation, etc…) is also a barrier or a driver to this transformation. SFAPs must consider, therefore, the structure of the national economy in order to direct financial flows towards sustainable activities.

Financial barriers

Financial activities are already affected by both climate-related events and climate policies. However, Member States' financial sectors and capital markets all have their own specificities, which can both be strengths or weaknesses. There are strong gaps between the size, maturity and flexibility of the capital and equity markets across Member States, which have led to different levels of readiness to support investments

[69] Source World Bank: Stocks traded, total value (% of GDP) | Data (worldbank.org)
[70] Source OECD: Pensions - Pension funds' assets - OECD Data
[71] Source Eurostat: General government gross debt - Products Datasets - Eurostat (europa.eu)
[72] Source Eurostat : Private sector debt, consolidated - % of GDP - Products Datasets - Eurostat (europa.eu)

in general. In addition, the reliance on foreign investments can affect the capacity to raise internal finance. Outcomes for public and private stakeholders may also vary, according to their will or capacity to engage, comply and provide sufficient financial support to the transition of their sector and to invest in sustainable activities. There is therefore an intrinsic link between the reform of financial sectors and capital markets with the transition to sustainable finance that must be considered in order to align overall objectives. SFAPs must lead to an increase of the supply of capital towards sustainable activities, while considering the vulnerabilities of the financial sector.

Policy barriers

Sustainable finance has become a leading policy topic at international, European and national levels. The 2015 Paris Agreement has created a momentum to develop and action a plan on sustainable finance and invest in activities aligned with climate objectives. Several Member States are at the forefront of European regulation on sustainable finance and are committed to anticipate, monitor, and deploy the necessary resources and capacities. Since becoming a priority in the EU policy landscape, engagement toward the topic has accelerated within Member States. Leadership on this topic is divided among various authorities, usually involving the Ministries of Finance and Environment. Role distribution and coordination is key to ensure the successful implementation of an SFAP, as well as the involvement of various experts from different landscapes (corporates, academics, NGOs, etc…). Sustainable Finance frameworks must take into account institutional capacities to drive policies and reforms. They should not neglect their capacities to assess, manage and supervise climate change risks.

Skills barriers

The sustainable finance topic is relatively new and requires the development of sufficient capacities to match the ambitions set by Member States. The lack of awareness in the area of sustainable finance and sustainable transition, in general, may hinder the financial sector reform process and lead to greenwashing. Policymakers should facilitate stakeholder's capacity-building and improve access to expert knowledge and Sustainable Finance literacy. This will ensure the implementation and management of adequate structures and frameworks for the development of financial flows towards sustainable activities. Likewise, governments should encourage continuous stakeholder engagement in the process and a significant role in the implementation of the SFAP.

5 Identified good practices

Building on the type of recommendations typically included in SFRs, as presented in section 3.2, this section is structured around the following themes:

- General approach to sustainable finance;
- Non-financial reporting, disclosure and data collection;
- Risk management;
- Capital supply and allocation: innovative financial products; and,
- Stakeholders' engagement, capacity building & sustainable finance literacy.

For each of these topics, the report first presents a summary of the key trends and then provides more details on each of them with supporting good practices.

5.1 General approach to sustainable finance

General trends & good practices

- Despite the presence of a strong EU sustainable finance agenda, there is no uniform approach to sustainable finance at national level among the analysed Member States.
- The absence of a national overarching roadmap or action plan makes it more difficult for financial and non-financial institutions operating at national level to navigate the sustainable transition and to obtain a comprehensive overview of relevant developments and expected next steps.
- The existing roadmaps and action plans follow different structures, but all support a specific vision or set of objectives.
- Regarding their structure and content, the reviewed roadmaps and action plans follow different approaches.
- Ministries of Finance in different Member States often play a leading role in the design and implementation of SFRs and SFAPs. It is therefore key to equip Ministries of Finance with the right skills and capabilities and to ensure strong cooperation with other relevant ministries.

Despite the presence of a strong EU sustainable finance agenda, there is no uniform approach to sustainable finance among the analysed Member States. As illustrated in Table 5.1, a variety of roadmaps and action plans was published by these Member States. While they take different formats (i.e. from a short list of key actions in Austria to very detailed recommendation reports in France) and have different status (from a document published together with private stakeholders, as in Ireland, to roadmaps published in association with international organisations, as in Lithuania), all these documents have guided the work to date of analysed Member States in the field of sustainable finance (see Table 5.1).

For the purpose of this analysis, we looked at different sources per Member States, prioritising the most recent in the case of multiple documents and reports.

Table 5.1 Overview of existing SFRs or associated SFAPs

Country	Status of SFRs across the analysed Member States
Austria	■ A strategy on sustainable finance was established as part of the Austrian national Recovery and Resilience Plan, however no separate SFR or SFAP has yet been issued by the government.
France	■ The French government has commissioned different reports from members of the French parliament or external experts that have resulted in roadmaps and action plans. These include: – 2017: French strategy for green finance[73]; – 2018: For the creation of France Transition, Risk sharing mechanisms to mobilise EUR 10 bn of private investments for environmental transition[74]; – 2020: Choose a green finance supporting the Paris Agreement (in French only)[75]; and, – 2022: Making the Paris financial centre a reference for climate transition: a framework of actions (in French only)[76].

[73] https://www.economie.gouv.fr/files/files/PDF/2017/executive-summary_green-finance.pdf
[74] https://financefortomorrow.com/app/uploads/2019/02/Rapport-Canfin-Zaouati_ExecSum_EN.pdf
[75] https://minefi.hosting.augure.com/Augure_Minefi/r/ContenuEnLigne/Download?id=90AA3BA2-50B8-4E96-BAE2-769EACCA0E8A&filename=Rapport%20d%27Alexandre%20Holroyd_Choisir%20une%20finance%20verte%20au%20service%20de%20l%E2%80%99Accord%20de%20Paris.pdf
[76] https://www.vie-publique.fr/sites/default/files/rapport/pdf/284351.pdf

Country	Status of SFRs across the analysed Member States
	■ In addition, in 2018, the UN Principles for Responsible Investment (UN PRI), the United Nations Environment Programme Finance Initiative (UNEP FI), and The Generation Foundation collaborated with Finance for Tomorrow to publish a France roadmap for sustainable finance[77], setting out recommendations for institutional investors and policy makers. This was published under the programme Fiduciary Duty in the 21st Century that also covers Ireland and other countries across the world.
Ireland	■ Ireland's SFR[78] was published in October 2021. It is a hybrid document, since it is not an official roadmap of the government. However, it falls under the "Ireland for Finance" strategic framework, set up by the Irish government to support the further development of the international financial services sector in Ireland to 2025. The roadmap was supported by Skillnet Ireland, an agency of the government focusing on competitiveness, productivity and innovation. ■ In 2018, the PRI, UNEP FI and The Generation Foundation collaborated SIF Ireland, Ireland's Sustainable and Responsible Investment Forum, released the Fiduciary Duty in the 21st Century Ireland Roadmap.
Italy	■ In 2016, the UNEP Inquiry into the Design of a Sustainable Financial System collaborated with the Italian Ministry of Environment, Land and Sea to publish the "Report of the Italian National Dialogue on Sustainable Finance"[79]. ■ In 2020-21, the Italian Ministry of Economy and Finance benefited from the support of a DG REFORM project to design a detailed SFAP. This Action Plan was not published, although it is now being used as the basis for the work of the recently established Italian Sustainable Finance Platform.
Lithuania	■ In 2021, the Lithuanian government benefited from the support of a DG REFORM project to design a Sustainable Finance Strategy and Action Plan. This work was carried out together with the EBRD and resulted in the publication of a recommendation report[80]. This report is now being used as the basis for the design of sustainable finance policies by the government.

The EU sustainable finance agenda has been a key driving force behind the progress made by Member States over the last years. Some Member States, such as France, even started this transition before the initial EU sustainable finance initiative. France is seen as a pioneering country in this space: already in 2016, the French government required institutional investors and companies to provide information on the way they consider climate change and other ESG factors in their strategies and decisions. [81] This is explored in more details under section 5.2. This triggered many developments on the French market and is one of the reasons the French green capital market is now very developed and pioneering new areas such as nature-related risks. The publication of the European 'Action Plan: Financing Sustainable Growth' (EU SFAP)[82] in 2018 and the 'Strategy for financing the transition to a sustainable economy'[83] in 2021 together with the transposition of key EU legislation, such as the NFRD, drove further developments at national level. The

[77] https://www.unpri.org/fiduciary-duty/fiduciary-duty-in-the-21st-century-france-roadmap/3843.article
[78] https://www.sustainablefinance.ie/wp-content/uploads/2021/10/Irish-SusFinance-Roadmap-FINAL-FINAL-OCTOBER-2021.pdf
[79] https://wedocs.unep.org/bitstream/handle/20.500.11822/16801/Financing_the_Future_EN.pdf?sequence=1&amp%3BisAllowed=
[80] https://finmin.lrv.lt/uploads/finmin/documents/files/Strategy_and_Action%20Plan_2021-12-30_small.PDF
[81] This was specified under Article 173.4 and 173.6 of the 2015 Energy and Transition Law.
[82] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097
[83] https://eur-lex.europa.eu/resource.html?uri=cellar:9f5e7e95-df06-11eb-895a-01aa75ed71a1.0001.02/DOC_1&format=PDF

provision of technical support for the design of national SFRs and action plans by the European Commission further reinforced this movement. Among the five analysed Member States, two benefited from that support. Other countries such as Belgium are also currently benefiting from support provided by DG REFORM.

The absence of a national roadmap or action plan makes it more difficult for financial and non-financial institutions operating at national level to navigate the sustainable transition and to gain a comprehensive overview of relevant developments and expected next steps. In this context, the Irish roadmap and Lithuanian strategy are very useful, since they both provide a clear set of high-level recommendations associated with specific measures, as well as a short justification and details on their implementations (including identification of responsible stakeholders and timeline). ICF adopted a similar structure for the design of the Italian SFAP, which was welcomed by the Italian Ministry of Economy and Finance. A similar approach should be adopted for the design of the Polish SFR.

Existing roadmaps, action plans and associated reports follow different structures, but all support a specific vision or set of objectives. While it is important for roadmaps to provide specific and actionable recommendations, it is also key to embed these into a broader vision or set of objectives. This helps create the narrative behind the roadmap and ensure that even the most technical aspects can be linked to the broader context. This is essential to be able to communicate effectively about the roadmaps and ensure the buy-in of a broad range of stakeholders. Among the reviewed roadmaps, different visions were identified:

- The objective of the Austrian green finance initiative is directly linked to the need to bridge the identified funding gap to achieve Austria's climate and energy targets by 2030 (i.e., EUR 17 bn annually)[84];
- The objective of the latest French roadmap is to define a clear trajectory to align the actions of the Paris financial centre with the Paris Agreement, turning it into a centre of reference;
- The Irish vision is to become a leading sustainable finance centre by 2025;
- Italy's vision, designed with the Italian Ministry of Economy and Finance during the recently completed DG REFORM project, was to build on the G20 and COP26 momentum to lead by example in the field of sustainable finance and become a leader among EU Member States; and,
- The Lithuanian Action Plan was designed to provide the means to: (1) incentivise the financing of sustainable projects by private financial market players; and, (2) create a sustainable finance ecosystem which ensures the smooth interaction between private financial market players and public bodies.

Regarding their structure and content, the reviewed roadmaps and action plans follow different approaches. Table 5.2 provides an overview of the coverage of the various types of PaMs identified by the Coalition of Finance Ministers for Climate Action by the reviewed roadmaps and action plans. Among the reviewed national roadmaps, Ireland and Lithuania opted for a very structured approach and constructed their roadmaps around a series of pillars as illustrated in Box 4 below.

[84] Austria's NECP (2019): https://energy.ec.europa.eu/system/files/2019-03/ec_courtesy_translation_at_necp_0.pdf

Box 4 Overview of key pillars of Sustainable Finance approaches in Ireland, Lithuania and France

- The Irish SFR is structured around five pillars and 18 recommendations:

PILLAR 1 DEVELOPING TALENT Build the knowledge and capability required to meet future workforce needs for sustainable finance skillsets	**PILLAR 2** INDUSTRY READINESS Development of best-in-class insights, tools, and mechanisms for leadership	**PILLAR 3** LEVERAGING DIGITAL Apply digital technology solutions to the ESG data and risk management challenge	**PILLAR 4** ENABLING ENVIRONMENT Leverage existing structures within the system to underpin the growth of sustainable finance	**PILLAR 5** PROMOTION AND COMMUNICATION Raise awareness of Ireland's sustainable finance priorities, commitments and capabilities
1. Establish an International Sustainable Finance Centre of Excellence				
2. Accelerate access to Sustainable Finance knowledge and skills	**4.** Build capacity and ensure best practice in reporting and disclosure	**9.** Build a sustainable finance data roadmap for Ireland	**12.** Establish a public private Climate and Sustainable Finance Group	**16.** Deliver a coordinated public-private campaign to promote Ireland as a centre for sustainable finance
3. Support international sustainable finance, biodiversity and nature-related capacity building endeavours	**5.** Increase industry commitments	**10.** Develop a Sustainable Finance Fintech strategy	**13.** Ensure the legislative environment is representative of best practice in sustainable finance	**17.** Identify international sustainable finance initiatives in which Ireland should participate and strengthen existing links
	6. Establish an innovation programme to support the development of new sustainable finance products and services	**11.** Launch a sustainable finance digital flagship programme	**14.** Embed sustainable finance and climate risk into supervisory and financial stability assessments	**18.** Continue to develop and grow Climate Finance Week Ireland
	7. Assess the viability of a climate funding platform in Ireland		**15.** Explore next steps in Ireland's sovereign funding of climate action projects	
	8. Conduct analysis on the risks and opportunities for the biodiversity finance agenda			

- The 'Lithuanian strategy and action plan on sustainable finance' contains 13 recommendations structured around four headings:
  - Establishment of a body coordinating sustainable finance ecosystem;
  - Promote public sector sustainable finance;
  - Promote private sector sustainable finance; and,
  - Development of sustainable finance competence.

For ICF's work with the Italian Ministry of Economy and Finance, we built on the approach designed by the UK and separated our recommendations into two groups:

- *Greening finance* - which aims to mainstream climate and environmental factors as a financial and strategic imperative across all players in the financial system, with particular attention applied to current and future financial risks and opportunities; and,
- *Financing the green* - which aims to accelerate the mobilisation of private finance for clean and resilient growth in line with Italian policy objectives. The measures addressed under this heading address in priority the categories of investors within the Italian ecosystem that show the greatest willingness to invest in sustainable projects. They also aim to address projects at different stages of their development, i.e., from innovation to market deployment, through the use of different financial instruments and investment products.

On top of these, the Italian SFAP identified two foundational recommendations that were deemed to be crucial for the success of all other recommendations, namely: (1) Support sustainable financial literacy; and, (2) Build an ambitious and coherent policy framework.

Table 5.2 Coverage of the analysed roadmaps and initiatives (own assessment)

Recommendation type	Austria[85]	France[86]	Ireland[87]	Italy[88]	Lithuania[89]
Reporting & disclosure					
Institutional responsibility					
Capital supply & allocation					
Risk management					
Capacity building					
International standards					
Product & market innovation					
Regulation					
Data collection					
Formal education					
Research					
Fiscal incentives					

Source: ICF, own compilation.

Ministries of Finance in different Member States often play a leading role in the design and implementation of SFRs and SFAPs. It is therefore key to equip Ministries of Finance with the right skills and capabilities and to ensure strong cooperation with other relevant ministries. In the five analysed Member States, Ministries of Finance are in the lead of the sustainable finance agenda in France, Ireland, Lithuania and Italy. In Italy the responsibilities evolved over the years, as the 2016 National Dialogue on Sustainable Finance was led by the Italian Ministry of Environment, Land and Sea, while the 2020-21 initiative on sustainable finance was led by the Ministry of Finance. In Austria, the Ministry of Climate Action and the Ministry of Finance share the responsibility of the sustainable finance agenda. As stressed by the Coalition of Finance Ministers for Climate Action, Ministries of Finance are in a unique position to drive this agenda as they are often one of the few institutions that oversee the entire economy of a country and most aspects of public policy.[90]

While this is true, properly addressing sustainable finance requires a set of skills and capabilities that are typically not present within Ministries of Finance (e.g., climate and environmental science, climate finance, climate adaptation, macro-economic impact of climate policies, climate scenario analysis, etc.). It is therefore crucial to invest sufficient resources to build the sustainable finance skills of staff working on this topic within Ministries of Finance. This should be done both through upskilling existing staff and hiring new expertise in niche areas. This is key to ensuring the strategies Ministries develop are both robust and aligned with the latest scientific evidence.

[85] Assessment based on: https://www.bmk.gv.at/en/green-finance/finances/sustainable-future.html
[86] Assessment based on: https://www.vie-publique.fr/sites/default/files/rapport/pdf/284351.pdf & https://www.unpri.org/download?ac=5648
[87] Assessment based on: https://www.sustainablefinance.ie/wp-content/uploads/2021/10/Irish-SusFinance-Roadmap-FINAL-FINAL-OCTOBER-2021.pdf
[88] Assessment based on: https://wedocs.unep.org/bitstream/handle/20.500.11822/16801/Financing_the_Future_EN.pdf?sequence=1&amp%3BisAllowed= and insights from the DG REFORM project supporting the design of Italy Sustainable Finance Action Plan completed by ICF.
[89] Assessment based on: https://finmin.lrv.lt/uploads/finmin/documents/files/Strategy_and_Action%20Plan_2021-12-30_small.PDF
[90] https://www.financeministersforclimate.org/sites/cape/files/inline-files/Full%20Draft%20-%20Strengthening%20the%20Role%20of%20MoF%20in%20Driving%20Climate%20Action%201.pdf

Training public servants in this field is, for example, part of the UK Green Finance Strategy, issued in 2019, where the government announced its intention to create a short course for UK government policy officials to provide foundational knowledge on green finance; and to organise a public-sector conference on green finance.[91] The provision of upskilling opportunities should however not hide the need to also hire actual scientific expertise where required.

As recognised by the Coalition of Finance Ministers for Climate Action, Ministries of Finance should certainly not work in silo and "*inter-ministerial coordination among the Ministry of Finance and line ministries is particularly important to avoid duplication of tasks, to identify and bridge potential policy gaps, and to improve buy-in from sectoral line agencies into the climate change objectives and key policies. It also enables relevant expertise spread across the agencies to be built upon*"[92]. It is important to ensure responsibilities across ministries are clear and proper representation of the thematic ministries, such as the Ministry of Climate Action or Environment is ensured. To that end, the German Sustainable Finance Strategy foresees the establishment of a Sustainable Finance Working Group to discuss current sustainable finance issues and to support the implementation of the Sustainable Finance Strategy. This group will, among other, involve the Federal Ministry of Finance, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Economic Affairs and Energy.[93]

5.2 Non-financial reporting, disclosure & data collection

General trends & good practices

- The relevance of reporting and disclosure of ESG risks and impacts in the financial industry is widely recognised by all stakeholders within the finance sector, making it one of the most common recommendations adopted in SFRs.
- The TCFD is one of the most common frameworks, however the sheer number of sustainability reporting frameworks and standards has led to confusion and inconsistent disclosure in the market.
- Many nations struggle to achieve a balance between global standards and developing national standards best suited to their local context, resulting in incomparable and inconsistent approaches.
- In line with the EU approach to non-financial reporting, a double materiality approach is vital to understand the full scope and impact of climate change on financial aspects and vice versa.

The relevance of reporting and disclosure of ESG risks and impacts in the financial industry is widely recognised by all stakeholders within the finance sector, making it one of the most common recommendations adopted in sustainability roadmaps.[94] Financial and non-financial companies falling within the scope of the NFRD and CSRD are expected to report annually both on EU Taxonomy

[91] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/820284/190716_BEIS_Green_Finance_Strategy_Accessible_Final.pdf
[92] https://www.financeministersforclimate.org/sites/cape/files/inline-files/Full%20Draft%20-%20Strengthening%20the%20Role%20of%20MoF%20in%20Driving%20Climate%20Action%201.pdf
[93] https://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Press_Room/Publications/Brochures/sustainable-finance-strategy.pdf?__blob=publicationFile&v=8
[94] https://www.sustainablefinance.ie/wp-content/uploads/2021/06/Best-Practice-Report_Final.pdf

eligibility and EU Taxonomy alignment, following the disclosure timeline presented below.[95]

Table 5.3 EU Taxonomy implementation timeline

Reporting	Jan 2022	Jan 2023	Jan 2024
Non-Financials	Eligibility under climate change mitigation and adaptation objectives.	Eligibility under remaining four objectives (subject to publication of associated delegated acts). Alignment on adaptation and mitigation objectives.	Alignment on all six environmental objectives.
Financials	Eligibility under climate change mitigation and adaptation objectives.	Eligibility under the remaining four objectives (subject to publication of associated delegated acts).	Alignment on all six environmental objectives.

International standard setters, like the International Organisation of Securities Commissions (IOSCO) and the International Financial Reporting Standards Foundation (IFRS), have emphasised the importance of the material disclosure of ESG-related matters and standardised sustainability reporting to pursue sustainability objectives through credible decision-making.[96] Despite the fact that granular, non-financial disclosures are not yet mandatory in most jurisdictions, they are adopted by several nations, such as France, making it a clear front-runner in the field. There could be several reasons for this, including the avoidance of reputational risk, advancing first-mover advantage, and gaining a competitive advantage amongst peers. Indeed, it is easier for countries to adopt more stringent reporting requirements where there is greater awareness of sustainability issues, and greater public support to address them.

The TCFD is one of the most common reporting frameworks, however the sheer number of sustainability reporting frameworks and standards has led to confusion and inconsistent disclosures in the market.[97] Although in recent times the TCFD is recognised as the most common reporting framework,[98] with several companies and the central banks around the world, including each of the Member States – Austria, France, Ireland, Italy and Lithuania – supporting it,[99] the presence of equally relevant and comparable frameworks like the Value Reporting Foundation (VRF), Global Reporting Initiative (GRI), CDP, Climate Disclosure Standard Board (CDSB), amongst others, creates confusion amongst the entities reporting. However, as of 2021, the International Sustainability Standards Board (ISSB) has announced its intention to create standardised ESG reporting rules to complement its financial reporting counterpart, the International Accounting Standards Board (IASB).[100] The announcement was followed with the publication of the summary of necessary steps to establish a comprehensive global baseline of sustainability disclosures, however, its implementation is yet to be seen.

[95] https://www.nordea.com/en/news/eu-taxonomy-reporting-a-first-look-at-the-challenges-and-best-practices
[96] https://www.sustainablefinance.ie/wp-content/uploads/2021/06/Best-Practice-Report_Final.pdf
[97] https://www.spglobal.com/esg/insights/new-global-sustainability-board-aims-to-cut-through-disclosure-confusion
[98] https://www.spglobal.com/esg/insights/new-global-sustainability-board-aims-to-cut-through-disclosure-confusion
[99] https://www.fsb-tcfd.org/supporters/
[100] https://www.spglobal.com/esg/insights/new-global-sustainability-board-aims-to-cut-through-disclosure-confusion

Many countries struggle to achieve a balance between global standards and developing national standards best suited to their local context. This results in incomparable and inconsistent approaches. In Europe, national regulations in this area are driven by the EU Directives (i.e., NFRD followed by CSRD), although each Member State has some degree of flexibility in the way it transposes these EU policies. As described under section 4.2, this results in varying approaches and the number of companies required to report non-financial information varies greatly across the EU.

- **Italy** has transposed the NFRD into the Corporate Governance Code of Italian Listed Companies (Legislative 254/2016). The amended code requires large companies (listed companies, banks, insurance companies) to disclose information on environmental impacts, social and employee issues; respect for human rights; corruption and money laundering. The requirement applies on a comply-or-explain basis and recommends considering any risk that may affect the sustainability of the business in the medium-long term in the company's risk profile assessment. In addition, the Code recommends companies to consider setting up a board committee tasked with supervising sustainability issues related to the company's business. Studies carried out on the effectiveness of the Directive in Italy show that there has been an important increase of awareness on the responsibility of corporations in boosting sustainability; companies affected by the Decree have all introduced sustainability reports and a growing number of companies is making sustainability data more accessible on their websites. However, most companies limit themselves to doing what is strictly necessary without voluntarily enriching the disclosed information.
- On top of transposing the NFRD, **Ireland** has encouraged TCFD compliance through dedicated campaigns[101]. Supported by the public sector, 30 Irish located firms are now official TCFD supporters, including financial actors, large corporate entities, and semi state organisations. They communicate information on their climate-related financial risk disclosures in a consistent way to investors, lenders, insurers, and other stakeholders.
- **France** went even further and established reporting requirements before the entry into force of the EU legislation. This was the case with the integration of Article 173-Provision VI of the Energy Transition Law published in 2015[102], which is presented in more detail in Box 5 below.

[101] https://www.sustainablefinance.ie/wp-content/uploads/2021/10/Irish-SusFinance-Roadmap-FINAL-FINAL-OCTOBER-2021.pdf
[102] Find complete legislative text at: https://www.legifrance.gouv.fr/loda/id/JORFTEXT000031044385/

Box 5 Non-financial reporting requirements in France

The **2015 French Energy Transition Law** sets out a roadmap to mitigate climate change and diversify the energy mix and mandatory carbon disclosure requirements. The law requires institutional investors **(Art 173-VI)** and companies **(Art 173-IV)** to provide information on the inclusion of climate change and environmental, social and governance (ESG) factors into their strategies. Investors and companies shall report how investments could impact climate & ESG factors and how these factors could impact investments.

- Listed companies shall disclose in their annual report:
    a. Financial risks related to the effects of climate change;
    b. The measures adopted by the company to reduce them;
    c. The consequences of climate change on the company's activities and of the use of goods and services it produces
- Institutional investors shall disclose in their annual report:
    a. Information on how ESG criteria are considered in their investment decisions;
    b. How their policies align with the national strategy for energy and ecological transition

The implementation of the Energy Transition Law is flexible to allow stakeholders to determine the most appropriate reporting methodologies:

- *Reporting on the integration of ESG criteria*: consideration of ESG issues in investment policy and risk management; list and percentage share of funds that integrate ESG criteria; methodology used; results of the analysis and actions taken
- *Reporting on the integration of climate change-related risks*: physical risks and transition risks exposure; contribution to international target and to the objectives of the French Low Carbon Strategy
- *Reporting on the alignment of voluntary decarbonisation targets with national and international goals*: targets set by investors to assess the contribution to achieving the national and global climate targets, the alignment with EU objectives and carbon budgets set by the national Low Carbon Strategy; and actions to achieve these targets (changes in investment policy, divestment, and engagement).

The **2019 Law on Climate and Energy** includes an update on requirements on non-financial reporting by market players[103]. According to the Implementing Decree under **Article 29**, effective from 2022, all financial institutions shall disclose sustainability-related information under the concept of double materiality, regarding the inclusion of ESG criteria in investment policies and the means implemented to contribute to the energy and ecological transition[104].

Key additions to the non-financial reporting exercise are:

- *Biodiversity requirements*: provisions on the consideration of biodiversity risks.
- *Extension of the scope*: new actors and activities are concerned, inclusion of portfolio management and investment activities of banks, new provisions for credit institutions and investment firms.
- *Investment strategies consistent with long-term climate change objectives (minimum criteria for the alignment strategy)*: targets set (every five years), methodologies used, quantification of results, follow-up actions of the strategy.
- *Investment strategies aligned with long-term biodiversity objectives*: contribution to biodiversity conservation and restoration, based on a biodiversity footprint indicator.

- *Information on the management of "sustainability" or ESG (environmental, social and governance)* risks: qualitative and quantitative assessment of the financial impact of the main ESG risks.
- *Continuous improvement plan on the consideration of ESG criteria*: continuous improvement approach, opportunities for improvement, corrective actions in the event of failure to achieve *the* objectives set.

The entry into force of the CSRD, and the associated sustainability reporting standards being developed by EFRAG, will clarify this framework, at least for companies falling under the CSRD requirements. This is recognised in the analysed roadmaps. This however does not mean that national governments do not have a role to play in reinforcing the level of sustainability reporting, disclosure and in the end transparency of their markets. Different approaches are adopted in this regard:

- In **Lithuania**, given the limited scope of companies that will be covered by the CSRD (there are only a few companies that are treated as large for accounting purposes), the Sustainable Finance Roadmap recommends extending the non-financial information reporting obligation to entities which apply for financing for sustainable projects from public funds, including the Recovery and Resilience Facility (RRF)[105] and other EU funds. It is believed that: *"this would fundamentally increase transparency in the Lithuanian market. Moreover, this would make relevant "non-financial information" more widely available to the market and all its participants"*[106].
- In **Ireland** the emphasis is put on building capacities and ensuring best practices by designing support programme including elements such as professional accredited capacity building activities; insight roundtables on EU Regulations; case studies; and deep dive horizon scanning research papers that outline the impact of new and emerging topics on Ireland's financial services ecosystem, for example, the establishment of the Task Force on Nature-related Financial Disclosures (TNFD) and the development of an EU social taxonomy;

All the reviewed Member States also have strategies to support the access to the disclosed data, covering both mandatory and voluntary disclosure. The objective of these initiatives is to increase the transparency of the market and the identification of the level of exposure of different assets to transition and physical risks to in the end help financial institutions and non-financial institutions better manage climate- and nature-related risks. The data should ideally be published and made publicly accessible on a centralised hub. Two examples of such management systems include:

- **OeKB ESG Data Hub of Austria[107]**: The Austrian export credit agency Oesterreichische Kontrollbank AG (OeKB) launched the OeKB > ESG Data Hub in 2022. The objective of the Hub is to enable the efficient and transparent exchange of ESG data among companies and facilitate compliance with

[103] Loi énergie-climat et régulation des acteurs financiers : principales avancées du décret d'application de l'article 29 | Ministères Écologie Énergie Territoires (ecologie.gouv.fr)
[104] Publication of the implementing decree of Article 29 of the Energy-Climate Law on non-financial reporting by market players | Direction générale du Trésor (economie.gouv.fr)
[105] The recovery and Resilience Facility is an instrument part of NextGenerationEU supporting Member States in their reforms and investments, mitigating the economic and social impact of the COVID-19 crisis while making European economies and societies more sustainable.
[106] https://finmin.lrv.lt/uploads/finmin/documents/files/Strategy_and_Action%20Plan_2021-12-30_small.PDF
[107] https://oekb-esgdatahub.com/uber-uns.html

regulatory obligations. The Hub is based on general and sector-specific ESG questionnaires that were developed together with Austrian banks, based on the EU Taxonomy, the UN SDGs, the Science-Based Targets initiative (SBTi) and the GRI. The questionnaire differs in scope for large companies and SMEs, taking into account specific requirements and capabilities. The tools are free of charge for companies.

- **IMPACT platform for ESG data established by France**[108]: The IMPACT platform was launched in 2020 for non-financial and financial companies to report their ESG data. The indicators available on the platform allow companies to familiarise themselves with the notion of ESG performance and to prepare for future regulatory changes. The platform allows both SMEs and larges companies to report transparent information with open access from the public.

In parallel to these national developments, European policy makers are working on the set-up of the European Single Access Point (ESAP). The ESAP is one of the key initiatives of the CMU. Its key objective is to provide a centralised access to publicly available information of relevance to financial services, capital markets and sustainability. The ESAP proposal is still subject to the EU legislative process. Its starting date will be determined by the EU co-legislators.[109][110]

In line with the EU approach to non-financial reporting, a double materiality approach is vital to understand the full scope and impact of climate change on financial aspects and vice versa. The 'double materiality' concept identifies both the risks and opportunities arising from a financial and non-financial perspective.[111] The following are some key advantages:[112]

- Expands scope to better understand all dimensions of the business performance;
- Builds internal alignment on action plans to support business priorities and address stakeholder expectations;
- Facilitate stakeholder engagement; and,
- Streamlines resources and assists in decision-making.

For a comprehensive view of the risks, non-financial data should be collected from all entities of a company, and ideally also from the supply chain to achieve an unbiased view of the company's exposure to climate risks and its impact on the environment.[113] The European Securities and Market Authority (ESMA) has also called on global standard setters to include a double materiality approach in the ISSB standards discussed earlier[114], since greenwashing claims "*do not necessarily distinguish between 'enterprise value creation' and 'impact materiality'*".[115]

France is one of the few countries to date to have adopted a mandatory double materiality approach for institutional investors[116], and integrating climate into fund

[108] Accueil | impact.gouv.fr
[109] Carriages preview | Legislative Train Schedule (europa.eu)
[110] https://www.consilium.europa.eu/en/press/press-releases/2022/06/29/easier-access-to-corporate-information-for-investors-council-agrees-its-position-on-a-single-access-platform/
[111] https://www2.deloitte.com/cn/en/pages/hot-topics/topics/climate-and-sustainability/dcca/thought-leadership/the-challenge-of-double-materiality.html
[112] https://ksapa.org/understanding-the-concept-of-double-materiality/
[113] https://www.bloomberg.com/news/articles/2022-09-21/what-double-materiality-means-for-esg-and-jpmorgan-quicktake?leadSource=uverify%20wall
[114] https://greencentralbanking.com/2022/07/15/esma-calls-for-double-materiality-in-issb-standards/
[115] https://greencentralbanking.com/2022/07/15/esma-calls-for-double-materiality-in-issb-standards/
[116] https://www.responsible-investor.com/french-esg-label-to-add-double-materiality-and-climate-to-framework/

strategies[117], proving it to be a front-runner in the field. The lack of awareness and limited technical capability to measure impacts has restricted several countries from adopting the approach.[118] To encourage greater implementation of the approach, a significant amount of capacity building activity is required to educate policy makers, investors, and companies on its long-term benefits, as discussed under Section 5.5.

5.3 Risk Management

General trends & good practices

- The EU is driving national policies which aim to reorient capital flows towards more sustainable sectors, through greater stringency in sustainability-related risk management.
- Independent risk management guidance is required for different stakeholders – credit institutions, investment fund managers, pension companies, insurers, domestic and international banks, state, and public bodies.
- Most institutions have a blind spot for physical and other institutional risk drivers, such as biodiversity loss and pollution, as awareness about these transition risks is less advanced.
- Several countries have developed plans for risk management, but the quality of plans varies significantly.

The EU is driving national policies aimed at reorienting capital flows towards more sustainable sectors. One way this is being done is through greater stringency in sustainability-related risk management (covering both physical and transition risks). As summarised by Euronext[119], in recent years the EU has accelerated its emphasis on sustainability-related risk management by successfully implementing three major regulations:

- **Climate Benchmarks Regulation:** to enhance the transparency and comparability of benchmark methodologies relating to ESG metrics providing investors with clarity on the environmental sustainability of their investments.[120]
- **Sustainable Finance Disclosure Regulation (SFDR):** to reorient capital flows towards sustainable investments by increasing transparency by financial market participants and advisors on sustainability risks, whilst ensuring a more uniform protection of end investors. At present, the SFDR requires reporting on principal adverse key performance indicators (KPIs) for asset management, insurance providers and financial advisors.
- **EU Taxonomy Regulation**: which establishes a harmonised taxonomy to identify sustainable economic activities with the objective of further promoting investments in these activities whilst addressing greenwashing concerns. At present, the regulation requires reporting against transitional KPIs. The EU Taxonomy imposes an obligation to disclose the Green Asset Ratio (GAR) on activities listed for public interest companies' reporting on their:[121]
  - Share of turnover deriving from Taxonomy-aligned activities;

[117] https://www.responsible-investor.com/french-esg-label-to-add-double-materiality-and-climate-to-framework/
[118] https://www2.deloitte.com/cn/en/pages/hot-topics/topics/climate-and-sustainability/dcca/thought-leadership/the-challenge-of-double-materiality.htmlhttps://www2.deloitte.com/cn/en/pages/hot-topics/topics/climate-and-sustainability/dcca/thought-leadership/the-challenge-of-double-materiality.html
[119] https://www.euronext.com/en/news/esg-laws-regulation
[120] Find complete legislative document at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R2089
[121] Find complete legislative document at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R2178

– Share of CAPEX and OPEX directed to Taxonomy-aligned activities.

Additionally, the ECB views the assessment and management of climate-related and environmental risks (C&E risks) as key drivers of sustainability of the banking sector. The ECB endorses the screening of public investments to check for ESG soundness, by requiring financial markets to publish their methods and strategies accounting for C&E risks when managing client assets. This clear message, sent by a Banking Union (BU) authority, to mainstream climate-related risks into financial and non-financial accounting, has driven national governments to both comply with the regional policies, as well as to develop their own legislative policies and best-practices to measure, disclose and manage sustainability risks.

Despite not being a part of the BU, Poland is likely to be impacted indirectly, since several banks operating in Poland are subsidiaries of banks based in Member States participating in the BU. Poland can make use of the forward guidance provided to the members of the BU by participating in capacity-building activities and adopting transnational best-practices to advance in risk management, as discussed in this report. However, these public policies recommendations apply to a specific comparative sample of countries (Austria, Ireland, France, Lithuania, Italy), where the ECB has a role of common monetary and supervisory policy authority for the euro area and Banking Union respectively. In Poland, these roles are undertaken by two national institutions, KNF (Financial Supervision Authority) and NBP (Central Bank), which answer to different supervision rules and constraints.

Independent risk management guidance and implementation is required for different stakeholders – credit institutions, investment fund managers, pension companies, insurers, domestic and international banks, state, and public bodies. While the climate-related risks are the same, the impact will vary on each stakeholder, and therefore, independent guidance to manage and address them is required. The development of climate risk assessment methodologies and tools, such as scenario analysis[122] can produce meaningful and decision-useful information, however the current landscape is fragmented with Member States taking an independent approach with various qualitative and quantitative actions. A common observation, however, is that the insurance industry is identified as a key priority to integrate climate-related risks. Re/insurers play a key role as risk managers in understanding climate risks and educating stakeholders on its impacts on society.[123]

Here again, the EU has taken a strong stance in developing clear regulations to advance the integration of sustainability risks in the governance of insurance and reinsurance undertakings. For instance, Commission Delegated Regulation (EU) 2021/1256 of 21 April 2021 amending Delegated Regulation (EU) 2015/35. The regulation calls on insurance undertakings to disclose principal adverse impacts on sustainability factors in accordance with Regulation (EU) 2019/2088 (SFDR), they should also adapt their processes, systems, and internal controls with respect to those disclosures.[124] According to the NGFS,[125] the assessment of insurers and pension companies' exposures to transition risks can be done through various approaches:

[122] Scenario analysis assess different path of development leading to a particular climate and ESG outcomes. Organisations identify and define a range of scenarios, including a 2°C aligned scenario, which provide diverse potential future climate states. The assessment leads to the identification of strategic and financial options for increasing the organisation's strategic and business resilience against climate-related risks and opportunities.

[123] https://www.genevaassociation.org/sites/default/files/research-topics-document-type/pdf_public/climate_risk_web_final_250221.pdf

[124] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1256

[125] https://www.ngfs.net/sites/default/files/progress_report_on_the_guide_for_supervisors_0.pdf

- a mapping of insurers' investments to climate policy relevant sectors using NACE and CIC codes;
- a stress test of insurers and pension companies' government bonds portfolios using shock scenarios that were derived from the LIMITS Scenario Database[126];
- a stress test of insurers and pension companies' exposures using the PACTA tool[127].

In some jurisdictions, like Austria, the Financial Market Authority has taken a strong role in implementing a combination of these approaches by developing frameworks, conducting stress-testing and other comprehensive analyses of current and future physical and transition risks into its strategy as presented in Annex 2. Jurisdictions like Italy have introduced provisions underlining the importance of social and environmental factors in the activities of insurance undertakings.

Most institutions have a blind spot for physical and other institutional risk drivers such as biodiversity loss and pollution as awareness about these transition risks is less advanced.. Very few jurisdictions have clearly identified these risks and addressed them in their strategy, some are still in their development phase, and many have not yet accounted for them. For instance:

- **France** has mandated all financial institutions to disclose biodiversity and climate-related risks using the concept of double materiality under the new Decree under Article 29 of the Law on Energy and Climate[128]. Companies shall report assets aligned with the environmental criteria set in the European Taxonomy (objective VI). French financial institutions will identify, prioritise and manage both climate and biodiversity risks, starting in their 2022 reporting exercise covering financial year 2021. As of 2023, the next step is to extend the disclosure to taxonomy aligned financing.
- **Austria** has introduced a voluntary platform, called "HORA", to help institutions to integrate physical and biodiversity risks including natural catastrophes into their risk management.
- **Italy**, **Lithuania**, and **Ireland**, like most other countries, have not yet implemented specific measures for these risks. It is however worth flagging that the Italian Central Bank started to embrace this topic, while the Irish SFAP recognises the need to build knowledge on nature-related and biodiversity risks and opportunities at national and international level.

Building on the recognition by the NGFS that "*nature-related risks could have significant macroeconomic and financial implications*", Box 6 below provides an overview of what can be done by regulators to initiate the work on this emerging topic. Poland should capitalise on all the knowledge developed on this topic in recent years to develop a comprehensive SFAP and fully integrate biodiversity and nature-related risks and opportunities in it.

[126] The LIMITS Scenario database hosts the results of the LIMITS modelling comparison exercise: the project aims at advancing the understanding of the implementation of climate policies consistent with a 2° objective by assessing the implementation of emissions reduction strategies.
[127] The Paris Agreement Capital Transition Assessment (PACTA) is an open-source methodology and tool measuring financial portfolios' alignment with 2° scenarios.
[128] Find complete legislative decree at: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043541738

Box 6 How to start working on nature-related risks?

A study group was set-up in 2021 by the NGFS and the International Network for Sustainable Financial Policy Insights, Research, and Exchange (INSPIRE) to develop a research-based approach to how central banks and supervisory authorities can fulfil their mandates in the context of biodiversity loss. It identified five key recommendations for central banks and financial supervisors to fulfil their mandates in the face of biodiversity loss. Some of these also apply to other bodies such as Ministries of Finance:

1. Recognise biodiversity loss as a potential source of economic and financial risk and commit to developing a response strategy to maintain financial and price stability. This includes fully integrating and recognising the risks associated with biodiversity loss and their linkages with climate change in SFRs.
2. Build the skills and capacity among central bank, supervisory staff and relevant governing bodies as well as market participants to analyse and address biodiversity-related financial risks. Annex 1 of the NGFS-INSPIRE report[129] provides a suggested research agenda to support this capacity building effort.
3. Assess the degree to which financial systems are exposed to biodiversity loss, by, for example, conducting assessments of impact and dependency, developing biodiversity-related scenario analysis and stress-tests. Two EU Member States are considered as pioneers in this field, as they were the first countries to conduct a detailed assessment of the level of exposure of their financial sector to risks associated with biodiversity loss. The Dutch study concluded that "*Dutch financial institutions worldwide have EUR 510 billion in exposure to companies with high or very high dependency on one or more ecosystem services. This comprises 36% of the portfolio examined*"[130]. The French study concluded that "*42% of the value of securities held by French financial institutions comes from issuers that are highly or very highly dependent on one or more ecosystem services*"[131].
4. Explore options for supervisory actions on managing biodiversity-related risks and minimising negative impacts on ecosystems. This could involve reviewing to what extent the existing supervisory framework and toolbox enable the specificities of biodiversity-related financial risks to be addressed, and developing supervisory expectations and assessment programmes.
5. Help build the necessary financial architecture for mobilising investment for a biodiversity-positive economy, including by considering how central banks' monetary policy operations and non-monetary policy portfolio management should be conducted in the context of biodiversity loss.

Several countries have developed plans for risk management, but the quality of plans varies significantly. Some countries, including Poland, have voluntarily joined initiatives like the IMF *Financial Sector Assessment Program (FSAP)*[132] that monitors financial stability with greater stringency with the help of stress tests. Ireland, France and Italy are amongst the 29 jurisdictions[133] with financial sectors deemed by the IMF to be systematically important, where the financial stability assessment under the FSAP is mandatory and is likely to take place every five years.

[129] https://www.ngfs.net/sites/default/files/medias/documents/central_banking_and_supervision_in_the_biosphere.pdf
[130] https://www.dnb.nl/en/general-news/dnbulletin-2020/indebted-to-nature/
[131] https://publications.banque-france.fr/en/silent-spring-financial-system-exploring-biodiversity-related-financial-risks-france
[132] https://www.imf.org/en/Publications/fssa
[133] https://www.fsb.org/about/leading-by-example/participation/

Another strong voluntary initiative is the *PACTA Climate Alignment Assessment* of national financial sectors. With the help of comprehensive scenario analysis, countries assess the alignment of their financial sector with the Paris Agreement against that of their peers. A report is then generated which provides a unique overview of the financial institutions' exposure to key climate-related sectors and their alignment with the Paris Agreement goals, aggregated by the peer group. Austria was not only the third country (after Switzerland and Liechtenstein)[134] to voluntarily participate in the initiative with an assessment of 54 Austrian financial institutions; the FMA also introduced the national implementation of the recommendations from the PACTA Report.[135] Forthcoming EU Regulations will require financial institutions to develop transition plans consisting of a multi-year account of targets and actions influencing their business models.[136]

5.4 Capital supply & allocation: innovative financial products

General trends & good practices

- Policies and measures to increase the supply of capital to sustainable activities are at the core of all reviewed SFRs.
- All the countries included in this review have emitted sovereign GSS bonds to date and plan to continue to do so in the future. The volumes of issuance vary however considerably from one country to the other, with France clearly standing out in this group.
- Governments have so far opted for the issuance of green bonds tied to expenditures, although alternatives such as sustainable bonds, and to a lesser extent transition and sustainability-linked bonds, are now also being considered.
- Governments are also designing and implementing measures to support the development of their corporate GSS bond markets.
- Governments are using "traditional" financial instruments (e.g., guarantee, loans, etc.) to leverage private finance for the financing of sustainable activities alongside the innovation cycle.
- In addition to "traditional" ways to mobilise private capital towards sustainable activities, the reviewed Member States are also exploring measures to promote innovation and leverage technology to create new sustainable finance products and solutions.
- Finally, multiple countries are also considering how to support the development of a local green fintech ecosystem to support their sustainable finance transition.

Policies and measures to increase the supply of capital to sustainable activities are at the core of all reviewed SFRs. These PaMs can take different forms and cover a broad spectrum of financial products and supporting mechanisms. In this section, we first focus on the role of governments to directly mobilise private capital either through the issuance of GSS bonds or the use of alternative financial instruments. We then focus on the types of measures put in place to indirectly mobilise private capital for the financing of sustainable activities.

[134] https://2degrees-investing.org/resource/pacta-cop-austria/
[135] Interview with the Austrian Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology
[136] https://www.lse.ac.uk/granthaminstitute/publication/net-zero-transition-plans-a-supervisory-playbook-for-prudential-authorities/

All the countries included in this review have emitted sovereign GSS bonds to date and plan to continue to do so in the future. This is indeed seen as one of the key tools to support the development of green capital markets by government. Recent academic work revealed that for a GSS bond issuance to have a positive impact on the development of local GSS bond market, the key features that should be considered include: anchoring the issuance in well-established and recognised standards, design sound and robust internal and external governance mechanisms; and, embed the use of proceeds in science-based and credible transition plans and market development objectives. The reference to future SGB issuance varies across Member States.

- The **Irish roadmap** states for example that future issuance will be considered depending on market considerations, while the issuance of sovereign and non-sovereign GSS bond is at the core of the **Lithuanian sustainable finance strategy and action plan**, as detailed in Box 7 below. The latter is partly explained by the fact that, with less than EUR 1 bn of issuance to date, the Lithuanian GSS bond market is lagging behind compared to other European Member States.
- **France** is a clear leader in this market and with EUR 52.5 bn of green bond issuance to date, it is one of the largest SGB issuers globally. Since 2020, the French government complemented its green bond approach with a green budgeting approach to systematically assess the impact of public expenditures on the environment[137]. The first Green Budget was assessed in 2021 under the French Finance Bill and concluded that out of a total of EUR 574.2 bn in budgetary spending and tax expenditures, EUR 52.8 bn has an impact on the environment[138].
- Finally, the **Italian** case is interesting as the 2016 sustainable finance strategy identified the use of SGB as one of the options to support the national green bond market. This materialised in the following years as in early 2021 Italy entered the sovereign bonds market with an EUR 8.5 bn issuance, the largest sovereign green bond issuance at the time.[139]

Governments have so far opted for the issuance of green bonds tied to expenditures, but alternatives such as sustainable bonds, and to a lesser extent transition and sustainability-linked bonds are now also being considered. The successful issuance of sovereign green bond has inspired the issue of other special-purpose bonds such as social and sustainability bond, the latter combining social and environmental objectives. In our sample, this is the case of **Lithuania**, which is considering the issuance of sovereign sustainable bonds in its strategy. By doing so, the Lithuanian government is hoping to cover a larger pool of eligible expenditures. While the issuance of sovereign transition bonds is not considered by any of the reviewed Member States at the moment, this is an idea that has been emerging in recent literature as one of the tools to support the decarbonisation of energy-intensive and hard-to-abate sectors.[140] Finally, recent academic work explored the potential benefits associated with the issuance of sustainability-linked bonds[141] and concluded

[137] The "Green Budget" is an environmental impact assessment of the budget. It has four defining characteristics: assessment of the "green" impact of all State budget expenditures, covers tax expenditures, reflects concerns related to climate change and other environmental issues (e.g., biodiversity), rates both expenditures favourable to the environment and expenditures with a negative impact.
[138] https://www.economie.gouv.fr/budget-vert-france-1er-pays-monde-mesurer-impact-budget-etat-environnement
[139] https://www.mef.gov.it/en/focus/Btp-Green-the-new-sovereign-bond-to-finance-Italys-ecological-transition-00001/#:~:text=In%20early%202021%20Italy%20entered,in%20the%20European%20Green%20Deal.
[140] https://www.oecd-ilibrary.org/sites/35c9a335-en/index.html?itemId=/content/component/35c9a335-en
[141] Sustainability-Linked Bonds ("SLBs") are any type of bond instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined Sustainability/ ESG objectives. In that sense, issuers are thereby committing explicitly (including in the bond documentation) to future improvements in sustainability outcome(s) within a predefined timeline. SLBs are a forward-looking performance-based instrument. Source:

that: "*A performance-linked bond whose payoff depends on overall greenhouse gas emissions would be more transparent, cheaper to administer, and more conducive to long-term policy commitment".[142]* The article also warned that such bonds may be politically more demanding and difficult for markets to price. Given the structure of the Polish economy this is a topic that could be worth investigating further.

Governments are also designing and implementing measures to support the development of their corporate GSS bond markets. Two examples of such measures include:

- The support to the (green) minibond market in **Italy**: minibonds are medium-long term debt instruments for SMEs intended to development plans, such as extraordinary investment transactions, and/or refinancing. They were introduced in Italy in 2012 with the objective to diversify the financing of SMEs and unlisted companies and ease their access to capital markets. Since 2012, more than 1,200 minibond issuances were identified by the Italian Observatory of Minibond[143] representing a total of EUR 8.07 bn. Given this success, Borsa Italiana created a professional segment of the ExtraMOT[144] market (called ExtraMOT PRO) where the relevant debt securities can be traded. A recent study estimated the potential of the green minibond market to be approximately EUR 7.2 bn. Measures to support the growth of that market segment are now being considered by the Italian Ministry of Economy and Finance.
- The **Lithuanian** Strategy and Action Plan includes multiple recommendations aiming to support the growth of its GSS bond market. They are presented in Box 7 below.

Other measures identified by the Climate Bonds Initiative[145] to support the growth of GSS bond markets, which could be considered by Poland, relate to:

- **The definition of common principles and standards**[146]: this is currently being addressed at EU level with the development of the EU Green Bond Standard to scale up and raise environmental ambitions of the European green bond market, along with the implementation of EU's Green Taxonomy. Both issuers and investors of green bonds are expected to benefit from this development in order to support the funding and development of green projects.
- **Supporting green securitisation**[147] by defining standards for loan contracts, installation processes, operations and management; providing green warehousing facilities; or set-up green or sustainable covered bond programmes like in Lithuania. A few green securitisations initiatives have been brought to the forefront of the EU securitisation market. Based on a report delivered by the EBA, the European Commission will submit a report on the creation of a Framework for sustainable securitisation to the European Parliament and the Council. However,

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https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf

[142] https://wiiw.ac.at/alternatives-in-the-design-of-sovereign-green-bonds-dlp-6412.pdf

[143] https://www.osservatoriefi.it/efi/osservatorio-minibond/

[144] The Italian Stock Exchange has two main markets that allow the electronic trading of bank and corporate bonds and Italian and foreign government securities: the MOT and ExtraMOT segment. The above mentioned ExtraMOT segment, which has been active since 2009, is a multilateral trading system for corporate bonds issued by Italian and foreign companies which are already listed on other regulated markets in the EU.

[145] https://www.climatebonds.net/policy/policy-areas

[146] Principles outline best practices when issuing sustainable bonds through global guidelines and recommendations, promoting transparency and disclosure and raising awareness on environmental and social impact. Standards provide eligibility criteria according to sectors and sustainable impact for assets and projects that can be used for bonds.

[147]Green Securitisation: cash flows backing the securitisation come from low carbon assets (e.g., green mortgages, loans for green projects / green infrastructures, etc.).

the EBA recommends postponing the establishment of a dedicated framework. Indeed, its success and impact would increase once "*the EU economy has further transitioned, more green assets are available and the use of proceeds approach prevailing in the EU GBS becomes less relevant*[148]";

- **Improving risk-return profile of climate investments** by either increasing return (through public policies in the real economy in favour of sustainable projects) or reducing risks (through public financing tools such as guarantees, first-loss provisions and insurance); and,
- **Design tax incentives for issuers and investors** by for example lowering the costs associated with a sustainable bond issuance. The design of such incentives should be embedded within the broader taxation policy in Poland.

Box 7 Lithuania plans to strongly supports the development of its sovereign and non-sovereign GSS bond market

The Lithuanian Strategy and Action Plan includes multiple recommendations aiming to support the growth of its GSS bond market, including:

- **Establishing a public sustainable bond issue plan**: Lithuania plans to follow a similar approach to the German experience with the issuance of twin bonds (i.e. issuances of green and non-green government bonds with identical economic terms). The objective of the plan is to annually increase the percentages for sustainable state borrowing through its bond issuance programme. In parallel Lithuania will reinforce its process to identify their green and sustainable eligible expenditures.
- **Establish state owned entities (SOEs) sustainable bond issue plan**: Recognising that the SOEs' appetite for GSS bonds is limited, the action plan wishes to incentivise these players. This will be done by setting a clear annually increasing target to achieve at least 50% borrowing by 2030 by means of sustainable bond issuance listed in Lithuania and other sustainable debt instruments. This is perceived as a key tool to support the development of the Lithuanian capital market by providing local investment opportunities to institutional investors such as pension funds.
- **Establish a legal framework for sustainable project bonds**: The lack of long term bank funding is one of the barriers limited the development of Private Finance Initiative (PFI)[149], one solution to overcome this barrier is to facilitate the use of sustainable project bonds. Although the Lithuanian Law does not prohibit these bonds, it does not provide sufficient clarity to facilitate their developments.

Governments are also using traditional financial instruments (e.g., guarantee, loans, etc.) to leverage private finance for the financing of sustainable activities alongside the innovation cycle. There is a plethora of such instruments in place across the EU. Our review identified the following good practices that might be of particular relevance to the Polish context:

- In **Italy** SACE, the Export Credit Agency, operates a large Green Guarantee Scheme since 2020 to finance the sustainable transition of the Italian economy.

[148] More details in the report available at: EBA report on sustainable securitisation.pdf (europa.eu)

[149] A private finance initiative (PFI) is a sort of Public Private Partnership (PPP) to finance public sector projects through the private sector. PFIs alleviate the government and taxpayers of the immediate burden of coming up with the capital for these projects. Under a private finance initiative, a private company handles the up-front costs instead of the government. In return, the government authority makes payments to the private company over the long term. Source: https://www.investopedia.com/terms/p/privatefinanceinitiative.asp

The scheme benefited from an initial allocation of close to EUR 0.5 bn and guaranteed a volume of EUR 3 bn to date[150]. Through the green guarantee, which is issued under market conditions and counter-guaranteed by the government (by up to a maximum of 80%), SACE can fund project supporting the low-carbon transition of the country. To support SMEs in their transition, SACE, the manager of the scheme, entered into framework agreements with the Italian banking system and launched a Green online platform for operations of up to EUR 15 million, which can be used by banks for green guarantees on loans especially for SMEs. Simplified templates and forms were designed to ease the access to the scheme for SMEs and help them identify eligible sustainable activities.

- In **France**, the Banque des Territoires and Bpifrance, two public investment banks, adopted a joint climate plan worth nearly EUR 40 bn for the period 2020-2024 to support the transition of both companies and public actors. The Plan will be supported with a full range of financing products and supporting tools spanning VC investment funds focusing on Greentech, to green loans dedicated to SMEs or leasing, and loans supporting energy efficiency investment in buildings or vehicle fleets.
- Finally, in **Lithuania**, the government plans to leverage public funds with private funds using the expertise of current National Promotional Institutions (NPIs). Given the State has limited capacity to increase its debt, the plan is to use one of the funds established by the State to raise sustainable bonds, including among foreign investors. The proceeds will then be channelled to two main NPIs to finance or invest into smaller scale sustainable projects. The two vehicles in question are: the new Baltic Sustainable Investment Fund, that will provide financing and co-financing of sustainable projects and shall bear the credit risk on a ‘first risk’ basis, providing incentives for private financial institutions to finance sustainable projects; and, Coinvest Capital, which will focus on equity and VC investment in cleantech.

The key lesson to draw from these experiences is the need to not only focus on raising private finance on capital markets, but also use traditional financial instruments to leverage private investments, finally and importantly to develop a suite of instruments supporting sustainable solutions along the innovation cycle.

In addition to “traditional” ways to mobilise private capital towards sustainable activities, the reviewed Member States are also exploring measures to promote innovation and leverage technology to create new sustainable finance products and solutions. Examples of such measures include:

- In **Ireland**, an innovation programme will be set-up to support the financial industry develop new sustainable finance instruments, products and services. This will be developed in partnership with the industry and envisaged activities include for example an international scoping exercise to identify emerging best practices; and the establishment of a dedicated Accelerator programme. The programme is expected to extend to nature-related and biodiversity financing activities.
- In the **UK**, the Green Home Finance Accelerator was launched in 2021 to pilot innovative green finance products and services such as green mortgages.

Finally, multiple countries are also considering how to support the development of a local green fintech ecosystem to support their sustainable finance transition. Indeed, fintech solutions are seen as an important vehicle to mobilise retail investors either by giving access to information about existing

[150] https://www.sace.it/en/about-us/our-commitment/sace-for-the-green-new-deal

investments products (e.g., via independent comparison tools) or by offering new investment opportunities to retail investors (e.g., crowdlending, crowd-equity or access to the Italian mini-bond market). Their role in channelling retail investors towards sustainable solutions should therefore be fully leveraged. Beyond this role, fintech has the potential to support the transition to sustainable finance through other means, such as: (1) supporting regulatory obligations imposed on financial institutions notably linked to sustainability; (2) facilitating environmental data collection, verification and reporting; or (3) assessing and analysing climate- and nature-related financial risks.

- In **Italy**, a "Regulatory Sandbox" of FinTech activities was created in 2021-22 to test technologically innovative products and services in the banking, financial and insurance sectors. Similar efforts are also ongoing in Poland.
- **Ireland's** ambition is to leverage on the growth of its traditional fintech industry to explore the connectivity with the growth in sustainable finance. As a first step, an initial gap analysis will be conducted to set the foundation for the development of an Irish sustainable fintech strategy and the potential for international collaboration. The analysis will explore actions and opportunities for Ireland and outline a path of action.

5.5 Stakeholder's engagement, capacity building & sustainable finance literacy

General trends & good practices

- The lack of awareness and appropriate skills and capabilities is a major obstacle for the implementation of SFAPs and a threat to the growth of robust and credible sustainable finance ecosystems.
- It is essential to raise awareness and accelerate the engagement of finance professionals, corporates and other stakeholders on sustainable finance to support the sustainable transition of the real economy.
- All the reviewed Member States have established a coordinating body gathering public and private stakeholders to inform the design of their SFRs and SFAPs. The scope and governance of these bodies vary considerably.
- A necessary step is to accelerate the training and capacity building of relevant staff within financial institutions, corporates and public administrations.
- Sustainable finance must be integrated in the curricula of universities and other relevant educational institutions.

The lack of awareness and appropriate skills and capabilities is a major obstacle for the implementation of SFAPs and a threat to the growth of robust and credible sustainable finance ecosystems. Sustainable financial literacy is key to both building a resilient financial sector and ensuring investments labelled as sustainable are aligned with science-based transition pathways. A good understanding of the concepts, goals, content and data underpinning the sustainable transition among financiers, businesses and public servants is therefore needed to ensure these players can take the right investment decisions and that the risks associated with "competence greenwashing"[151] are mitigated. As concluded by recent

[151] The concept of "competence greenwashing" was developed by Kim Schumacher, Lecturer in Sustainable Finance and ESG at the Tokyo Institute of Technology, as "*the practice of intentional or negligent misrepresentation of knowledge, skills,*

academic work, a large disconnect is observed among many financial-sector and corporate stakeholders between their positive sustainability performance claims and the organisational resources and capacities dedicated to assuring proper ESG impact measurement, reporting and verification. These discrepancies can easily result in greenwashing.[152] It is therefore not surprising to see that capacity building efforts and sustainable finance education (although the latter to a lesser extent) are at the core of many SFAPs.

It is essential to raise awareness and accelerate the engagement of finance professionals, corporates and other stakeholders on sustainable finance to support the sustainable transition of the real economy. By raising awareness about the role of finance in this transition and gathering stakeholders together, a common understanding and vision of sustainability can be created. A first step in this process is to gather stakeholders to initiate the discussion and raise awareness about this topic.

- In **Italy**, a National Dialogue on Sustainable Finance was established in 2016 as part of the UN led project "Inquiry into the Design of a Sustainable Financial System". The objective was to identify options that would improve the integration of sustainability factors across the country's financial sector. The dialogue identified a growing awareness and increased actions by financial institutions. It also recognized the barriers preventing the further integration of sustainability factors in the financial sector. This initiative was essential to identify common actions and the future steps for the construction of a sustainable finance roadmap and platform that would create the necessary bridge between the public and private stakeholders[153].
- The **Lithuanian** Ministry of Finance organised jointly with the European Court of Auditors and the Lithuanian Banking Association an international conference on "*Making Green Finance a reality in the Baltics*"[154] gathering policy makers from the EU institutions and Member States, particularly from the Baltic region, as well as private sector representatives and academia. The objective was to discuss the role of the public sector in the new economy and the required developments. The conference was the opportunity to capture the underlying issues and promote ideas for reforms.

All the reviewed Member States have established a coordinating body gathering public and private stakeholders to inform the design of their SFAPs and Roadmaps, the scope and governance of these bodies vary considerably. Coordination is key to develop a SFAP and roadmap that fully reflects local specificities and stakeholders' needs. The governance model of these bodies or platforms vary as some are led by the public sector (e.g., in Austria and Poland) while other are the results of private initiatives (e.g., in France) or public-private initiatives (e.g., in Ireland). Their mandates also vary and span from awareness raising, to supporting public consultations and informing decision-making processes at national level but also EU or international level. Various models of platforms have emerged with the objective to integrate all relevant stakeholders in the sustainable transition of financial markets.

competences, or expertise relating to sustainability or ESG-related activities". See: https://thehill.com/changing-america/sustainability/environment/560255-widespread-competence-greenwashing-threatens-to
[152] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4303609
[153] Complete report available at: Financing the Future: Report of the Italian National Dialogue on Sustainable Finance (d1bf23g64f8xve.cloudfront.net)
[154] https://www.eca.europa.eu/en/Pages/green-finance-conference.aspx

- In **Ireland**, Sustainable Finance Ireland[155] is a public-private initiative that works to position and promote Ireland as a leader in sustainable finance. The initiative is tasked with coordinating and delivering Ireland's National SFR.
- In **Austria** the Ministry for Climate Action launched the Green Finance Alliance to support financial companies on their pathways towards achieving climate neutrality and make a voluntary yet binding pledge to align their portfolios with the 1.5-degree climate target set by the Paris Agreement[156].
- In **Italy**, a group led by public institutions was created in 2022 to formalise the set-up of a Sustainable Finance Platform[157]. The Platform plans on launching two working groups in 2023, focusing on reporting (regarding the future implementation of the CSRD) and on capacity building and financial education.
- In the **Lithuanian's** Strategy and Action Plan, a key measure is establishing a body coordinating the sustainable finance ecosystem, the Green Finance Institute[158]. The Ministry of Finance launched a working group gathering different public and private financial actors, focusing on identifying the most important challenges and relevant solutions to address sustainable finance in Lithuania.
- In **France** actors started to gather around the topic of sustainable finance following the Paris Agreement in 2015. A first "Paris Green & Sustainable Finance Initiative"[159] was launched in 2016 by Paris Europlace[160] to support the rapid mobilisation of the French financial industry, in line with commitments taken by Public authorities. In June 2017, the Initiative was renamed "Finance for Tomorrow"[161] and became a branch of Paris Europlace. Finance for Tomorrow became the "Institut de la Finance Durable"[162] to better federate and accelerate the actions undertaken by the financial institutions of the French financial centre and French companies to achieve the energy and environmental transition. In parallel to these developments, a Sustainable Finance Observatory was launched in 2019 to enhance understanding, tracking and evaluation of the financial sector's gradual transformation by observers and stakeholders[163].

A necessary step is to accelerate the training and capacity building of relevant staff within financial institutions, corporates and public administrations. Indeed, sustainability is a broad and complex topic that requires specific skills and capabilities. This need is also pushed by regulatory developments as the delegated acts (Level 2) of the Markets in Financial Instruments Directive (MiFID II) specifically require financial advisors to ask retail investors about their sustainability preferences and to take these into account when offering financial products. Completing this task requires financial advisors to have a certain level of sustainability expertise. Training them properly is therefore essential. All the reviewed SFAP and Roadmaps include PaMs linked to capacity building. Examples include:

- In **Lithuania**, the proposed Green Finance Institute will be tasked with the design of training programmes for financial institutions servicing clients (e.g. banks, investment brokerage firms, pension funds and other smaller players) and

[155] https://www.sustainablefinance.ie/
[156] https://www.bmk.gv.at/en/green-finance/alliance.html
[157] Interview with the Italian Ministry of Economy and Finance
[158] Complete report accessible at: https://finmin.lrv.lt/uploads/finmin/documents/files/Strategy_and_Action%20Plan_2021-12-30_small.PDF
[159] https://www.paris-europlace.com/sites/default/files/public/parisgreensustainablefi_europlace_2016_eng_1.pdf
[160] Paris Europlace is the organisation in charge of promoting and developing the Paris financial marketplace.
[161] https://www.paris-europlace.com/sites/default/files/public/cp_finance_for_tomorrow14_juin_vf.pdf
[162] https://institutdelafinancedurable.com/
[163] https://institutdelafinancedurable.com/observatoire-de-la-finance-durable/

professional consultancy actors (e.g. investment advisers, auditors, actuaries and others) to ensure common understanding of key topics including: ESG qualification pursuant to the EU Taxonomy Regulation and other laws; ESG disclosure requirements; Identification of sustainable projects; Impact reporting; and Possibilities and requirements for participation in financial facilities offered by national promotional institutions[164].

- In **France**, the financial market supervisor AMF decided in February 2021 to create a specific module to verify the sustainability-related competences of financial professionals, and to give more weight to sustainability issues in the general AMF certification for financial professionals, by almost quadrupling the number of sustainability questions in the general exam (from 4 to 15).[165]
- In **Ireland** the Sustainable Finance Skillnet[166] was established to develop skills and leadership capacity to advance ESG best practice across Ireland's financial services sector.

To inform the design of training programmes, the Singapore Institute of Banking and Finance (IBF) identified 12 Sustainable Finance Technical Skills and Competencies to bolster the Skills Framework for Financial Services, by setting out a specialised set of sustainable finance knowledge and abilities for the financial industry.[167] This provides a good baseline to inform future training activities in Poland.

Sustainable finance must be integrated in the curricula of universities and other relevant educational institutions. Sustainability issues must be mainstreamed in universities curricula through modules and courses, while dedicated programmes on Sustainable Finance must be developed. This process presents difficulties due to the interdisciplinary nature of the topic, involving traditional finance and economics, as well as "hard" sciences on climate and biodiversity for example. The creation of new and innovative Chairs on Sustainability and Sustainable Finance is also essential for this transformation in educational programmes, but also to support related research.

- In **France**, universities and "Grandes Ecoles" specialised in engineering, business or political science are now integrating sustainability in their basic curricula, promoted by initiatives led by youth association such as "Pour un Reveil Ecologique"[168]. Audencia Business School joined efforts with the "Shift Project" (non-profit) to reflect on a new and sustainable approaches to economy and finance education[169]. The number of Masters degree dedicated to Sustainable Finance is also growing, as well as the number of post graduate thesis and doctorate thesis dedicated to this topic, and supporting the research overall, as a result of a strong demand from students to receive an education "aligned with the Paris Agreement"[170].
- In **Austria**, the Ministry for Climate Action cooperated with the Vienna Stock Exchange to develop the learning kit "Investing Responsibly for the Future" for upper secondary pupils. It provides teachers a detailed set of materials that covers the key topics related to green financial literacy in an understandable and practice-

[164] Complete report accessible at: https://finmin.lrv.lt/uploads/finmin/documents/files/Strategy_and_Action%20Plan_2021-12-30_small.PDF
[165] https://shareaction.org/wp-content/uploads/2021/06/NGO-recommendations-on-sustainability-and-EU-retail-investment-June21.pdf
[166] https://sfskillnet.sustainablefinance.ie/
[167] https://www.ibf.org.sg/programmes/Pages/SF_TSC.aspx
[168] Qui sommes-nous ? - Pour un réveil écologique (pour-un-reveil-ecologique.org)
[169] Document de présentation | Projet ClimatSup Business (theshiftproject.org)
[170] 20220607_Rapport_Former-a-une-finance-ecologique_WWFFrance.pdf

oriented way.[171] At university level, a part-time MBA in Sustainable Finance Management was recently launched to prepare professionals of the finance sector to play a key role in the transformation of the economy and implement sustainability principles in the investment and financing area, risk and product management, etc[172].

6 Concluding remarks and next steps

There is no longer any doubt about the critical role that financial markets have to play to support the sustainable transition of our society, towards a world operating within the Earth's planetary boundaries. To mobilise and drive financial markets in the right direction, it is essential to provide them with both clear objectives and a practical and realistic trajectory to get there. Given the EU's leadership in sustainable finance, and the rapidly evolving regulatory landscape, the design of operational Sustainable Finance Roadmaps and Action Plans at national level is key to complement EU initiatives and guide the transition of national capital markets and their supporting financial systems.

As demonstrated in this report, different Member States have already started this journey and new initiatives are emerging to support governments on this path. There is therefore ever more useful material being developed and examples of successful initiatives being deployed. Together, this is creating an invaluable body of knowledge and learnings which can help to facilitate and accelerate market development. For example, newcomers to these transitional challenges can learn from and build on the existing knowledge base. This will ensure that they avoid potentially unnecessary steps and accelerate the transition of their own capital markets.

While there are many opportunities to learn from the good practices identified in this report, it is important to recognise that the development of the sustainable finance agenda, and associated policies and measures, is still a new and evolving process. Consequently, many of the actions included in national roadmaps or strategies have not yet been fully evaluated, making it difficult to identify effective good practices. In the future, more attention should therefore be put on the evaluation of these measures to identify which are most impactful and hence should be implemented as priorities. This is especially true given the urgency of the climate and broader environmental crisis that society faces.

The lack of evaluation material should, however, not be an excuse to delay immediate actions by policy makers. The objective of this report is to contribute to the emerging evidence based on this topic and to inform the design of future Sustainable Finance Roadmaps, especially in Poland.

A draft version of this Best practice report was presented to members of the Polish Sustainable Platform on 13 January 2023. It was then finalised following the feedback provided by the Steering Committee of the project "Bridging the climate financing gap with public policy instruments". The report will now be used through 2023 to inform the work of the Polish Sustainable Finance Platform and its Working Groups.

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171 https://www.bmk.gv.at/en/green-finance/literacy/pupil.html

172 Press Release – FHWien der WKW Launches MBA in Sustainable Finance Management (fh-wien.ac.at)

Annex 1 Non-financial reporting, disclosure & data collection

Table A1.1 Overview of the policies and measures linked to non-financial reporting, disclosure and data collection identified in the analysed Member States

Country	Policies and measures across the analysed Member States
Austria	■ The Sustainability and Diversity Improvement Act from 2017 transposes the NFRD in national law, while expanding and specifying the reporting obligation for non-financial information[173]. ■ The Pension Fund Act introduced disclosure requirements for pension funds to implement an environmental, social, and governance (ESG) approach, and disclose its integration in their investments ■ The establishment of the OeKB ESG Data hub helped improve the availability of ESG data. Companies can collect and manage ESG data on the platform with standardized questionnaires.
France	■ Following the implementation of Article 173-Provision VI Energy Transition Law[174], France reports non-financial information ahead of the European SFRD since 2015. ■ The 2019 Law on Energy and Climate updates the Energy transition law, introduction details on disclosures across both biodiversity and climate[175] ■ Since 2021, all financial institutions are required to disclose biodiversity-related risks, using the concept of double materiality[176]. Financial institutions shall also disclose their strategy for reducing biodiversity impacts. They must include specific targets and measurement of alignment with international biodiversity goals. ■ Institutional investors and companies follow a double materiality approach to disclose how their investments and impact on the climate impact each other. ■ The implementation of the Law on Energy and Climate[177] requires financial institutions to publish information on the portion of their assets complying with the environmental criteria set out in the EU Taxonomy. It also provides details on expected disclosures across both biodiversity and climate. ■ France implemented the IMPACT platform in 2020 dedicated to financial and non-financial companies to gather ESG data.[178]
Ireland	■ An Irish TCFD campaign has been underway since 2021, supported by the public sector and firms, including financial actors, large corporate entities, and semi-state organisations[179]. ■ Ireland welcomes multiple international companies and needs to balance and align international standards and agreement and European rules (e.g. UNFCCC Art 2.1 and TCFD vs. Templates stemming from CSRD).[180]
Italy	■ In 2012, Italy's Commission for the Supervision of Pension Funds adopted a resolution that requires the communication of any ethical, environmental, and/or social criteria in the statement of investment principles.[181] ■ The 2015 update of the "Corporate Governance Code of Italian Listed Companies" transposed the "NFRD recommends the boards of listed companies to take into account any risk that may affect the sustainability of the business in the medium-long term when assessing the company's risk profile".[182] In addition, the code recommends setting up

[173] Find complete legislative text at: https://www.parlament.gv.at/PAKT/VHG/XXV/ME/ME_00257/index.shtml#
[174] Find complete legislative text at: https://www.legifrance.gouv.fr/loda/id/JORFTEXT000031044385/
[175] Find complete legislative text at: https://www.legifrance.gouv.fr/jorf/article_jo/JORFARTI000039355992
[176] Find complete legislative decree at: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043541738
[177] Find complete legislative text at: https://www.legifrance.gouv.fr/jorf/article_jo/JORFARTI000039355992
[178] Accueil | impact.gouv.fr
[179] https://www.sustainablefinance.ie/wp-content/uploads/2021/10/Irish-SusFinance-Roadmap-FINAL-FINAL-OCTOBER-2021.pdf
[180] Interview
[181] See Articles 4-5 of 'Provisions on the Process of Implementing the Investment Policy'
[182] See legislative decree 254/2016

Country	Policies and measures across the analysed Member States
	a board committee tasked with supervising sustainability issues related to the company's business. ■ Institutional data on environmental matters is transparent in Italy due to the obligation for all administrations to publish their environmental information regarding their institutional activities on their institutional website (highlighted in a special section called "Environmental Information"). ■ The main hub for the collection and monitoring of environmental information is the SINA (National Environmental Information System), established by the Ministry for Ecological Transition at the end of the 1990s and coordinated and managed by ISPRA since 2001.
Lithuania	■ Lithuania is working on broadening the scope of companies complying with the NFRD and the incoming CSRD and developing criteria.[183]

Annex 2 Risk Management

Table A2.1 Overview of the policies and measures linked to risk management in the analysed Member States

Country	Policies and measures across the analysed Member States
Austria	■ Climate risk management is high on the agenda for the Ministry for Climate Action. They facilitated a national stakeholder dialogue to facilitate enhanced transparency of information. ■ An online platform "HORA"[184] has been initiated by the government to help assess and integrate natural hazards and other physical risks into strategy. At present, it is currently voluntarily used. ■ Initiatives by the Financial Market Authority (FMA): – Introduced the national implementation of the PACTA report[185] on climate risks in Austria. – Regularly conducts stress tests to analyse the risks and vulnerabilities of the insurance sector pertaining to the current economic climate and for assessing the risk capacity of individual insurance undertakings.[186] By these means, the FMA successfully examines the impacts of future climate policy, advent of low-carbon technologies, economy's level of adaptation or occurrence of extreme events. – 2019 – Asset screening: The FMA has been conducting analyses of transitional risks in investment to identify assets that could potentially be exposed to higher price fluctuation during transition towards a carbon-neutral economy.[187] The shares and corporate bond portfolios are valued and analysed under different transition scenarios to identify the extent of investment that insurers must do to reduce carbon emissions to align with Paris objectives.[188] – 2020- Guide for managing sustainability risks: Published the "FMA Guide for Managing Sustainability Risks" with the Österreichische Nationalbank (OeNB) to help establish a mutual understanding between the FMA and the supervised companies and to ensure a level playing field. It is available to banks, insurance companies, asset managers, pension funds, and company retirement funds as a cross-sector source of information.[189]

183 Interview
184 https://hora.gv.at/
185 https://2degrees-investing.org/resource/pacta-cop-austria/
186 Sustainable Finance - FMA Österreich
187 Sustainable Finance - FMA Österreich
188 Sustainable Finance - FMA Österreich
189 https://www.bmk.gv.at/en/green-finance/finances/climate-risk-management.html

Country	Policies and measures across the analysed Member States
	– 2020 - Impact underwriting: The FMA has focused on integrating ESG topics into the underwriting of products with a forward-looking price structure, promotion of risk mitigating behaviour and risk advice for preventive purposes.[190]
France	■ The Ministry for the Economy, Finance and Recovery engages with the banking and financial services industry on accelerating green and resilient investments and build on existing efforts to green the financial system. ■ 2015 - Article 173-Provision VI Energy Transition Law**[191]**: – Applies to two key components of the investment process: asset management companies and institutional investors. The regulation concerns all asset classes: listed assets, venture capital, bonds, physical assets, etc. It presents a series of measures aimed specifically at banks to report on the implementation of regular stress tests representative of the risks associated with climate. – Requires institutional investors and companies to provide information on the way that they take into account climate change as well as environmental, social, and governance (ESG) factors into their strategies and decision making - both how investments could impact climate/ESG factors and how these factors could impact investments (i.e. double materiality approach). It imposes on institutional investors a new detailed reporting on both their exposure to climate-related risks and their efforts to mitigate climate change. ■ 2017: Adhesion of Banque de France and Autorité de contrôle prudentiel et de résolution to the Network for Greening the Financial System**[192]**: Participation in the network of central banks and supervisory bodies to speed up the consideration of climate issues in financial supervision, to deepen cooperation on climate change risk management and to mobilise tools to accelerate financing for the energy and ecological transition. ■ 2021 – Disclosure of biodiversity and climate-related risks - Decree n°2021-663 pursuant to Article L. 533-22-1 of the Monetary and ■ Financial Code[193]: Requirement for all financial institutions to disclose biodiversity-related risks and climate-related risks, using the concept of double materiality. Financial institutions will also have to disclose their strategy for reducing biodiversity impacts. They must include specific targets and a measure of alignment with international biodiversity goals.
Ireland	■ The Central Bank has established a Climate Change Unit to embed climate risk into supervisory and financial stability assessments, aimed at ensuring consistency and cohesion in the approach across the bank and accounting for climate risks and considerations in the daily supervisory work.[194] The bank is also actively engaging at the domestic and regional levels with the ESAs and the ECB on developing prudential and regulatory frameworks for the broader financial sector. ■ There is a high level of integration of sustainability risks into the investment process (78%),[195] additionally, 17% of the total funds offered in Ireland are categorised as ESG funds under Article 8 or 9.[196] ■ There is a National Biodiversity Action Plan driving national expenditures.
Italy	■ Both EU Directives on integrating sustainability factors for institutional investors have been transposed by Italy – IORP II Directive by Legislative Decree 147/2018 aimed at

[190] Sustainable Finance - FMA Österreich
[191] https://www.greenfinanceplatform.org/policies-and-regulations/article-173-vi-investors-and-article-173-iv-companies-frances-law-energy
[192] https://www.banque-france.fr/en/financial-stability/international-role/network-greening-financial-system
[193] Find complete legislative decree at: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043541738
[194] Central Bank sets out supervisory expectations of regulated firms regarding climate change, and reaffirms own commitment to take action
[195] Roadmap-Reports-Executive-Summary.pdf (sustainablefinance.ie)
[196] Roadmap-Reports-Executive-Summary.pdf (sustainablefinance.ie)

Country	Policies and measures across the analysed Member States
	pension operators[197] and SRD II Directive amending Directive 2007/36/EC within the Italian framework by Legislative Decree n. 49/2019,[198] aimed to foster dialogue between issuers on corporate policies. These regulations require entities to declare if they account for ESG issues in their investment and risk management, alternatively, entities like pension providers should fulfil the "*comply or explain*" principle to justify their inaction. ■ Initiatives by Italy's Institute for the Supervision of Insurance (Italian Istituto per la vigilanza sulle assicurazioni, or IVASS): ■ Conducted confidential requests for qualitative information on investment and underwriting practices, quantitative data on natural catastrophe claim settlements, and incentives/disincentives for considering market and natural catastrophe risks in Solvency II at the national and European levels. ■ Introduced provisions in Regulation No. 38/2018 underlining the importance of social and environmental factors in the activities of insurance undertakings. Specifically, Article 47 (2, b) specifies that undertakings may introduce remuneration systems, for the variable component, based on non-financial indicators such as social and/or environmental performance
Lithuania	■ The Bank of Lithuania intends to prioritise sustainability as one of the institution's strategic objectives to strengthen the financial system resilience of Lithuania and the management of climate-related risks as well as develop sustainable internal operations.[199] ■ The pan-Baltic capital market coalition with Estonia and Latvia can deepen regional integration and strengthen resilience with greater transparency of climate-related risks.[200]

Annex 3 Capital supply & allocation: innovative financial products

Table A3.1 Overview of the Capital supply and allocation measures identified in the analysed Member States

Country	Policies and measures across the analysed Member States
Austria	■ **2018 – Vienna Stock Exchange's Green and Social Bonds Platform**: The Vienna Stock Exchange launched a platform for 'green' securities for Austrian and international issuers. The admission criteria for green and social bonds are following the Green Bonds Principles of ICMA. In order to ensure that the planned use of the proceeds is adhered to, an external audit is carried out by independent institutions (second party opinion/certification/rating) in accordance with international standards – including the Green Bond Principles. Continuous disclosure and publication of the use of proceeds shall enable investors to make a qualified investment decision. ■ **2022 – Austria issued inaugural green bond**: In May 2022, the Republic of Austria issued its first green bond on the Vienna Stock Exchange, with a coupon of 1.85% matures on 23 May 2049. It was valued at EUR 4 billion with oversubscription of EUR 25.4 billion, of which 70% were green investors. Over

[197] The Legislative Decree entered into force on January 1st 2019 and was published on the "GAzzetta Ufficiale": https://www.gazzettaufficiale.it/eli/id/2019/01/17/19G00005/sg
[198] The Legislative Decree entered into force on June 10th 2019 and was published on the "Gazzetta Ufficiale": https://www.gazzettaufficiale.it/eli/id/2019/06/10/19G00056/sg
[199] https://www.lb.lt/en/news/bank-of-lithuania-to-contribute-to-the-development-of-green-finance-and-climate-related-risk-management
[200] https://eca.europa.eu/en/Pages/Financial-markets-conference.aspx

Country	Policies and measures across the analysed Member States
	EUR 5 billion of public expenditure was identified to be financed by the green bond programme in 2021 and 2022, and over EUR 1.5 million is dedicated for clean transportation.[201] ■ **OeKB's Exportinvest green instrument for businesses:** Oesterreichische Kontrollbank AG (OeKB) is a specialist credit institution owned by Austrian commercial banks, with mandates from the Republic of Austria. The instrument offers low-cost refinancing of OeKB for domestic products that facilitate or expand their export business and generate local value-add.[202] With the addition of the 'green' component, organisations can refinance up to 100% of their investment. Suitable projects will also be eligible for additional support like grants under the federal/provincial environmental protection programmes.[203]
France	■ **2022 – Responsible investment charter – Banque de France[204]** : responsible investment charter with attendant commitments and actions. The approach applies to its own funds and pension liabilities investment portfolios excluding those it holds in the framework of the monetary tasks entrusted to the Eurosystem, through 3 commitments: - Enhance the Inclusion of Environmental, Social and Governance (ESG) factors in investment decisions - Improve the measures and the development of the contributions of asset portfolios to the environmental transition - Report on the progress made in reaching objectives and replicate the best practices of other institutional investors. ■ **2017 – First green bond issuance (7 billion) by Agence France Trésor - Green OAT Framework Document[205]**: first green sovereign bond, the green OAT(green treasury bond) 1.75% 25 June 2039 for EUR 7 billion. France's green bonds target spending from the state budget and the Programme d'Investissements d'Avenir (PIA) on combating climate change, adapting to climate change, protecting biodiversity, and fighting pollution. The funds raised are treated like those of a traditional OAT and managed according to the principle of budgetary universality. However, they are backed by an equivalent amount of eligible green expenditure, the envelope of which therefore limits the possibilities of issuing green OATs in the year in question. Since 2017, the Green OAT Assessment Council defines the terms of reference and programs environmental impact assessment reports of eligible green expenditures backed by French green sovereign bonds. It also gives its opinion on the quality of the impact assessment reports and the relevance of the results[206]. ■ **2021 – Second green bond issuance (7 billion) by Agence France Trésor[207]:** The green OAT 0.50% 25 June 2044 was emitted for an amount of EUR 7 billion, thus equalling the level reached during the inaugural issue of the first green OAT.. ■ **2022 – Third green bond issuance, the OAT€i Green indexed to inflation (4 billion) by Agence France Trésor[208]:** The green OAT€i 0.10% 25 juillet 2038 was emitted for an amount of EUR 4 billion.

[201] https://www.klimaaktiv.at/partner/Kooperationsformen/green_investment_pioneers.html
[202] Exportinvest Green - financing for export companies | Bank Austria
[203] Exportinvest Green - financing for export companies | Bank Austria
[204] Find complete charter at : https://www.banque-france.fr/sites/default/files/media/2022/09/28/charte-d-investissement-responsable_en.pdf
[205] Complete framework accessible here: https://www.aft.gouv.fr/files/medias-aft/3_Dette/2_Framework_FR_cadre%20OAT%20Verte%20130117.pdf
[206] https://www.aft.gouv.fr/fr/oat-verte#consei
[207] https://www.aft.gouv.fr/fr/oat-verte
[208] https://www.aft.gouv.fr/fr/publications/communiques-presse/24052022-creation-dune-oateui-verte-indexee-sur-linflation

Country	Policies and measures across the analysed Member States
Ireland	■ **2018 – Sovereign green bond issuance**[209]: The first Irish sovereign green bond came to market in 2018, with an issuance size of €3 billion and a 2031 maturity. Subsequent taps of this bond in 2019 and 2020 raised an additional €2 billion and €1 billion respectively. This issuance had the stated purpose of funding eligible green projects. The NTMA's "Irish Sovereign Green Bond Framework" underpins its activity in this space, while the agency publishes an annual "Allocation Report", and in 2020, the NTMA published its first "Impact Report". ■ **2021 – Ireland Sustainable Finance Roadmap**[210]**:** Establish an innovation programme will be set-up to support the financial industry develop new sustainable finance instruments, products and services, which will be developed in partnership with the industry and envisaged activities include for example an international scoping exercise to identify emerging best practices; and the establishment of a dedicated Accelerator programme. The programme is expected to extend to nature-related and biodiversity financing activities. ■ **2022 - Sustainable Fintech Strategy**[211]**:** Overseen by Sustainable Finance Ireland and the Fintech and Payments association of Ireland, the Sustainable Finance Fintech Strategy has been developed in collaboration with stakeholders across financial services, fintech, academia and government to leverage Ireland's existing strength in financial technology to support the transition to a more sustainable economy.[212] . A digital flagship program with an Open Source Data Taxonomy based on global ESG and sustainability standards is to be launched.
Italy	■ **2012 – Minibond market**: Minibonds are medium/long term debt instruments for SMEs intended to development plans, such extraordinary investment transactions, and/or refinancing. The regulatory framework for minibonds includes: (i) Law Decree No. 83 of 22 June 2012[213] ("*Development Decree*") and subsequent amendments by Decree Law No. 179 of 18 October 2012[214] ("*Development Bis Decree*"); (ii) Decree Law No. 145 of 23 December 2013[215] ("*Destinazione Italia*" plan); (iii) and Decree Law No. 91 of 24 June 2014[216] ("*Competitiveness Decree*"). Given the gradual spread of minibond, Borsa Italiana has created a professional segment of the ExtraMOT[217] market where the relevant debt securities can be traded, which is called ExtraMOT PRO. The development of green minibonds for SMEs, should then be implemented within the already existing minibonds regulations. In this growing market, there is a recognized "*green potential*". Indeed, also in the minibond market, the green segment is gaining significant traction for a variety of reasons: (i) the strategic importance of the energy sector, especially after the 2015 Paris Agreement; (ii) the existence of actual assets; (iii) the low degree of correlation with the standard stock market; and (iv) an overall low risk and steady and predictable

[209] https://www.centralbank.ie/statistics/statistical-publications/behind-the-data/green-bonds-a-snapshot-of-global-issuance-and-irish-securities-holdings
[210] https://www.sustainablefinance.ie/wp-content/uploads/2021/10/Irish-SusFinance-Roadmap-FINAL-FINAL-OCTOBER-2021.pdf
[211] Irish-SusFinance-Roadmap-FINAL-FINAL-OCTOBER-2021.pdf (sustainablefinance.ie)
[212] Ireland's first sustainable finance strategy for the fintech sector launched – Sustainable Finance Ireland
[213] Find the complete Legislative Decree at: https://www.gazzettaufficiale.it/eli/id/2012/08/11/12A08941/sg
[214] Find the complete Legislative Decree at: https://www.gazzettaufficiale.it/moduli/DL_181012_179.pdf
[215] Find the complete Legislative Decree at: https://www.gazzettaufficiale.it/eli/id/2013/12/23/13G00189/sg
[216] Find the complete Legislative Decree at: https://www.gazzettaufficiale.it/eli/id/2014/06/24/14G00105/sg
[217] The Italian Stock Exchange has two main markets that allow the electronic trading of bank and corporate bonds and Italian and foreign government securities: the MOT and ExtraMOT segment. The above mentioned ExtraMOT segment, which has been active since 2009, is a multilateral trading system for corporate bonds issued by Italian and foreign companies which are already listed on other regulated markets in the EU.

Country	Policies and measures across the analysed Member States
	liquidity flows[218]. In 2014, Enna Energia S.r.l. issued on the ExtraMOT PRO Market the first Italian mini-green bond worth EUR 3.2 million. ■ **2021 – Sovereign Green Bond issuance**: In March 2021, the Republic of Italy issued an inaugural €8.5bn 24-year green Buoni del Tesoro Poliennali. The sovereign bond follows the "Framework for the Issuance of Sovereign Green Bonds"[219] issued by the Ministero dell'Economia e delle Finanze in February 2021 ■ **2021 - Green Guarantee Scheme (GGS)[220]:** managed by SACE, and backed by an Italian Government guarantee, the GGS seeks to finance the sustainable transition of the Italian economy's, through the integration of low-emission technologies into the manufacturing sector to produce sustainable goods and services, e.g., promoting the transition to low emission mobility and other activities aligned with the EU Taxonomy. The GGS started in December 2020 with a budget provided by law equal to EUR 470 million for each of 2020 and 2021. ■ **2021 - "Regulatory Sandbox":** MEF issued the Decree April 30, n. 100, which has been officially entered into force on 17 July 2021, establishing the "Discipline of the FinTech Committee and Experimentation", i.e. the so-called "Regulatory Sandbox" of FinTech activities. The Regulatory Sandbox, is a controlled environment where supervised intermediaries and FinTech operators can test, for a limited period, technologically innovative products and services in the banking, financial and insurance sectors while benefiting from a simplified transitional regime and from a constant dialogue with the competent authorities. The characteristics of the Sandbox are: (i) a maximum duration of eighteen months; (ii) possibility for the applicants to require a waiver from the application of some rules and guidelines issued by the supervisory authorities; (iii) more simplified procedures (always proportionate to the activities to be carried out); (iv) the reduction of timeframes for approval procedures; and, finally, (v) the possibility for the authorities to observe the dynamics of technological development, to gain experience on technological evolution and identify the most appropriate and effective regulatory interventions, limiting the spread of potential risks. The testing will take place in constant dialogue with the supervisory authorities (i.e., Bank of Italy, CONSOB and IVASS).
Lithuania	■ **2018 – First sovereign green bond emissions**: First green bond issued for an amount of €20 million with a 10 Year longevity to finance a loan to Lithuania's Public Investment Development Agency to fund renovations to improve energy efficiency and reduce heating costs in 156 multi-apartment buildings. Lithuania is one of the leading countries to have issued green bonds – it was the first in the Baltics, the third in Europe and the seventh in the world. There are multiple initiatives to green budgets and develop capacities to identify eligible green expenditures through the budget planning process, which would facilitate the issuance of green bonds. ■ **2020 – State aid fund for business[221]:** invest public and private funds in medium and large enterprises affected by Covid-19. One of the objectives is to focus on green and sustainable investment.

[218] See: FINANCING THE FUTURE: "Report of the Italian National Dialogue on Sustainable Finance", December 2016. https://www.mite.gov.it/sites/default/files/archivio/notizie/report_financing_the_future_en_2.pdf
[219] https://www.mef.gov.it/en/focus/documents/btp_green/Green-Bond-FrameWork_ENG-.pdf
[220] https://www.sace.it/en/about-us/our-commitment/sace-for-the-green-new-deal
[221] https://www.sorainen.com/deals/aid-fund-for-business-starts-operating-in-lithuania/

Annex 4 Stakeholder's engagement, capacity building & sustainable finance literacy

Table A4.1 Overview of the Stakeholder's engagement, capacity building & sustainable finance literacy identified in the analysed Member States

Country	Policies and measures across the analysed Member States
Austria	■ **National financial literacy strategy:** The Federal Ministry of Finance (BMF) develops the green financial literacy as part of the national financial literacy strategy. The goal of this strategy is to raise citizens' awareness, improve their financial competences and understanding in the area of financial literacy. The topic of green finance is anchored as one of three overarching focus areas in the national strategy: "Supporting consumers in making sustainable financial decisions". This will ensure that knowledge about the connection between financial decisions and climate protection is a fundamental part of this process and is incorporated into the various measures. ■ **2019 – Focus Group Established to Discuss and Support the Implementation of Austria's Green Finance Agenda**: Austria's Green Finance Agenda was launched in February 2019, with a kick-off event and the establishment of a green finance focus group made of up the country's key financial sector players. The main objective of the focus group will be to address the question of how the Austrian financial market can make a contribution to achieving climate and energy targets. ■ **2022 – Launch of the Green Finance Alliance[222]**: By establishing the Green Finance Alliance, the Ministry for Climate Action has launched an initiative that supports financial companies on their pathway towards achieving climate neutrality. Thereby, Austria takes an important step towards the implementation of the climate protection objectives, as defined in the Paris Agreement, for firms from the financial sector. The Green Finance Alliance is among the first global government-backed initiatives, which calls on financial companies to make a voluntary yet binding pledge to align their portfolios with the 1.5-degree climate target set by the Paris Agreement.
France	■ Multiple civil society initiatives have emerged to support the training of professionals, politicians and students to climate issues and sustainable finance: The Shift project, Pour un réveil écologique, Reclaim Finance ■ The number of chairs and masters dedicated to sustainable finance is growing in universities (as well as the number of post graduate thesis and doctorate thesis). ■ **Climate Finance Day**[223] ■ **2016 - Finance for tomorrow[224]**: Initiative launched in 2016 by Paris EUROPLACE. The Forum brings together all the private, public and institutional players in the Paris financial centre who wish to commit to a financial system that is based on a sustainable future and combines long-term investment with consideration of environmental and social challenges. Its objective is to make green and sustainable finance a driving force for the development of the Paris financial centre and to position it as a financial centre of reference on these issues. It brings together more than 80 members who have signed a common charter aimed at redirecting financial flows towards a low-carbon and inclusive economy, in line with the Paris Agreement and the UN's Sustainable Development Goals (SDGs). In 2023, Finance for tomorrow became the

[222] https://www.bmk.gv.at/en/green-finance/alliance.html
[223] https://www.2022.climatefinanceday.com/content/about
[224] https://financefortomorrow.com/

Country	Policies and measures across the analysed Member States
	Institut de la finance durable to better federate and accelerate the actions undertaken by French financial institutions and companies to achieve the energy and environmental transition. ■ **Observatoire de la finance durable**[225]**:** Ambition to contribute to the transparency, monitoring and evaluation of the progressive transformation of French financial actors.
Ireland	■ The **Platform on Sustainable Finance** conducted a Sustainable finance skills gap report in 2021 to highlight the sustainable finance skills shortage and identify the skills needed. The platform works on the gap between the acknowledgement of climate risk as an issue and addressing the financial materiality aspects to the portfolio. The roadmap sets as a key action the establishment of Ireland as sustainable finance skills hub, built on existing activities. Research indicates there is a growing demand for sustainable finance skills, from regulatory knowledge to data analytics[226] (identified in the roadmap). ■ The advanced nature of Ireland's professional development and education on sustainable finance is due to the establishment of the Sustainable Finance Skillnet. Potential improvements include introducing more advanced policies and progressive regulation, developing new public instruments and incentives, and expanding the impact of the sustainable finance skills ecosystem.[227] ■ **Key stakeholders in developing the roadmap and action plan include:** ■ **Skillnet Ireland** – Business support agency of the Government of Ireland responsible for advancing the competitiveness, productivity and innovation of Irish businesses through expertise-led workforce development. ■ **Sustainable Finance Ireland** – A public-private initiative working to position and promote Ireland as a leader in sustainable finance. ■ **UNDP hosted Financial Centres for Sustainability (FC4S) Network** – A collective of 39 financial centres working together to achieve the objectives set by Agenda 2030 and the Paris agreement. ■ **Climate Week Ireland** – Established in 2017, It is in its fifth year currently, the attracting social media attention and attendees from around the world.
Italy	■ **2016 – National Dialogue on Sustainable Finance**: Italy's National Dialogue on Sustainable Finance was established to identify options that would improve the integration of sustainability factors across the country's financial sector. The dialogue identified a growing awareness and increased actions by financial institutions across the banking, capital markets, institutional investment, and insurance sectors. The dialogue also recognized the barriers that prevent the further integration of sustainability factors in the financial sector, including mispricing, short-termism, and low levels of awareness and capability. The dialogue identified 18 specific options, grouped into four areas: policy frameworks, financial innovation, market infrastructure, and knowledge building. ■ Following this a group was set up including supervisory authorities and the ministry of national energy security to formalise the set-up a sustainable finance platform. Founding members of the Platform are public institutions. Working group of the platform for 2023: ESG data gaps, Reporting & Capacity building, Financial education.
Lithuania	■ **2021- Proposal from the EBRD to establish a Green Finance Institute**[228]**:**

[225] https://observatoiredelafinancedurable.com/fr/
[226] Roadmap-Reports-Executive-Summary.pdf (sustainablefinance.ie)
[227] Roadmap-Reports-Executive-Summary.pdf (sustainablefinance.ie)
[228] https://finmin.lrv.lt/en/news/green-economic-development-in-lithuania-is-gaining-momentum-recommendations-for-lithuanias-sustainable-green-finance-action-plan

Country	Policies and measures across the analysed Member States
	■ Proposal for the establishment of a Green Finance Institute to ensure the standardisation of sustainability requirements and dissemination of relevant information in the country. Also, it would consult and perform an analytical function as well as would support the discussion between the representatives of the public sector, private business and science, and also will be involved in delivering green labelling methodology. ■ Launch of a Working Group by the MoF gathering different public and private financial actors. The Platform follows the work of EBRD. It focuses on identifying most important challenges, most relevant solutions and provide recommendations. ■ **2022 – Making Green Finance a reality in the Baltics[229]:** Conference gathering policy makers from the EU institutions and Member States, particularly from the Baltic region, as well as private sector representatives and academia to discuss the role of the public sector in the new economy and the required developments.

[229] https://www.eca.europa.eu/en/Pages/green-finance-conference.aspx