Grantham Research Institute on Climate Change and the Environment

Centre for Climate Change Economics and Policy

# Net zero transition plans
## A supervisory playbook for prudential authorities

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# Summary

Net zero transition plans are set to become a key part of the pathway to implementing the Paris Agreement. Just as governments need detailed plans to show how they will deliver their net zero targets, corporations and financial institutions need to inform stakeholders how they plan to adapt their business model to a rapidly changing environment and mitigate transition risks.

There are three main reasons why prudential supervisors should pay close attention to net zero transition plans:

1. Transition plans can aid the identification of misalignment with net zero that may result in short- and medium-term risks.
2. A prudential supervision focus on alignment could serve as a proxy for assessing banks' long-term risk.
3. Transition plans can provide supervisors with a better understanding of aggregate alignment of the banking system as a whole.

## The current state of the debate around transition plans

A transition plan is a detailed multi-year account of targets and actions that sets out how a given firm will ensure that its business model and strategy are compatible with a specific environmental objective, such as the goal of limiting global warming to 1.5°C above pre-industrial levels in line with the Paris Agreement. The primary rationale for the financial sector to align operations with commitments made by governments is to anticipate investment opportunities and mitigate transition risks. In the financial sector, transition plans have emerged to give credibility to voluntary pledges made by banks. While they continue to have a role in communicating sustainability ambitions to stakeholders, policymakers are increasingly recognising the importance of binding requirements to integrate transition plans into firms' strategies and non-financial disclosures (e.g. through the Corporate Sustainability Reporting Directive [CSRD] in the European Union).

## Three types of transition plan

We differentiate three different types of transition plans that are starting to emerge and are being discussed by public authorities and the financial sector, each with different aims and objectives:

### Type 1: Voluntary, market-led net zero transition plans

Globally, across the financial sector there is now momentum for banks, insurers and investors to design and deliver transition plans, as a voluntary response to rising market and societal expectations and with the aim of inviting scrutiny over their plans to deliver something that is ultimately to their financial benefit, namely the alignment with transition pathways. Collective initiatives such as the Glasgow Financial Alliance for Net Zero (GFANZ) are developing broad-based guidance. Generally, as within the Task Force on Climate-related Financial Disclosures (TCFD) framework, transition plans are considered part of the broad climate-related strategy of financial institutions, including as part of Corporate Social Responsibility (CSR) initiatives.

### Type 2: Mandatory corporate disclosure net zero transition plans

A second stimulus comes from emerging legislative requirements for the general corporate sector to produce transition plans, whereby firms are requested by governments to disclose – as part of their non-financial disclosures – how they intend to ensure that their business model and strategy are compatible with the unfolding global transition to a sustainable economy. The EU has already approved the first regulatory requirements on this, in June 2022, through the Corporate Sustainability Reporting Directive, and has also reached a related provisional agreement between the Council and the European Parliament. In the UK, the Government launched a Transition Plan Taskforce in 2022 to develop its own 'gold standard'. Similar requirements are being proposed in the United States (SEC, 2022). These disclosures are meant to incentivise market discipline by providing investors with adequate information regarding the climate risk profile of their investments. As such, they mainly fall within the remit of market conduct supervisors, who

have limited tools to address the inadequacy of the plans from the point of view of addressing prudential risks.

#### Type 3: Mandatory prudential transition plans that focus on the risks of misalignment with net zero targets

Prudential transition plans – as risk-based regulatory instruments – would be a regulatory requirement introduced specifically with an eye on micro- and macroprudential concerns related to transition risks and the net zero transition. These prudential transition plans could serve as an additional forward-looking assessment tool to safeguard the stability of the financial system. In the EU, policymakers are already discussing plans to introduce prudential transition plans as part of the 'Single Rulebook' for banks. These transition plans are envisioned to fall squarely within the remit of prudential supervisory processes, such as the EU's Supervisory Review and Evaluation Process (SREP). However, the global introduction of supervisory transition plans would require significant coordination between prudential and legislative authorities to ensure that supervisors are adequately equipped to challenge and assess the appropriateness of transition plans.

### The prudential promise of transition plans

While all three types of transition plan are evidently relevant for the work of prudential supervisors, we emphasise the strategic importance of prudential transition plans for assessing, monitoring and addressing banks' alignment with a sustainable transition.

Climate- and environment-related risks (C&E risks) raise new challenges for prudential supervision, including their long time horizon, the limited effectiveness of current, backward-looking risk management approaches, and the lack of available data concerning the materiality of climate and environmental risk. Today, bank risk management approaches are traditionally focused on a three-year time horizon and rely extensively on backward-looking methodologies. But C&E risks are long-term by nature and historical data provide only a limited insight into estimated potential losses as a consequence of a rapid transition. Data limitations remain pervasive, too. Financial institutions currently appear often to rely too heavily on their rear-view mirrors to drive ahead; they are in need of additional and properly calibrated forward-looking risk assessment tools.

In this context, the prudential supervision of C&E risks through transition plans offers an additional supervisory tool, complementing the emerging use of forward-looking scenario analysis and stress testing. As a forward-looking projection of how a financial institution intends to align its operations and portfolios with a government's indicated transition pathway, transition plans could play a role in bringing distant financial risks into the present. As a dynamic instrument, prudential transition plans would also have to continuously evolve in the context of scenario development and changing transition pathways, as governments and other policymakers set these out in increasing detail. Bank transition plans would have to incorporate micro-level, bottom-up information concerning bank counterparties, as they seek alignment with scenarios and transition pathways. In this context, client engagement could become a key pillar of bank risk management.

### Three ways transition plans can support supervisors

Against this background, there are three ways in which prudential transition plans could help supervisors achieve their objective of safeguarding the stability of the banking system:

- *Microprudential risks* – Supervising alignment to address short- and medium-term risks

Prudential transition plans could support the use of existing risk-based instruments, serving an important role to guide supervisory attention to weaknesses in banks' management of C&E risk today. Here, transition plans would help identify material C&E risk that can currently be found on individual balance sheets or that originates within the traditional supervisory time horizon.

- *Microprudential risks* – Supervising alignment as a proxy for long-term risks

Prudential transition plans could provide supervisors with tools to address risks to which individual banks will likely be exposed as a result of the bank's business model, sectoral orientation and strategy. A focus on alignment would provide complementary insight to that gained from material C&E risk exposures.

- *Macroprudential risks* – Supervising aggregate alignment to identify systemic risks

Pervasive misalignment of the banking system with net zero transition pathways could be a threat to the stability of the financial system as a whole. Granular and forward-looking assessment methods, such as climate stress testing and, specifically, prudential transitions plans, could be used not only to assess the alignment of the financial sector but also to provide the starting point for a discussion of appropriate macroprudential tools to address the identified systemic risks.

Overall, and despite this potential, transition plans have largely been treated as a tool for non-financial disclosure to date. There is ample scope to make more use of transition plans for prudential purposes.

## Steps for prudential supervisors to incorporate transition plans

As transition plans emerge and their potential for prudential application starts to become apparent, prudential supervisors will have to develop their own frameworks to integrate transition plans into their practice. This Supervisory Playbook suggests three steps to guide this integration:

- **Step 1: Set supervisory expectations for prudential transition plans to ensure they are fit for prudential purpose.** Supervisors would first set out expectations on the methodologies to be used for prudential transition plans to be credible with regard to: strategy (e.g. portfolios to be covered by the assessment, reliance on legally binding taxonomies, relevance of scope 1,2 or 3 emissions); governance and risk management (e.g. guidance on how supervisors would expect banks to cover their identified environmental risks in internal capital adequacy assessment process [ICAAP] and how to attribute capital); short-, medium- and long-term targets; and net zero performance metrics (e.g. the selection of relevant climate risk scenarios, such as those from the International Energy Agency or Network for Greening the Financial System).
- **Step 2: Undertake supervisory assessment of prudential transition plans to determine whether financial institutions are exposed to risks in the context of alignment with the applicable government's transition pathway.** This step would provide insights into transition risks from misalignment of individual financial institutions as well as insights for assessment of the financial stability of the financial system. Prudential supervisors would be able to ensure that banks effectively reduce and manage the risks arising from a misalignment of balance sheets with net zero targets and transition pathways. This step would rely on explicit guidance on the methodologies to be used (e.g. relevant taxonomies, scope of emissions, scenario analysis, type of banks portfolios). However, there are still open questions around how the assessment would be performed in practice, which may require specialised technical expertise, as well as overcoming uncertainties around the future transition pathways.
- **Step 3: Take steps to mitigate the risks to which banks whose plans indicate acute and significant transition risks are exposed, utilising the micro- and macroprudential toolbox**. Building on the prudential assessment of transition plans, supervisory consequences through the micro- and macroprudential toolbox could be appropriate in cases where an insufficient management of transition risks is identified. Supervisors could also signal to the market and to policymakers where they observe a build-up of risks.

## The future of the global financial supervision agenda

Strategically, the steps we outline above constitute the first phase of the elaboration of net zero transition plans, in terms of both market-led corporate disclosures and on the prudential supervision side. As plans are developed further, it will be important for the prudential community to be active participants in the design of 'what good looks like' so that they can play their full part in addressing climate risks. Financial supervisors should coordinate their activities with, and draw on the knowledge available within, the broader

environmental and economic policy community to develop more clarity on what net zero means for banks and their counterparties. This in turn should be the basis for developing standards for credible and comprehensive transition plans, which should include principles, definitions, metrics and evidence of the effectiveness of strategies to meet net zero targets.

A comprehensive agenda for the supervision of transition plans should also move the transition agenda to the global scale and the broader financial system. Policymakers should work towards prudential transition plans for all regulated financial firms, including investors, insurers and capital markets, not just banks. In this context, international information sharing will be important to develop effective tools for assessing transition plans from all regulated financial sectors, pointing to a role for the Bank for International Settlements (BIS), the Financial Stability Board (FSB), and the Network for Greening the Financial System (NGFS) to work towards developing international guidance on supervisory approaches to net zero transition plans.

# 1. Introduction

This report discusses how prudential supervisors could use prudential transition plans as an additional dynamic instrument to assess, address and bring distant financial risks into the present. To date, transition plans have emerged primarily as non-financial disclosure efforts and as such, their potential from a prudential point of view has been limited. This report outlines steps, in the form of a Supervisory Playbook, towards incorporating transition plans into prudential supervision. This could enable supervisors to effectively use the benefits of transition plans as a forward-looking methodology to better manage and overcome some of the challenges associated with climate risks.

**Defining 'transition plan'**

A transition plan is a detailed multi-year account of targets and actions to plan how a given firm will ensure that its business model and strategy are aligned and compatible with a specific environmental objective: for example, the goal of limiting global warming to 1.5°C above pre-industrial levels in line with the Paris Agreement. In the financial sector, transition plans have emerged to give credibility to voluntary pledges made by banks. While they continue to have a role in communicating sustainability ambitions to stakeholders, policymakers are increasingly recognising the importance of integrating them into the firm's strategy and non-financial disclosure.

**There are three reasons why supervisors should assess, monitor and address banks' misalignment with net zero targets,** in light of the persistent challenges presented by climate and environmental (C&E) risk:

1. **Transition plans can aid the identification of misalignments that may result in short- and medium-term risks,** by improving supervisors' understanding of banks' alignment with major economic, technological and financial developments.
2. **A prudential supervision focus on alignment could serve as a proxy for assessing banks' long-term risk,** since C&E risks are subject to long time horizons that resist quantification through the conventional risk management practices of banks and financial institutions.
3. **Transition plans can provide supervisors with a better understanding of aggregate alignment of the banking system as a whole, thereby aiding the identification of systemic risks** from a macroprudential risk perspective, and adding to the insights on bank stress tests based on climate risk scenarios.

To understand the potential of transition plans as a prudential supervisory tool to assess risks, this report differentiates three different types of transition plan that are currently discussed by public authorities and the industry:

- **Type 1: Voluntary, market-led net zero transition plans**
- **Type 2: Mandatory corporate disclosure net zero transition plans**
- **Type 3: Mandatory prudential transition plans that focus on the risk of misalignment with the net zero transition.**

We argue that for the potential of transition plans as a prudential forward-looking instrument to be fully realised, regulators would have to require banks to develop prudential transition plans with a focus on micro- and macroprudential concerns related to the net zero transition. Prudential transition plans as mandatory requirements would thereby primarily serve to safeguard the stability of the financial system. In the EU, policymakers are planning to introduce transition plans as part of the microprudential 'Single Rulebook' for banks. These specific prudential transition plan proposals are supported by the European Central Bank, also focusing on preventing "misalignment with the EU transition pathway [that] leads to financial, legal and reputational risks for banks" (Elderson, 2021) and as such, the mandatory requirement could be introduced within the existing general supervisory mandates (Villeroy de Galhau, 2022).

While all types of transition plan are evidently relevant for the work of supervisors, prudential transition plans can be a tool for assessing and monitoring banks' alignment with the net zero transition, and, if necessary, alignment with the mandates of prudential supervisors, addressing risks through corrective action.

### Structure of the report

- Section 2 sets out the role that transition plans can play in addressing climate and environment-related (C&E) risks relating to the net zero transition.
- Section 3 discusses the potential of different emerging types of transition plan from a supervisory perspective.
- Section 4 develops the supervisory role in setting out, assessing and drawing consequences from prudential transition planning.
- Section 5 applies the framework to the EU, exploring how its banking supervisors could integrate transition plans into their prudential frameworks.
- Section 6 concludes and provides recommendations for future work across the global financial system.

# 2. Transition plans and the prudential challenge of climate and environmental risk

Notwithstanding the role of governments, private investment will have to play a crucial role in financing the transition of the real economy. At the same time, financial institutions are exposed to the financial, physical and especially transition risks stemming from the fact that the economy is misaligned with a path to net zero. This creates a dual challenge for policymakers, which is summarised by the concept of 'double materiality': ensuring that banks are not vulnerable to climate and environment-related (C&E) risk, while lending and investing in ways that do not harm the Earth's climate and ecosystems (Boissinot et al., 2022).

In recent years, financial regulators and supervisors have started to require banks to apply traditional risk management approaches to their climate and environment-related exposures (see Table 2.1). However, C&E exposures have turned out to be difficult to manage effectively due to, among other factors, the long time horizons over which risks materialise, the limited effectiveness of the current, conventional, backward-looking risk management approaches, and the lack of available data (covered later in this section). Transition plans that are forward-looking and oriented to longer time horizons offer an additional and supplementary prudential instrument to ensure the financial stability of banks.

## Integrating C&E risk into the existing prudential framework

It is by now well established that banks are exposed to a wide range of risks as a consequence of pervasive misalignment of the real economy with climate targets (Battiston et al., 2017; Campiglio et al., 2018; BCBS, 2021). Accordingly, supervisors around the world have sought to mitigate C&E risks through a variety of high-level approaches ranging from relying on market-led initiatives to mandatory rules by supervisors. So far, supervisors have faced challenges in assessing financial exposures arising from climate-related risks as well as potential losses and impacts from using forward-looking approaches (BIS, 2021, 2022; NGFS, 2021).

Given concerns that banks and the financial sector at large could be misaligned with the transition pathway towards a sustainable and net zero economy, there is a considerable risk of sudden build-ups of financial risks. This calls for a prudential assessment of risks resulting from misalignment and an appropriate calibration of prudential policy to address them.

The alignment of the banking system also has a crucial role to play in the broader climate transition (Boissinot et al., 2022). While the transition requires structural changes in the real economy, the financial sector is a critical lever for helping non-financial corporates assess the alignment of their activities with the transition to a sustainable economy. The banking sector is particularly important given its role as a financial intermediary and provider of payment systems for the 'real economy'. The transition plans of banks' customers will feed into banks' transition plans, highlighting the importance of banks scrutinising the information they receive. In this context, and by asking banks to ensure alignment of their lending and investments by engaging with their customers, the financial system can make a positive contribution to the broader sustainable transition.

In the past few years, policymakers have identified a class of C&E financial risk that banks need to incorporate into their operational and risk management frameworks to ensure the financial stability of the institution.

These efforts have taken a somewhat heterogenous shape across the three pillars of the Basel Framework[1] (Smoleńska and van 't Klooster, 2022):

- Under Pillar I, the existing microprudential framework sets minimum capital requirements based on an institution's investments and its credit, trading and operational risks. There has been very limited concrete regulatory action to incorporate C&E risk into Pillar I to date.
- Pillar II sets the supervisory framework for a bank's internal risk management and governance, of which the annual Supervisory Evaluation and Review Process (SREP) is the most important component. This exercise has a broad scope, making it suitable to include climate and environmental risk, and some supervisors have issued detailed supervisory guidance based on several regulatory requirements for how banks should deal with C&E risk (ECB, 2020). Within the context of the SREP, the supervisor can impose additional capital requirements on banks that are exposed to particular risks.
- Finally, Pilar III sets out a bank-specific disclosure framework, which is meant to enable investors to scrutinise bank risk-taking. While policymakers and supervisors are providing more guidance on the identification of risk, their actions with regard to how such risks should be evaluated have as yet been limited. The European Banking Authority (EBA) has issued detailed requirements for Pillar III disclosures, providing templates and instructions for the disclosures that need to be made (EBA, 2022).

Table 2.1. C&E risk in the Basel Framework

| Basel Pillar | Overview | Actor responsible | Progress |
|---|---|---|---|
| Pillar I – Regulatory capital requirements | Banks and credit rating agencies improve their capacity to assign risk-weights to C&E risk (potentially subject to new regulatory standards). Also includes capital add-ons/buffers, large exposure limits, liquidity/leverage ratios and so on. | Basel Committee on Banking Supervision (BCBS), legislatures and regulators. | Discussions ongoing at legislative level in the context of microprudential reform. |
| Pillar II – Supervision | Banks set their strategy and risk management for C&E risk subject to supervisory evaluation as well as binding supervisory guidance. | BCBS, legislatures, banking regulators and supervisors. | Supervisors and regulators making initial steps to incorporate C&E risk into the supervisory processes. |
| Pillar III – Disclosures | Disclosure rules for C&E risk together with metrics developed by banks and supervisors. | BCBS, legislatures, banking regulators and supervisors, market conduct authorities. | Detailed rules have been introduced across a number of jurisdictions and frameworks (EU Pillar 3 Disclosures; TCFD). |

*Source: Adapted from Smoleńska and van 't Klooster (2022)*

So far, policymakers have largely left the task of ensuring that C&E risks are adequately priced to private bank and market participants, in some cases subject to (non-binding) regulatory expectations, and with binding requirements focused on microprudential Pillar III disclosures. This approach follows the logic outlined in the speech by Mark Carney (2015), wherein he expressed the view that by improving disclosure and building market discipline, banks could set in motion a transition without requiring detailed regulatory guidance.

[1] The Basel Framework is the "full set of standards of the Basel Committee on Banking Supervision (BCBS), which is the primary global standard setter for the prudential regulation of banks": see https://www.bis.org/basel_framework/.

## Current limitations to disclosure and management of C&E risks

Because there are often significantly different ways to assign risk-weights to individual assets, supervisors have been reluctant to challenge assumptions concerning specific risk-weightings assigned to transition risk. At the moment, capital markets and active stakeholders (such as non-governmental organisations and think tanks) therefore have the main role in verifying the viability of a bank's transition strategy. However, they too face the limitations of existing disclosure and risk management techniques in relation to C&E risks.

- **First, concerning the *time horizon*,** the risks from climate change will occur beyond the usual business, financial and policy cycles. As noted by EBA (2018), supervisors should introduce new C&E risk analysis into supervisory assessment, evaluating whether institutions sufficiently test the long-term resilience of their business models against the time horizon of relevant public policies or broader transition trends, i.e. exceeding commonly used time frames of three to five years and covering a time horizon of at least 10 years. Therefore, microprudential supervisory frameworks – currently treating three years as the long term – need to be adapted in order to be able to account for risks that will materialise over a longer time horizon. In the context of transition risks, extending the time horizon for examining risks to cover the entirety of the transition to a net zero economy would be required. Nevertheless, the duration from the present day to the 2050 net zero horizon should not obscure the immediacy of action necessary to achieve it, in particular the need for front-loaded climate change mitigation action (Fankhauser, 2022; IPCC, 2022).
- **Second, the *backward-looking nature*** of certain elements of the existing prudential approach contrasts with the current understanding of climate risk dynamics and the material impacts that will manifest in the years to come (Bolton et al., 2020; NGFS, 2021). There are several challenges relating to the incorporation of climate risk into prudential frameworks, including its specific characteristics concerning the inherent complexity and interconnectedness of environmental risks, tail-risks and the non-linear impact of tipping points. To the extent that risks are estimated based on historical data, the current approach is unable to accurately estimate potential losses that will be the consequence of a rapid transition. The current lack of implementation-ready and well-understood, forward-looking techniques and metrics for financial institutions and supervisors is impeding the ability to assess C&E risk, especially over a longer time horizon.
- **Third, C&E risk assessment is plagued by problems relating to *data availability*,** for example concerning scope 3 emissions and energy performance certificates. Currently widely-used sectoral benchmarks are often not designed for the purpose of assessing transition efforts and related risks.

Given these significant challenges in assessing climate risks through traditional risk frameworks, supervisors are not always able to explicitly and fully incorporate climate risks into prudential oversight and specific instruments such as capital requirements.

## Integrating C&E risk into the prudential framework through transition plans

As a regulatory instrument, transition plans could play an essential role in overcoming these challenges by assessing the alignment, and the transition risks from misalignment, at different points in time along the transition pathway. Transition plans could thereby contribute to enabling supervisors to improve the mitigation of C&E risks by requiring financial institutions to expand their risk management and assessment capabilities and clearly map, monitor and adjust their transition strategy as needed.

There is a strong *prima facie* case to turn to transition plans as an important additional instrument for supervisors to achieve their prudential objectives:

- **First, pertaining to *time horizons*,** transition plans can bring distant alignment risks into the operational timeframe of supervisors and at the same time support the economic transition through the requirement for detailed milestone adjustment targets for any point between now and 2050. One important way in which transition plans can help overcome the obstacles described is by identifying the short- and medium-term milestones for delivering 2050 targets, comparing them with banks' transition efforts and related exposure to transition risks, and enabling supervisors to

bring climate risk more within their traditional prudential frameworks. They are essentially plans to link the bank's operations today to its practice in the distant future.

- **Second, the focus on alignment also offers a *forward-looking alternative*** to current ways of estimating risk and associated data requirements. Transition plans can be developed against scenarios and transition pathways that are fundamentally about policy ambition. In light of the clear objective set out in the Paris Agreement, national plans and targets, as well as in the work of the Intergovernmental Panel on Climate Change (IPCC), International Energy Agency (IEA) and other bodies, a fine-grained understanding is emerging of the immense task placed on economies by the 1.5°C goal. Supervisors can use these insights to ask banks to ensure that their business model and strategies are resilient to C&E risks and challenges from the transition, including changes in policies, technologies and consumer preferences.
- **Third, transition plans by themselves will not solve the current *data limitations*** and parts of bank transition planning could also be confidential. Still, there are various ways in which bank transition planning can help reduce the current lack of information concerning transition risks in the broader economy. For one, they require banks to develop a detailed account of how their strategy fits with available scenarios and transition pathways, where banks would need to incorporate micro-level, bottom-up information concerning bank counterparties. Furthermore, and given that most of financial institutions' carbon emissions are financed emissions, micro-level information concerning bank counterparties, including counterparties' transition plans, would become available. In fact, financial institutions' client engagement strategy could become not only a key element of the bank risk management aspect, but also serve to provide an important layer of verification for corporate disclosures. Effectively designed bank transition plan requirements promise to produce significant amounts of data on the alignment of individual financial institutions, the financial system and the economic system as a whole, theoretically at every point in time between today and 2050. The publicly available data would have a range of applications beyond supervisory prudential assessments of misalignment risks.

# 3. A typology of emerging transition plans

All three types of transition plan that have emerged in the private sector and policy circles are concerned with if and how banks' (and in some cases also other non-financial corporates') business models and strategies are aligned with broader climate and environmental objectives. However, there are important differences between the initiatives currently being discussed.

Currently, based on existing industry and legislative discussions, two types of transition plan can be identified that are *not* prudential in focus – the transition plans we have designated as Type 1 and Type 2:

- **Type 1 transition plans are voluntary, market-led initiatives,** such as those put forward by the Glasgow Financial Alliance for Net Zero (GFANZ) and the Task Force on Climate-related Financial Disclosures (TCFD), and that have emerged in the private sector.
- **Type 2 transition plans are mandatory corporate-disclosure net zero transition plans,** which typically apply to all large corporations and, therefore, also to banks.

These two disclosure-based types of plan are clearly differentiated in this report from Type 3 transition plans:

- **Type 3 transition plans are prudential plans that focus on the risks of misalignment with the net zero transition.**

These three different types of transition plan are detailed further in Table 3.1 below. Each has different implications for net zero alignment ambitions of the real economy by 2050 as well as for financial stability. Generally, the disclosure-based (alignment) transition plans are of indirect interest to prudential supervisors and are relevant insofar as that they are part of the general assessment of banks' strategies and business models. The 'corrective tools' that prudential supervisors would currently be able to use for Type 1 and 2 transition plans would be limited under their present mandates and potentially also differ significantly across jurisdictions depending on their institutional set-up.

For prudential supervisors to be able to play a role in reviewing the assumptions made in transition plans, and the scenarios and pathways used by the bank as benchmarks, transition plans must fall squarely within the remit of prudential supervision. In some jurisdictions, this could require clarifying the role of supervisors with regard to transition plans as part of appropriate legislation. Furthermore, a fundamental focus on the role of transition plans in C&E risk management to gauge financial risk would be necessary. The 2021 EU banking package proposals, under which transition plans would constitute a separate document prepared by banks for prudential (risk) assessment purposes, already provide a relevant example (European Commission, 2021).

While Type 1 and 2 transition plans might not address supervisors' fundamentally risk-related concerns, dedicated prudential plans would give supervisors a sound legal basis to, for example, request additional information from supervised entities. Ideally, Type 2 and 3 transition plans would not exist alongside each other, but Type 3 would be an additional layer on the former (which would fit the broader framework applied to both banks and corporates so that their transition plans are consistent with each other). As summarised in Table 3.1, the three types of transition plan offer different perspectives and applications, not least due to their different aims and scope.

Table 3.1. Emerging typology of transition plans

| | **Corporate disclosure-based transition plans** | | **Prudential transition plans** |
|---|---|---|---|
| | Type 1: Voluntary disclosure | Type 2: Mandatory disclosure | Type 3: Prudential requirement |
| *Global landscape* | | | |
| Aim and issue scope | Delivering net zero alignment. | Delivering net zero alignment and potentially other sustainability goals (such as biodiversity, human rights). | Managing risk of misalignment to transition to a sustainable economy and climate neutrality. Decarbonisation a priority. |
| Examples | Science Based Targets initiative [SBTi], Task Force on Climate-related Financial Disclosures [TCFD], Glasgow Financial Alliance for Net Zero [GFANZ]. | EU's Corporate Sustainability Reporting Directive [CSRD], Corporate Due Diligence Directive [CDDD] and UK Transition Plan Task Force. | EU's 2021 Banking Package proposal. |
| Sector coverage | All firms, including corporates and financial firms. | All firms, including corporates and financial firms. | Banks, with potential for extension to other regulated financial institutions. |
| Regulatory requirement | No | Yes | Yes |
| Perspective | Market-led self-regulation | Market conduct-focused regulation | Micro- and macroprudential risk regulation |
| Supervisory role | Indirect. Main enforcement through market discipline and civil society scrutiny. | Indirect. Enforcement through financial conduct authorities (e.g. European Securities and Markets Authority [ESMA], Financial Conduct Authority [FCA] plus market discipline and civil society. | Direct (banking supervisors, e.g. Bank of England [BoE], European Central Bank [ECB]). |
| Standard setters | Private initiatives. | Legislators and financial conduct regulators (e.g. European Commission, ESMA). | Legislators and banking regulators (e.g. European Commission, EBA, ECB, BoE). |
| Transparency | Public | Public | Prudential transition plans may be disclosed only partially, if at all. |
| Implementation | 2022 | 2023–2024 (EU) | 2026 (estimated for EU) |
| *Supervisory playbook: banks* | | | |
| Supervisory expectations | Non-binding. | Non-binding (and linked to cooperation with market conduct authority). | Binding. |
| Supervisory value and assessment | Indirectly relevant for Supervisory Review (such as Supervisory Review and Evaluation Process [SREP] in EU) and informing on bank | Indirectly relevant for Supervisory Review (such as SREP in EU) and providing more rigorous and consistent insights on | Directly relevant for Supervisory Review (such as EU SREP) as part of dedicated misalignment risk assessment as required by |

| | | | |
|---|---|---|---|
| | progress on meeting C&E risk management expectations on transition risk, including reputational risk, litigation risk (fraud, misrepresentation, directors' duties) and internal risk governance. One of many other factors. | bank progress on meeting C&E risk management expectations on transition risk, including reputational risk, litigation risk (fraud, misrepresentation, directors' duties) and internal risk governance. Primary assessment done by market conduct authorities. | primary legislation; assessed in the context of C&E risk management as well as broader financial stability concerns. Supervisors can set templates and test bank assumptions, trajectories and targets. They can impose corrective measures and capital add-ons where transition plans inadequate. |
| Enforcement | Self-regulation, market discipline, civil society scrutiny. | Market discipline and private enforcement, civil society scrutiny. | Prudential oversight. |
| Supervisory consequences | Indirect | Indirect | Direct |
| Time horizon | 2050 (with intermediate targets). | 2050 (with intermediate targets). | 2050 (with intermediate targets). Frontloading misalignment risk assessment to the present. |
| *Strengths and weaknesses (notably from a prudential perspective)* | | | |
| Strengths | Harnessing market innovation, enabling early adoption and learning. | Providing universal reporting with consistent and rigorous disclosures. | Responding directly to prudential dimension of transition planning. Clear legal basis for supervisors to assess what they know – risk.<br><br>Effective lever for banks and their counterparts to develop credible transition plans and meet targets. |
| Weaknesses | Lack of universal adoption, insufficient legitimacy and accountability of framework setters, inadequate ambition from firms, greenwashing, insufficient focus on financial risks, few consequences when institutions backtrack on their commitments. | Time taken to agree standards, potential regulatory burden, competitive arbitrage with other jurisdictions, insufficient focus on financial risks. | Time taken to agree standards, potential regulatory burden, competitive arbitrage with other jurisdictions, overlap with Type 2 plans, risks of overly broad discretion for supervisors and of them over-stepping their role with regard to bank business models assessment, legislative changes necessary. |

*Source: Compiled by authors*

### Type 1: Voluntary, market-led transition plans – GFANZ and TCFD

A growing number of banks and other financial institutions are following up on their net zero target pledges by issuing transition plans that outline in more detail how they intend to achieve this transition. In this respect, banks are currently leading the way, ahead of other sectors (CDP, 2022). The voluntary transition plans are intended to signal the credibility and feasibility of banks' decarbonisation pledges, and as such are initially intended to also gauge bank risks.

The 'net zero' commitment trend in banking started relatively recently, at the 2018 COP24 conference in Katowice, Poland. There, five global banks – BBVA, BNP Paribas, ING, Société Générale and Standard Chartered – committed to ensuring their balance sheets are aligned with net zero by 2050 (see Box 3.1). Subsequently, financial institutions developed methodologies to align their balance sheets with net zero targets. Special tools such as the 2° Investing Initiative's (2DII) Paris Agreement Capital Transition Assessment (PACTA) enable banks to benchmark their own portfolios against projected technology pathways (e.g. for high-emitting sectors). With over 450 financial institutions now committed to net zero carbon emissions from their activities, industry standards are emerging to benchmark progress with a higher degree of precision regarding the principles, definitions, metrics and targets (SBTi, 2022). However, these standards are still a work in progress and leave key questions unanswered. For example, the discussion is still ongoing over whether transition plans should be concerned only with greening a bank's balance sheet, or whether they should also provide a framework for engagement with customers on their transition planning.

**Box 3.1. Katowice Banks' Net Zero Plans**

The five 'Katowice net zero banks', BBVA, BNP Paribas, ING, Société Générale and Standard Chartered, have been publishing their own transition plans since 2020, albeit with a variable degree of detail. The banks publicly pledged to develop an open-source methodology to progressively steer (or 'align') their lending portfolios with the goals of the Paris Agreement. Their transition strategy documents typically include specific sectoral emission reduction targets, contingent on a particular sectoral trajectory, and an overview of the methodology used (e.g. scenarios, methodology, relationship between impact and risk mitigation).

These documents are limited in coverage and focus on particular sectors, including fossil fuels, energy and automotive. Only two of the banks use a wider-economy approach or a bottom-up data-collection approach. The most widely used transition scenarios are the IEA net zero scenarios, albeit in some cases with tweaks (including one bank using the less ambitious net zero by 2070 pathway). The most widely used methodology for measuring alignment of bank portfolios with sectoral transition pathways is the Paris Agreement Capital Transition Assessment (PACTA), a methodology and tool that measures financial portfolios' alignment with various climate scenarios consistent with the Paris Agreement. The backdrop of relevant regulations is important for specific definitions (e.g. of double materiality, adopted in particular by EU-based banks, or a stakeholder engagement definition of materiality).

With regard to the organisational implications of the commitments, the follow-through is uneven, with few banks meaningfully treating alignment as a matter of risk. For some banks, net zero transition matters fall mainly within the scope of their CSR. For others, and significantly from the perspective of the transition plan framework discussed below, net zero alignment objectives have already been incorporated into some banks' strategies, as disclosed in annual reports.

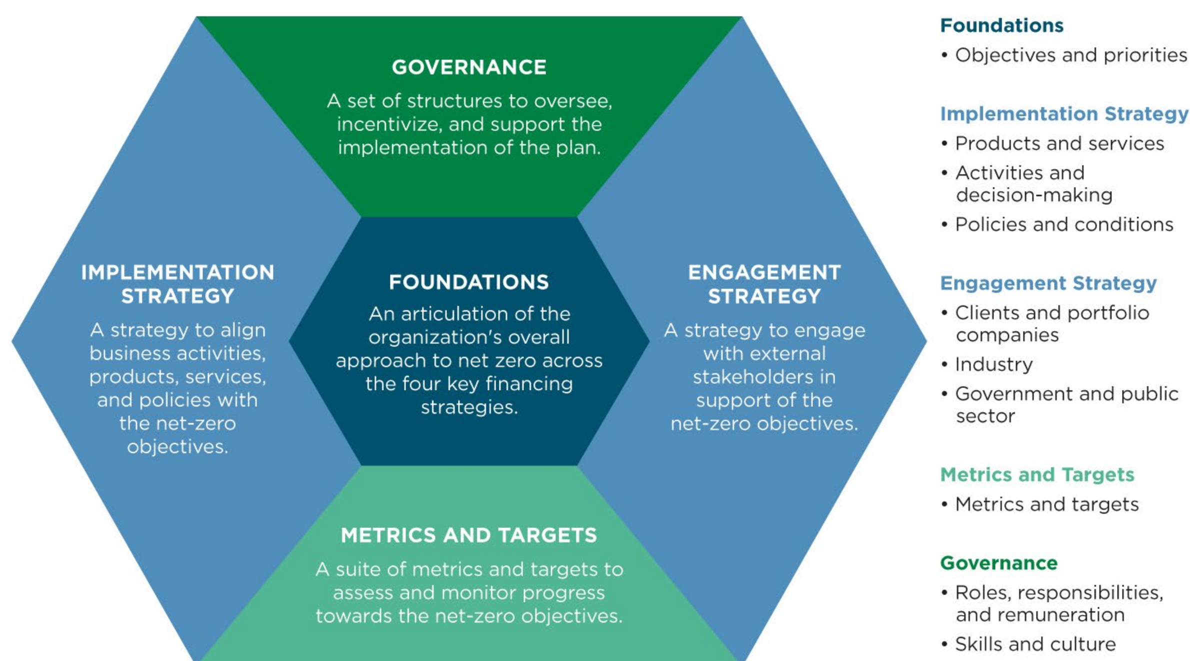
**Standard-setting frameworks for voluntary transition plans include:**

- Task Force on Climate-related Financial Disclosures (TCFD). The TCFD's 2021 *Guidance on Metrics, Targets and Transition Plans* builds on its earlier non-binding recommendations and gives initial guidance on transition plans (TCFD, 2021). The TCFD considers transition plans to be a key part of the strategy pillar of its four-part framework covering strategy, governance, risks and metrics. To effectively deliver net zero and respond to the physical risks of climate change, institutions will need two complementary plans: transition plans and adaptation plans. Key characteristics of effective transition plans, according to the TCFD, include embedding plans in relevant climate-related metrics and targets, provisions for effective governance, and inclusion of specific, actionable initiatives. Transition plans should be credible (meaning progress assessment should be possible) and regularly updated. As part of the plan, institutions should identify the risks faced in the transition to a net zero

economy. Disclosure should be made through annual reporting. Nonetheless, the TCFD recognises that not all transition plan information (e.g. some financial filings) may be suitable for broad disclosure. Moreover, the first guidance on transition plans from the TCFD is significant in two respects: first, the TCFD has become the benchmark for climate management and so including initial recommendations on transition plans will help to mainstream the development of this critical tool; second, an increasing number of jurisdictions are making TCFD disclosure mandatory and this could implicitly include its advice on the publication of transition plans.

- Glasgow Alliance for Net Zero (GFANZ). Established in April 2021, GFANZ is a voluntary coalition of more than 500 financial institutions, with assets over US$130 trillion, which have committed to achieving net zero greenhouse gas emissions by 2050 in support of the global transition to a net zero economy to limit global warming to 1.5°C (GFANZ, 2022a). GFANZ is built on seven financial sector alliances, including the UN-convened Net-Zero Banking Alliance. For GFANZ, transition plans are a key tool to translate these commitments into practical action. In June 2022, GFANZ issued its proposed guidance and recommendations for credible financial sector transition plans, including five key elements (see Figure 3.1). Importantly, GFANZ recognised the need to provide "microprudential and macroprudential regulators with insight into how financial institutions' transitions, individually and collectively, may impact firm-specific and sector-wide financial stability risks" (ibid.).

Figure 3.1. The GFANZ financial institution net zero transition plan framework




*Source: GFANZ, 2022b*

- Climate Safe Lending Framework (CSLF). The CSLF, operating in collaboration with the UN Principles for Responsible Banking Initiative, published a framework for assessing a "Good Transition Plan" in 2021 (Vaccaro, 2021). It recommends that these assessments include provisions on: (a) governance; (b) measurement, disclosure and reporting; (c) medium- and long-term target setting; (d) real economy engagement; (e) balance sheet decarbonisation and greening; (f) advocacy; and (g) best practice for business practices. In a departure from the TCFD's guidance, CSLF calls for a 'double materiality' perspective to be included in transition plans.

Voluntary, market-led initiatives are helping to stimulate banks and other financial institutions to develop transition plans. Nonetheless, this voluntary approach to transition planning – in the absence of binding standards – raises concerns over effectiveness and greenwashing (Ehlers et al., 2020; Schnabel, 2020). While market pressure to develop transition plans is motivating large cross-border banks to develop transition plans, their standard and focus remain uneven (see Box 3.1). As the recent controversies surrounding GFANZ membership show, banks that are part of these frameworks may also backtrack on their commitments without formal consequences. Meanwhile, disclosure-based (alignment) transition plans only tangentially

fall within the remit of prudential supervisors, limiting the application of any corrective tools that prudential supervisors could use (e.g. requests that banks improve their internal processes to manage transition risk). Supervisors may use such transition plans, however, as factors relevant for their assessment of banks' business models, affecting certain types of risk the institution is exposed to (including C&E and reputational risks). However, in the absence of a dedicated legal basis, their engagement with the assumptions behind such transition plans will likely be limited. Furthermore, the banks themselves emphasise that such assessments are distinct from C&E risk management (GFANZ, 2022a). The potential of disclosure-based transition plans is therefore limited from a prudential perspective and largely contingent on the institutional set-up.

### Type 2: Mandatory corporate disclosure transition plans

Mandatory transition plans are currently introduced in a number of jurisdictions as a matter of general non-financial disclosure. Specifically, with the Corporate Sustainability Reporting Directive (CSRD), the EU is about to introduce a requirement for all large and medium-sized firms to disclose a plan on how they intend to ensure that their business model and strategy are compatible with both the 1.5°C Paris Agreement goal and the EU Climate Law (and with the Climate Law's intermediate targets). This requirement includes, for example, implementation efforts and the related financial and investment plans (CSRD, Article 19a). In the UK, the Government launched the Transition Plan Taskforce in 2022 to develop a gold-standard approach for firms. Meanwhile, the International Sustainability Standards Board (ISSB) put forward *IFRS S2 Climate-related Disclosures* in 2022, proposing a transition plan framework with a focus on the climate resilience of an entity (ISSB, 2022).

These non-financial disclosures are not bank-specific and the detailed guidance on their content is relevant and to be followed by both financial and non-financial corporations. As a matter of market conduct, the preparation of these plans by firms will be overseen by market conduct authorities – for example by the European Securities and Markets Agency (ESMA) in the EU and the Financial Conduct Authority (FCA) in the UK. The substantive engagement by public authorities with the content of the plans, including on assessing plausibility of the assumptions made by financial institutions, would be significantly limited. Conduct authorities are not best placed or even suited to address concerns relating to the prudential treatment of C&E risks outlined in Section 2.

Banking supervisors, on the other hand, would only be able to include Type 2 plans in their assessment of a bank's business plan and strategy. However, the framing of the legal requirement is likely to limit supervisors' ability to determine whether banks appropriately assess the risks and opportunities from the net zero transition. This may be the case even when – as in the case of the disclosure rule proposed by the Securities and Exchange Commission (SEC) – transition plans are required to specifically outline the firm's climate risk management (SEC, 2022). An expansion of supervisors' mandate to cover these transition plans could solve this, but would likely be contested if it meant that the non-financial, non-prudential aspects of Type 2 would be assessed by supervisors whose primary mandate relates to financial stability. The principal avenue of engagement with the substantive elements of these transition plans (including on the selection of scenarios and on whether the promises are being meaningfully implemented) might come from litigation instituted by investors or civil society on the grounds of misrepresentation or in the context of directors' fiduciary duties as well as the required audit of the plans by assurance providers.

### Type 3: Prudential transition plans

While emerging market- or industry-led initiatives can help pave the way for widely accepted standards and regulation, they raise concerns over the risk of delayed action and greenwashing, inconsistent practices, lack of transparency and substandard levels of scientific rigour. They also draw the attention of supervisors, who are increasingly concerned with whether banks can adequately monitor and manage C&E risks (BIS, 2021, 2022; NGFS, 2022). Proposals for dedicated prudential transition plans (which we have designated as Type 3) are therefore emerging in this context as a forward-looking C&E risk management tool for prudential supervisors.

A growing number of leading central bankers have also signalled the importance that transition plans could have in managing environmental risks. In October 2021, for example, Frank Elderson, board member of the

European Central Bank (ECB), said that "banks need transition plans compatible with EU policies implementing the Paris Agreement, with concrete intermediate milestones" and that "if banks fail to meet these milestones, competent authorities – including prudential supervisors – will have to take appropriate measures to ensure that this failure does not result in financial risk" (Elderson, 2021). Similarly, the Governor of the Banque de France, François Villeroy de Galhau, has said that "banks should be required to publish transitions plans to be assessed by supervisors: a misalignment with the climate policy target could be seen as an indication of material transition risk – leading potentially to a capital add-on" (Villeroy de Galhau, 2022).

With new standards for C&E risk management already being introduced by the ECB, including the recommendations for the extension of the time horizon of supervision (Pisani-Ferry, 2021; EBA, 2021), prudential transition plans could emerge as a logical and consequential next step. The European Commission has already presented a proposal requiring banks to develop specific "plans and quantifiable targets to monitor and address the risks arising in the short, medium and long-term from the misalignment of the business model and strategy" (European Commission, 2021) with the relevant policy objectives of the Union or broader transition trends towards a sustainable economy – in other words, the EU's climate neutrality goals, which are enshrined in the Climate Law of 2021.

### Where can supervisors best play a role?

Type 3 plans would fall squarely within the remit of prudential supervisors (explained further in Section 4). In contrast to Type 1 and 2 transitions plans, the proposal envisions that banks be required to show in these assessments how they manage C&E and misalignment risks. This would in turn provide prudential supervisors with a clear entry point and mandate to apply prudential tools where transition plans do not meet the required standard. Under these Type 3 plans, supervisors would be well-equipped to test assumptions made and decarbonisation pathways used by the banks from the perspective of risk mitigation.

Nonetheless, banking supervisors can also play important roles with regard to Type 1 and 2 plans, particularly in jurisdictions where there is no dedicated binding requirement for banks to produce prudential transition plans. For example, supervisors could use Type 1 and 2 plans as input into other prudential tasks, but refrain from directly engaging with the methodology and assumptions concerning the transition formulated by banks. Nevertheless, given that corporate transition plans are already being introduced in some jurisdictions, with Type 3 plans potentially on the agenda further down the line (see Table 3.1), these early experiences will provide important lessons for moving towards prudential transition plans.

# 4. Prudential transition plans: the role for supervisors

Transition plans can serve the function of bringing distant alignment risks into the operational timeframe of supervisors, enabling them to overcome current obstacles to the effective supervision of the climate and environment-related transition exposures of banks. Prudential supervision has the objective of safeguarding the stability of the banking system, but the assessment and management of C&E-related risks raises new challenges. These risks have not occurred historically and will materialise over longer time horizons, which means that supervisors face new obstacles relating to, among other factors, complexity, the limited value of backward-looking risk assessment approaches, and the availability and quality of data.

This part of the report outlines why prudential transition plans are an essential tool for supervisors to achieve their micro- and macroprudential objectives. It then explores how supervisors could incorporate prudential transition plans into their conventional supervisory tasks; we outline three steps towards making effective use of prudential transition plans for supervision. The section concludes by describing the open challenges and consequences from transition plans becoming more prominent within the supervisory process.

## Prudential plans as an essential tool for supervisors

We distinguish three roles for prudential plans, discussed in turn below:

- **First, prudential transition plans can support the use of existing risk-based instruments,** guiding supervisory attention to weaknesses in the bank's management of C&E risk today. Transition plans can help identify material C&E risk on individual balance sheets and within the traditional supervisory time horizon.
- **Second, prudential transition plans provide supervisors with a tool to address risks that an individual bank will likely be exposed to if it continues to operate in line with a misaligned transition plan**. In this context, alignment can serve as a proxy for the materiality of C&E exposures that result from the bank's business model, sectoral orientation and strategy. A focus on alignment can complement a focus on material risk for C&E exposures that today elude existing risk-based instruments.
- **Finally, prudential transition plans are a granular and forward-looking tool that provides insights into the alignment of the financial sector as a whole.** These insights can have important financial stability implications, which may also merit the discussion on the use of systemic risk buffers.

### 1. Microprudential risks – alignment and short- and medium-term risks

Conventional microprudential supervision focuses on financial risks over the business or financial cycle, and therefore on short- and medium-term risks, with the aim of ensuring the stability of individual financial institutions (ECB, 2014).

Careful scrutiny of transition plans can complement existing microprudential approaches to identifying, on individual balance sheets, C&E risk arising from misaligned transition plans. These risks will typically materialise in the short and medium term, and from exposures that the bank has already originated or will originate within a typical supervisory timeframe of three to five years. A review of bank transition planning also fits the broader focus of the supervisory process on strategy and internal systems for risk management.

While supervisors are already developing and using forward-looking tools, including climate-related stress tests (some of which cover longer time horizons of up to 30 years and may include dynamic balance sheet assumptions), transition plans offer an important additional forward-looking tool. They allow supervisors to assess a bank's alignment with and potential divergences from the relevant policy objectives, potentially at any given point in time between now and 2050. They move beyond exposures of banks as a function of their current exposures to focus on how the C&E-related risks of their portfolios will evolve over time along specific trajectories. Using transition plans in this way can enable supervisors to identify excessive risk-taking and the resilience of the business model of a bank against competition and market developments.

### 2. Microprudential risk – alignment as a proxy for long-term risks

Where C&E risks resist quantification, the efforts that banks make to ensure they anticipate future risk can be a crucial proxy for the material risk that banks are exposed to now and in the future (NGFS, 2021; Boissinot et al., 2022).

As discussed, C&E risks are by nature extremely difficult to estimate with a high degree of accuracy, leaving room for banks to cherry-pick from different metrics, assumptions and methodologies. The timeline of risk from the transition to net zero is often difficult to assess, as different transition pathways imply very different levels of risk while the transition pathways are changing. Risks can result from the bank's future lending and investment decisions, while no individual transactions exist today for which supervisors would be overseeing risk. For that future period, banks have ample discretion to downplay risk. They could also make ad hoc assumptions, for example concerning increased regulatory capital that is yet to be acquired. Accordingly, it will not always be possible to test the forward-looking plans of banks against a narrow (single) materiality standard.

Transition plans could help supervisors identify ways in which the bank's transition planning itself is deficient, thereby raising questions about the adequacy of its risk management. In that role, transition plans could become an essential tool for enabling supervisors to assess the microprudential implications of the climate transition. Here, successful alignment of the bank's lending with likely transition pathways can serve as a proxy for C&E risks that cannot yet be quantified as a material exposure. A bank that operates on the basis of a misaligned transition plan is riskier than one that does not (all other things being equal), and therefore the act of identifying misalignment in itself provides information about bank safety. For the stability of the bank over longer time horizons, alignment with net zero may often be the best proxy available for the materiality of exposures.

In this context, supervisors would identify banks' transition plans that are insufficient, review their business model and ensure that risks from misalignment are adequately addressed, while respecting the flexibility of the bank's operations to cater for the uncertainty around the transition. Banks are complex institutions, which take years to successfully implement large organisational changes. Waiting until C&E risks are so large that they constitute clearly identifiable material exposures often creates the risk that supervisory intervention comes too late. Nonetheless, it is essential that supervisory interventions retain a clear prudential and risk-based rationale. Misalignment should be first and foremost approached as a source of future financial stability risk, which has implications for how transition plans feature in the supervisory process.

### 3. Macroprudential risks – aggregate alignment and systemic risks

Pervasive misalignment of the banking system with net zero transition pathways is a threat to the stability of the financial system as a whole (Mercure et al., 2018; van der Ploeg and Rezai, 2020; Semieniuk et al., 2021, 2022). Because C&E risks are difficult to quantify and manage using existing backward-looking methodologies, a misaligned financial system is itself a macroprudential risk.

In the short and medium term, transition plans could be aggregated to get a sense of the fragility of the system as a whole, which could in turn provide a rationale to increase systemic risk buffers. Generally, systemic risk buffers can serve as an additional capital requirement for the banking sector, implemented with the aim of preventing and mitigating systemic risks in the financial system and the real economy. As a system-wide buffer, they can be applied either for all banks or for groups of banks, or across subsets of sectoral exposures, and could also be applied to address C&E-related risks. Furthermore, a sectoral subset of exposures could be defined in terms of economic activity and/or geographical area. This targeted buffer could increase resilience against the potential materialisation of risks and could also introduce incentives for financial institutions to reduce their exposure to C&E risks. In addition to relying on broad measures for the banking sector as a whole, which can be inadequate for dealing with risk from misalignment by also penalising individual banks that have adequate transition plans, the supervision of transition plans could enable this more targeted use of macroprudential tools tailored to individual institutions.

The current discussion around the use of systemic buffers also highlights the challenges in calibrating these buffers (e.g. related to the trade-offs of a sector approach, the selection of sectors and the precise

calibration) and the possible unintended consequences such as fragmentation in the internal market and undesirable interference in the macroprudential policies of other countries (EBA, 2021).

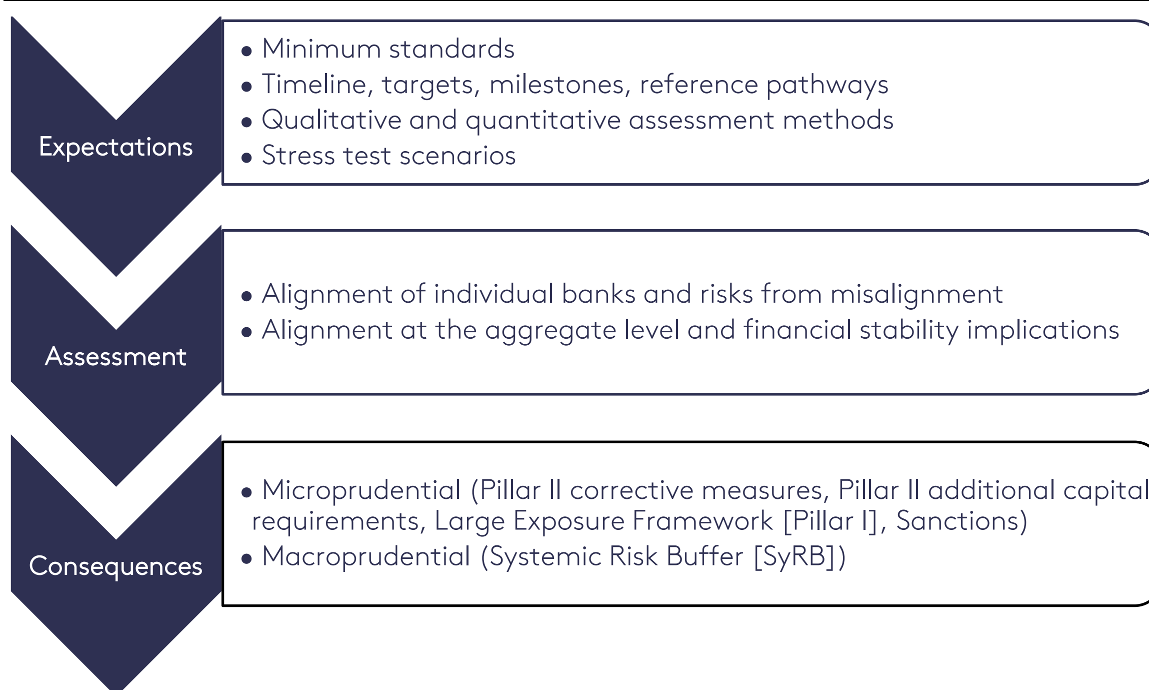
## Developing the framework for prudential transition plans

Properly designed, transition plans can play a role in ensuring that misalignment with a net zero future is identified, assessed and mitigated. Making transition plans effective for prudential purposes requires designing policy in three steps (Figure 4.1):

- Expectations by supervisors regarding the content of the transition plans
- Assessment by supervisors as part of a standardised process
- Consequences based on related supervisory powers (consequences of assessment).

The discussed policies would need to be implemented on an appropriate legislative level and in accordance with the existing mandates of supervisors, depending on the jurisdiction. Given the complexity of the task and the relevance of non-financial knowledge (i.e. environmental science), new supervisory powers would require a simultaneous increase in the internal capacities of supervisors (e.g. via the creation of 'climate centres'), new forms of inter-agency cooperation (e.g. with environmental agencies), and engaging relevant stakeholders (including civil society) to identify an appropriate approach.

**Figure 4.1. Integrating transition plans into the prudential framework – three steps**




*Source: Compiled by the authors*

### Step 1: Setting supervisory expectations for prudential transition plans

From an *ex ante* perspective, supervisors and policymakers would set out detailed expectations for the design of transition plans by banks. This would serve to ensure credibility and relevance of the transition plans for supervisory purposes, and would create a level playing field, ensure comparability between banks, and reduce heterogeneity in approaches to transition plans.

The purpose and basic elements of a transition plan typically would be specified at a legislative level. However, the legal framework will only offer the starting point for developing adequate supervisory expectations and practices. Consequently, supervisors and regulators would have to develop clear guidelines for how banks are expected to formulate their transition plans.

The formulation of a transition plan that is 'fit for prudential purpose' entails three stages:

a. Selecting the scenarios and transition pathways that institutions would take into account in designing their transition plans

b. Gathering banks' portfolio projections and assessing the risk of misalignment

c. Identifying measures taken by banks to mitigate the risk.

### The selection of scenarios and transition pathways

Science-based transition scenarios and pathways that lead to net zero by 2050 provide a logical starting point for transition planning. To ensure effective transition planning, policymakers would have to set out detailed guidance on the relevant methodology and metrics (which the EU intends to do, as described in Section 3). The transition scenarios would need to cover climate change, policy and expectations related to technological transition. The latter would also include sectoral pathways against which the bank portfolios could be assessed.

*Net zero targets and transition pathways*

Banks would need to define net zero targets and transition pathways they expect their portfolios to develop in the future with reference to the 1.5°C goal of the Paris Agreement or specific climate policy goals in a jurisdiction. In the EU, for example, this would be an intermediate emissions reduction target of 55% on 1990 $CO_2$ emissions by 2030 and climate neutrality by 2050. Supervisors would provide detailed guidance on the short- and long-term metrics in relation to the 2030 and 2050 climate change mitigation targets.

Formulating effective expectations requires bringing together the expertise of micro- and macroprudential supervisors as well as economic and environmental policymakers. A particular challenge stems from the need to translate a government's expected transition pathway into guidance that financial institutions should plan for. In some jurisdictions, this role may be outside of supervisors' mandates. Although high-level emission reduction objectives may have a solid footing, transition policies often remain unclear. Once these policies are enacted, however, they may have material consequences for bank investments and the real economy. Moreover, asking supervisors to play a guiding and advisory role in helping financial institutions to effectively anticipate transition pathways would create significant additional responsibility and may well be considered to be outside the mandate of many. In this case, supervisors would have a strong interest in the creation of an appropriate forum to develop guidance on the required scenarios and alignment measurement methodologies.

*Scenarios*

There is a need for both baseline and adverse scenarios that set out material C&E-related factors for the bank in the short, medium and long term, across relevant geographical scales and sectors. The scenarios used in transition plans would have to be science-based and fit for prudential purpose and ideally would also refer to national and international targets and capture all jurisdictions that have material exposures. At the moment, banks are using International Energy Agency (IEA) scenarios – including ones that presuppose not meeting the net zero target. Going forward, the NGFS scenario framework can provide a critical point of reference, given also the prudential origin and wide representation of NGFS members. Sectoral pathway scenarios used for prudential purposes would also have to incorporate regional considerations, including the entry into force of dedicated sectoral standards and laws implementing a climate neutrality goal (e.g. new energy efficiency standards or fuel standards). Given the prevailing uncertainty around future transition pathways, banks could, for example, be asked to select the scenarios and sectors that have the greatest adverse effect on their portfolio to calculate their potential exposure to transition risk.

While transition plans made by financial institutions to date have mostly adopted a sectoral perspective, future transition plan design – in light of advances in technological data analytics – would have to be developed at a higher degree of granularity than now. Banks would benefit from increasingly drawing on corporate-level data to identify the C&E risks from the economic activities and counterparties within sectors they are exposed to. Corporate transition plans can play a crucial role in this context. The transition plans of banks would incorporate data from the transition plans of its corporate customers (and potentially also other private customers). These transition plans, disclosed as a general corporate governance requirement,

could play an auxiliary role, allowing for a holistic assessment of the bank's risk strategy. The bank's reliance on these plans, in turn, could create more market scrutiny of corporate transition plans. To this end, supervisors, in collaboration with other public agencies responsible for guiding the industrial transition, would formulate specific expectations regarding the engagement by the bank with counterparties, depending on the respective C&E risks and exposure to transition risk (for example, on the basis of the level of emissions of an entity).

*Assessment of banks' portfolio projection and risk of misalignment*

Building on the scenarios, supervisors would indicate how banks are expected to present how they anticipate their evolving business portfolio allocation to align with the transition pathway. This would be based on forward-looking quantitative metrics and targets (e.g. scenario analysis) provided by the disclosure of the underlying corporates they are exposed to. While assessing the plans for all corporates individually may be too burdensome, it is important to consider the principles of materiality and proportionality. The portfolio projection requires banks to also specify their long-term strategy and client engagement.

In their expectations, supervisors would set out how transition plans would require varying levels of granularity depending on the time horizon, to cover both short- and long-term risks to financial institutions from the transition. For cross-border banks, the assessment could be done at both the individual and consolidated level. Including multi-year milestones for transition-relevant economic sectors, companies and economic activities would add greater granularity and enable supervisors to steer the financial sector towards achieving an orderly transition towards net zero. This graduated approach would also enable supervisors to assess whether banks and non-financial corporates are backloading their climate mitigation action, and therefore increasing their exposure to short-term transition risks.

Finally, portfolio alignment and proper assessment of misalignment risk hinges on banks having appropriate governance practices. Therefore, assessment of alignment would need to entail a forward-looking strategy and business model analysis, specifying *inter alia* management and client processes related to transition. At management level, bank transition plans should be treated as a matter of risk strategy (including involving risk committees where appropriate). The time horizon requires transition plans to be a part of the forward-looking strategy of the bank, shaping its business model to be compatible with a sustainable economy. Supervisory expectations would extend in this regard to management and board membership, to ensure adequate capacity at the strategy level of the bank. Nevertheless, procedure for formulating transition plans would have to engage various parts of the bank (operational, accounting, legal) to ensure adequate mainstreaming and inbuilding of sustainable transition thinking throughout the firm. Given that a successful transition hinges on real-economy transformation, transition plans would also outline the processes of engagement with bank clients (e.g. specifying a requirement for client transition plans for large or environmentally-impactful corporates).

The transition plan approach, as argued above, would also adopt a double materiality perspective. Given the forward-looking perspective of transition plans as a prudential tool, transition plans by definition would not only be concerned with the assessment of risk to the bank from C&E risks, including transition risks, but would also look at the impact that bank lending has on accruing environmental risks. The presence of misalignment provides important insights into the financial stability of individual banks and the banking system as a whole.

Policymakers would set out standards for the identification and assessment of C&E risk exposures by the bank that result from misalignment. This requires a detailed overview across current portfolios and their future development and an explanation of evolving risk management practices around climate risk. To ensure proportionate application, supervisors could differentiate these requirements depending on the institution's size, the scale, nature and complexity of the C&E risks, and the scope of the institution's activities.

*Measures to mitigate misalignment risk*

The final part of this first step is for transition plans to incorporate the bank's evolving efforts to ensure its strategy and evolving risk management mitigate future risk of misalignment. To this end, supervisors would have to formulate expectations for how banks adapt their operations in light of their annual transition plans. This would likely take the form of an iterative dialogue, where banks discuss measures taken in light

of previous transition plans and to be taken to improve future alignment. This process should allow for an assessment of the progress made and drawing lessons regarding the credibility of the bank's net zero transition as a matter of strategy. This entails elaborating how the financial institution expects to mitigate future climate-related transition risks (e.g. Miller and Dikau, 2022). To that end, banks would have to build capacity and develop long-term strategies for exposed sectors, financed activities and product offerings. In addition, an estimate of their future exposure to risks at various time intervals in reference to important milestones and yearly targets for economic sectors would be provided (e.g. 2025, 2030, 2035, 2040), as well as for different scenarios, including baseline and adverse scenarios.

### Step 2: Conducting a supervisory assessment of transition plans

As a second step, a comprehensive review process by supervisors would enable the identification of pockets of risk from misalignment and disorderly transition. This also builds on the supervisory expectations for banks to outline their minimum standards and reference methodologies, focus areas, level of granularity and the time horizon of their transition plans. The discussed components of prudential forward-looking transition plans would provide supervisors with information on the level of financial institutions' risk exposure and help to overcome the current mismatch in time horizons between climate risks and prudential supervision.

Such an assessment could become an integral part of the supervisory review process (and fit under Pillar II of the Basel regime for prudential supervision, as part of which supervisors evaluate how well banks assess their capital needs relative to their risks and take measures, where appropriate). This kind of supervisory assessment remains the appropriate tool given that it enables the supervisor to develop an idiosyncratic assessment of banks' risk exposures and leaves space for extending the time horizon of the supervisory process (EBA, 2020; NGFS, 2021).

The information provided by the transition plans would enable supervisors to assess the risks arising from a possible misalignment with the transition pathway, potentially at any time, and to take appropriate action to mitigate the risk for financial institutions that fail to reach defined milestones. Important caveats include that there may be less clear-cut cases where the supervisor cannot say if there is a misalignment or how much misalignment exists, as well as cases where there is more than one transition pathway, which would create the need for more flexible supervisory responses.

The supervisory assessment of transition plans would have the aim of determining whether financial institutions have done enough to take into account the economy's transition, changing sectoral composition, policy changes, innovation and changing production techniques, and the associated changes in consumer preferences.

First, supervisors would assess the alignment against climate policy targets with the aim of establishing a quantitative basis for examining individual banks' exposure to transition risk. From the transition plan, banks would disclose their portfolio [mis]alignment based on current and expected carbon intensity performance (or another suitable metric) against climate policy targets.

Second, the assessment would focus on the development of risk management and governance processes at financial institutions to identify, monitor and mitigate climate risk through their portfolio exposure. Transition plans would have the aim of enabling supervisors to understand banks' evolving development of capacity to assess climate risk and integrate the longer-term transition plan objectives into operational decision-making. The forward-looking assessment of banks' risk management practices in conjunction with their quantitative exposure would introduce a qualitative aspect to examining banks' climate transition risk, enabling supervisors to assess transition risks without establishing a quantitative measure of risk for banks' individual exposures.

Where banks' portfolio exposures are not aligned to climate and policy pathway targets, banks would be asked to disclose how they assess and mitigate these risks, as well as their future strategy in managing transition risks. Consequently, the supervisory assessment of transition plans is inherently linked to banks' long-term strategy and business model. While such a supervisory assessment should be limited by deference to business judgement and property rights, adequate corrective measures and exercise of appropriate supervisory powers would be necessary to ensure adequate mitigation of transition risks (see Section 2 above).

Supervisory assessment, while remaining part of the supervisory review process, could also entail cooperation between different financial supervisors and other government agencies, depending on the organisation of tasks within a specific jurisdiction.

Banking supervisors could also use information from non-financial disclosures of banks' net zero plans and other climate pledges in their assessments. The non-prudential disclosures also have a bearing on banks' risk profiles, and in particular operational and reputational risk. Bank supervisors would have to work in this regard towards developing joint and coordinated approaches with market conduct supervisors.

While the microprudential supervisor would remain in the driving seat for the purpose of transition plan assessment, there should be an efficient information flow and the input of specific agencies should be decisive in matters regarding science-based assessments. For example, environmental agencies could be consulted with regard to net zero scenarios, facilitated through dedicated Memoranda of Understanding.

As outlined above, prudential transition plans could also feed into macroprudential policy. Transition plans at an aggregate level could enable the assessment of banks' exposure to certain sectors and activities under scenarios that present the greatest systemic risk. Aggregating transition plans would thereby enable monitoring of the aggregate exposure of banks to individual corporates which may pose material risks to the financial stability of the banking sector.

For banks operating across borders, supervisory colleges, which are structures comprised of an international bank's 'home' and 'host' supervisors, play an important role. Dedicated cooperation between home and host supervisors around the transition plan process would have to be established, bearing in mind local financial stability concerns. Such cooperation would ensure appropriate information exchange and coordination of assessment at the level of the entity and at the consolidated level (BIS, 2021).

### Step 3: Mitigating risks from misalignment by introducing supervisory consequences

To mitigate the identified risks, and for transition plans to play a meaningful role, enforcement and potential sanction mechanisms are critical. Accordingly, supervisors would need to have appropriate powers to scrutinise banks' transition plans and address identified risks where there is misalignment and ensure these are effectively mitigated. Supervisors could address identified risks through various avenues and powers from the applicable micro- and macroprudential toolboxes.

#### *Using the microprudential toolbox*

Prudential plans, as outlined above, can be used as a Basel Pillar II (supervisory review process) instrument, to help diagnose the risk that the bank is exposed to as a consequence of misalignment. Where banks are misaligned, supervisors would need to make a careful assessment concerning the appropriateness of corrective measures and, for example, the possible need to hold additional capital to reflect the risk that the bank is exposed to. In the context of Pillars I and II, supervisory requirements and guidance would serve to ensure that misalignment risks are mitigated and managed appropriately. Under Pillar III, banks could be required to disclose their methodology and metrics for calculating their quantitative exposure to transition risk. This would encourage best practice in the way banks submit transition plans and provide supervisors with additional insight.

#### *Pillar I*

Although the existing Pillar I frameworks currently do not contain dedicated provisions for C&E risk and transition plans, there is no *a priori* obstacle to this. Going forward, expectations for transition plans and consequences for misalignment could be incorporated into Pillar I. However, incorporating misalignment into Pillar I through dedicated risk-weighted assets (RWA) for transition risk raises important practical obstacles. First, this would require a quantitative way of mapping transition risk to individual exposures, which faces numerous obstacles (see Section 2). Second, it would potentially reduce the flexibility of the prudential framework.

#### *Pillar II corrective measures*

Since the assessment of transition plans takes part in supervision, the prudential framework also offers the most immediate levers to address identified misalignment risks. Where scrutiny of transition plans leads to diagnosing inadequate management of transition-related financial risk, supervisors already have a range of

corrective measures at their disposal that could be used in the context of transition plans. Supervisors can require the bank to strengthen risk management, apply internal limits, strengthen the level of provisions and reserves (funds set aside as assets to pay for anticipated future losses), and improve internal controls (BIS, 2019).

Transition plans provide insights not only into a bank's management of risk but also into whether the board as a whole has sufficient knowledge, skills and experience. If there is inadequate planning, management risks being able to fulfil their functions in the face of a rapidly changing economic transition. In this context, supervisory corrective measures could include requiring senior members of the bank to attend additional training such as a climate awareness course to increase their understanding of climate-related risks (Miller and Dikau, 2022). In cases of serious concerns about the misalignment of bank portfolios and strategies with the net zero transition, supervisors could explore requesting a change in the composition of senior management or the board to ensure representation of adequate climate and sustainability transition expertise.

Specific supervisory sanctions could be extended to the remit of transition plans, such as banning dividend payments[2], or publicly naming banks that have inadequate plans to enable the market to price-in misalignment risks. An assessment linking banks' transition plan performance over time with additional and deferred release of bankers' bonuses could provide an additional incentive for consistent implementation of the transition plans over an extended period.

*Pillar II additional capital requirements*

Misalignment is a prudential concern since it exposes the bank to financial risk, raising the prospect of using transition plans as the basis for imposing additional capital requirements in various ways. Under Pillar II, which already covers banks' forward-looking risk horizon using stress tests and additional disclosure, the incorporation of transition plans can extend the supervisory risk assessment timeframe to allow for the inclusion of climate transition risks. Moreover, Pillar II focuses on the risk management practices of banks, which aligns with the supervisory assessment outlined under Step 2 of the proposed prudential transition plan framework.

Consequently, in cases where transition plans are assessed to be inadequate, supervisors could introduce a capital surcharge within the bank's Pillar II requirements or guidance (either through concentration risk or the risk management and governance scalars). This would require or strongly incentivise banks to increase the regulatory capital to mitigate the risks from their portfolio exposure.

*Large exposure framework*

A 'soft' large exposure limit could be introduced for the aggregate large exposures to relevant climate transition-sensitive sectors, activities and geographical locations, which if exceeded would require firms to submit a transition strategy (Miller and Dikau, 2022). Specific sectoral lending limits could be foreseen on this basis. Credit ceilings, similarly, could be applicable across all bank exposures in accordance with perceived misalignment.

*Using the macroprudential toolbox*

Transition plans could also enable supervisors to adjust their macroprudential policy frameworks and specifically Systemic Risk Buffers (SyRB). Given the long-term horizon of transition plans and pending macroprudential assessment, SyRB can help prevent and mitigate long-term, non-cyclical systemic or macroprudential risks arising from C&E risks and transition misalignment risk. SyRB can be applied across certain sets or subsets of exposures, for instance those subject to transition risks related to climate change (European Commission, 2021). Moving beyond this narrow focus on individual exposures, supervisors could potentially also be granted macroprudential powers to intervene more directly when banks are misaligned and are contributing to financial stability risks. However, more work is needed to calibrate these metrics and address the risk of market fragmentation and spillover effects.

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[2] E.g. under the CRD IV's concept of Maximum Distributable Amounts, which requires financial supervisors to restrict earnings distribution if a bank's total capital falls below the sum of its Pillar I, Pillar II and CRD buffer requirements.

## Challenges and unintended consequences

In developing their prudential expectations for transition plans, supervisors would also have to be mindful of several possible challenges and unintended consequences. In particular, there are issues relating to data availability, relevant expertise and capacity constraints, plus unintended market impacts from transition plans.

### Limited data quality and availability

The effective implementation of transition plans for financial institutions depends on the availability, wide coverage and granularity of climate-related data on non-financial corporates, which is subject to significant gaps. Additionally, mandatory non-financial corporate climate disclosure frameworks, such as the UK's announcement of mandatory TCFD disclosure for all large corporates (UK Government, 2021) or the EU's CSRD regime, have not yet been implemented. The substantial gaps in available data for banks to identify, assess and report their climate transition risk exposure hinders banks' ability to conduct scenario analysis or examine current and future climate policy targets. To mitigate this limitation, the necessary data collection should be incorporated into expectations for transition plans, thereby ultimately also leaving it up to banks to gather the data required to properly manage exposures, while taking the uncertainty on the transition pathways at national and international levels into account.

Prudential transition plans will have to be based on comprehensive datasets. This provides a challenge for financial institutions and supervisors. Granular climate-related disclosure from the underlying non-financial corporates that includes scenario analysis (similar to the TCFD's) and information on the alignment with climate policy targets and sectoral pathways are necessary prerequisites. Within corporates' climate disclosure, specific metrics for current and expected carbon intensity by sector are required for the assessment of alignment to climate pathway targets (with intensity measured as $CO_2$ per revenue ton kilometre or $CO_2$-equivalent per ton, etc.). Beyond this, additional metrics and disclosure from non-financial corporates could be introduced to assess the credibility of stated future mitigation efforts. Efforts under scrutiny could include a reliance on offsetting measures to achieve near-term emissions reductions, and CAPEX to observe future expected investment in transitional activities; the emissions reductions expected from these mitigation actions would also be studied, as well as a breakdown of mitigation action and expected emission intensity reduction from each type of mitigation action.

### Lack of expertise and capacity limitations

The vastly extended time horizon and the new types of risk that the transition exposes banks to create new challenges for supervisors. Sector- and activity-specific expertise is required to comprehensively understand the origin, size and materiality of transition risks, which will originate within transition-sensitive sectors of the real economy – including within the Climate Policy Relevant Sectors (CPRS) (see Battiston et al., 2017) – from where they may spill over into the financial sector. While financial supervisors have in-depth expertise on financial institutions, markets and instruments, they might lack similarly detailed expertise on the real economy, as well as an explicit mandate to exercise such expertise. A detailed understanding of the changing interconnections and interdependencies between sectors in the real economy is necessary for the effective supervision of transition risks. For example, supervisors cannot assess the complex transition risks of the agricultural sector without having a strong grasp of the interconnected biodiversity and climate risks it exposes the banks to (NGFS and INSPIRE, 2022). Furthermore, the transition from a dependency on fossil fuels to renewable energy entails a new dependence on critical minerals crucial to the production of green energy generation and storage technologies, which is also subject to complex sectoral and supply chain dependencies, with implications for prices and financial risks that will have to be understood by supervisors (Miller et al., 2022).

Global financial authorities' networks, such as the Basel Committee and the Network for Greening the Financial (NGFS), can play an important role in addressing this challenge. Deepening inter-agency cooperation (cross-border, micro/macroprudential and between financial supervisors and environmental agencies) can also help alleviate knowledge gaps. Appropriate resources need to be made available to this end from state budgets. Technical assistance from multilateral institutions can facilitate the development of capacity in less developed markets.

### Unintended consequences and related risks

Incorporating transition planning into the heart of the supervisory process would constitute a significant step in the evolution of current supervisory practice. It could, therefore, also lead to far-reaching changes in how the financial system operates. By supporting the transition to net zero by 2050, the regulatory scrutiny of banks' transition plans would also have pervasive effects on the real economy. Accordingly, there are a range of potential risks and unintended consequences that would need to be monitored closely as new supervisory practices are adopted and existing ones changed.

First, the introduction of mandatory transition plans, and the supervisory consequences that could follow from an assessment that identifies misalignment, could have adverse impacts on specific 'strategic sectors' due to reduced access to funding from banks and a higher cost of capital that may hinder their efforts to transition to low-carbon activities. The relevant sectors include: housing, where raising capital requirements based on mortgage lending to energy-inefficient houses may raise the cost of mortgages; emission-intensive mining and quarrying, given the negative environmental impacts; and other 'hard-to-abate' sectors, including manufacturing sectors that currently lack affordable low-carbon alternatives. In this context, the proposed bottom-up (as opposed to sector-level) approach to assessing transition risk in the banking sector would enhance the effectiveness of risk assessment approaches. Furthermore, the required collection and provision of climate-related data in exchange for access to finance could have negative implications for small and medium-sized enterprises (SMEs). This could undermine efforts to achieve a 'just transition' if the cost of disclosing climate-related data proves to be too costly for SMEs, which may face higher costs of capital and being 'left behind' in the transition.

Third, the increased scrutiny of banks could lead to a migration of risk to other parts of the financial system. For example, it has been shown that, rather than taking C&E risks on board, banks seek to arbitrate around climate policies in cross-border lending (Benincasa et al., 2021). Similarly, activities most exposed to transition risks could be moved to non-bank sectors of the economy, thereby dispersing risk but not necessarily improving macro-level stability. Likewise, a narrow focus on early alignment may lead to rapid sell-offs of certain assets, which may induce instability in the financial sector. To address and mitigate these potential consequences, transition plans could be used to promote client engagement and meaningful C&E risk transition advice, which could also present a new and attractive business opportunity for banks.

The interplay and sequencing of the different transition plans outlined in Section 3 offers an opportunity to mitigate the various challenges outlined above, *inter alia* through iterative learning as well as exchanges and peer learning between the different supervisory authorities. There is an opportunity here for further engagement as well as the involvement of market conduct authorities in the emerging networks for oversight of sustainability issues in the financial sector, such as the NGFS.

# 5. Integrating 'climate-neutrality' transition plans into EU prudential frameworks

The question of the prudential role of net zero transition plans is particularly relevant in the EU, which is currently working on transition plans along two tracks. A transition plan requirement has first been incorporated into the non-financial corporate disclosure framework with the new Corporate Sustainable Reporting Directive (European Council, 2022), and second is being introduced as part of the ongoing revision of the Capital Requirements Directive (European Commission, 2021).

This section outlines the content of these legislative reforms and existing supervisory action, and explores how such transition plans could feature in the supervisory assessment of prudential transition plans and broader supervisory oversight efforts. Following the structure of the framework laid out in Section 4, three steps for EU prudential supervision are discussed.

### Prudential transition plans in the EU's regulatory framework: progress to date

The two tracks of EU legislative initiatives on transition plans focus on general corporate disclosure requirements and more targeted microprudential requirements. These combined initiatives build on the European prudential authorities' position, which is at the forefront globally of the drive towards supervisory transition planning.

The EU is putting in place disclosure requirements for general corporate net zero alignment as part of an overhaul of the non-financial disclosure and due diligence framework. Two legislative proposals – the Corporate Sustainability Reporting Directive (CSRD) in 2021 and Corporate Due Diligence Directive (CDDD) in 2022 – require large corporates in the EU (including banks) to prepare and disclose transition plans. The CSRD is expected to come into force in 2023, while negotiations on the CDDD are still ongoing. In these mandatory transition plans (corresponding to Type 2 in our typology), firms will be required to disclose:

> ...implementing actions and related financial and investment plans, to ensure that its business model and strategy are compatible with the transition to a sustainable economy and with the limiting of global warming to 1.5 °C in line with the Paris Agreement and the objective of achieving climate neutrality by 2050 as established in Regulation (EU) 2021/1119 (European Climate Law), and where relevant, the exposure of the undertaking to coal, oil and gas-related activities.
>
> (European Council: Article 19a)

As a non-financial corporate disclosure, these transition plans will fall within the scope of the responsibility of national enforcers (market conduct authorities), with the European Securities and Markets Authority (ESMA) facilitating convergence but having a less formal role beyond that. As discussed below, transition plans could feature in the assessment of prudential transition plans and broader supervisory oversight efforts (see also Section 3).

The second track of the EU's regulatory push falls squarely within the bank microprudential rulebook, as it is part of the Capital Requirements Directive (CRD). In its 2021 Banking Package, the European Commission proposed that banks integrate long-term transition planning into their risk strategy and internal governance procedures. This requirement explicitly targets risks that emerge from misalignment of bank balance sheets from the transition to a sustainable economy and the EU's climate objectives (for 2030 and 2050).[3] Specifically, prudential plans would become part of a transition-enhanced Supervisory Review and Evaluation Process (SREP). This proposal has been welcomed by the ECB, which praised the positive impact of such plans on transparency of environmental, social and governance (ESG) risk exposures and banks' ability to integrate such considerations into their strategies (ECB, 2022). The link to prudential supervision in

[3] The EU's microprudential transition plan proposal adopts a wider environmental, social and governance (ESG) perspective as regards the risks of misalignment with the broader transition to a sustainable economy. In this report we focus on the 'E' aspect as regards climate change mitigation (the 'net zero' objective) in particular. The framework could be nevertheless extended to broader environmental issues (biodiversity) as well as 'S' and 'G' factors once adequately defined.

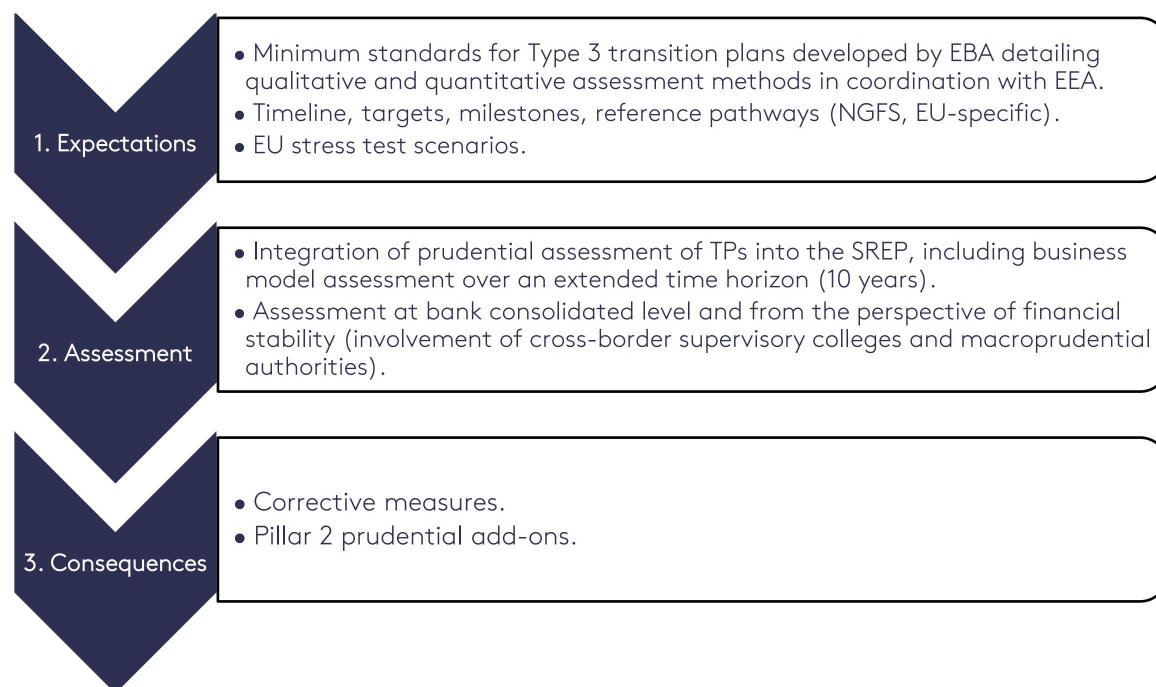
the ECB's assessment is clear, as the inadequacy of transition plans may have a bearing on banks' idiosyncratic reputational risks as well as on market risks more broadly, potentially requiring decisive and immediate short-term action to mitigate such long-term impacts (ibid.).

The ECB has already taken important steps to better incorporate C&E risks into its prudential processes. In 2020 the Bank published a guide on how it expects banks to deal with their C&E risk exposures (ECB, 2020), in which it commits to assessing banks' exposures to C&E risks with regard to banks' strategy, governance, risk management and business strategies. C&E risks are incorporated into the supervisory assessment in terms of their relevance for traditional risk categories (e.g. credit risk). However, the ECB's non-binding expectations include provisions for banks to adopt a "forward-looking approach and consider a longer than usual time horizon" in their risk management (ibid.). The guide was followed by a series of subsequent reports and assessments by the EU's Banking Union supervisor, wherein the ECB found banks' C&E risk disclosures to be inadequate (ECB, 2022). This suggests that the ECB intends to make C&E risks a permanent feature of its supervisory dialogue with the banks. A report by the ECB and the European Systemic Risk Board (ESRB) on macroprudential climate change stress tests emphasises the added costs and financial instability risks of delayed transition and the position that early action will contain future C&E risk-related financial instability (ECB, 2021a). By documenting inadequate transition planning, the ECB is paving the way for more hands-on supervision of transition plans.

## Next steps for the EU to fully integrate prudential transition plans

In employing the three steps developed in Section 4, there are concrete steps European banking supervisors can take to incorporate upcoming mandatory transition plans into their supervisory framework by integrating supervisory expectations, assessments and consequences. These are illustrated in Figure 5.1 and described below.

Figure 5.1. Integrating transition plans into the prudential framework




*Source: Compiled by the authors*

### Step 1 for the EU: Setting the supervisory expectations for transition plans

The EU framework sets out detailed guidance on the content of the Type 2 non-financial disclosures, as well as the envisioned Type 3 prudential transition plans that would be developed by the European Commission and the European Banking Authority (EBA) respectively. As the EU's banking regulator, the EBA is well-placed to develop the prudential dimension of bank transition plans and formulate the general

framework for scenario and transition planning based on the three steps outlined in Section 4. The EBA has already identified that aligning portfolios with the Paris Agreement scenario of limiting warming to 2°C or below is a potential risk management tool for C&E risk. However, as the EBA's overview of bank practice shows, as yet this methodology has largely been used in bank practice outside of risk management processes (EBA, 2020, 2021).

Pending the approval of the EU's 2021 Banking Package (European Commission, 2021), in the future the EBA would be required to develop minimum standards and reference methodologies for the identification, measurement, management and monitoring of ESG risks. It would also play a role in setting the standards for the transition plans' content, including specific timelines and intermediately quantifiable targets and milestones. This would allow supervisors to assess whether banks have addressed the misalignment risks of their business model and strategy with the relevant policy objectives of the EU, or broader transition trends towards a sustainable economy in relation to ESG factors. Supervisors would be assisted here by EU-level qualitative and quantitative criteria for the assessment of the impact of ESG risks on the stability of individual institutions in the short, medium and long term (see proposed Article 87a[5] CRD VI in European Commission, 2021; Elderson, 2022). EBA guidance, coupled with supervisory expectations, could lead banks to see portfolio alignment as a forward-looking risk management instrument rather than a CSR measure.

With regard to the portfolio projection and scenario pathways, the EU could also promote the use of NGFS scenarios in addition to the ones from the IEA, and provide clear guidance on the appropriateness of the different available scenarios. A dedicated multi-level procedure would need to be in place for formulating expectations regarding the selection of scenarios and alignment measurement methodologies involving micro- and macroprudential supervisors as well as EU environmental agencies. Scenarios used by EU supervisors should assume timely adoption of relevant EU legislation (e.g. the 'Fit for 55' package) to inform the relevant sectoral pathways.

Bank transition plans would also have to be made consistent with the Pillar III ESG disclosures detailed in the forthcoming EBA Implementing Technical Standard (EBA, 2022: Article 449a CRR2). These disclosures already require an identification of qualitative and quantitative exposure assessment with regard to ESG risks, climate change transition risk, climate change physical risks, and "quantitative information on mitigating actions on climate-change related risks" (ibid.). These disclosures would also aid supervisors in their assessment of the transition plan, during which they would also look at other 'green' financial metrics of banks such as the Green Asset Ratio (the balance sheet alignment with the Green Taxonomy; EBA, 2022) and – in the future – 'Extended Taxonomy' (transition finance) measures.

Within the scope of this supervisory guidance, the ECB would play a critical role in guiding the banks in the phase preceding the entry into force of such a requirement, following a forward compliance approach (Armour, 2018). For example, with regard to the assessment of current C&E risk exposures, the ECB could draw on the existing AnaCredit database on euro area credit data with regard to sectoral activity (looking at analytical credit datasets [Nieto, 2019; Ferretti, 2019]) and could specify transition-related C&E risk disclosure standards in appropriate additional regulation.

Developing adequate expectations requires detailed knowledge of the EU's evolving transition pathways. For this reason, dedicated EU agencies such as the European Environmental Agency (EEA) should be consulted, and knowledge developed of any new risks emerging due to climate change- and other environment-related factors. Cooperation between agencies would be particularly helpful in defining intermediate targets for the financial sector (see ECB, 2022). Such a knowledge exchange could be formalised through dedicated Memoranda of Understanding between EU agencies.

Moreover, expectations concerning measures to mitigate and minimise misalignment risks could be made sufficiently flexible to allow banks to adapt the solutions to specific contexts and business models. Given the centrality of the real economy's transition and the special role banks will play in this regard, policymakers would also have to provide guidance on banks meeting specific requirements in working with clients and counterparties (including on the transition of the counterparties).

### Step 2 for the EU: Conducting a supervisory assessment of transition plans in the EU

European supervisors could revise the existing supervisory process with a focus on assessing banks' transition plans. In the EU, Type 3 transition plans would fall squarely within the remit of banking supervisors, meaning there is greater scope for supervisor-led approaches. The SREP process and the respective EBA guidelines could be amended to incorporate a transition plan assessment process along the standard components of internal governance assessment, including the overall internal governance framework, functioning of the management body with regard to transition planning, corporate culture with regard to ESG issues, remuneration policies and so on. The supervisors would conduct business model analyses with an extended transition time horizon. These assessments could include, as already proposed by EU lawmakers, sustainability-related product offerings, transition finance policies, related loan origination policies, and ESG-related targets and limits (European Commission, 2021: Article 87a[4] CRD proposal).

To meet the challenges of transition plan assessment, the EU could develop dedicated multilevel inter-agency coordination, firstly across financial sector oversight agencies and secondly through cross-border cooperation between supervisors:

- First, while the aggregation of transition plans could be used to inform supervisors about financial stability and therefore alert them to any macroprudential policy implications, individual transition plans alone are unlikely to provide sufficient information on compounding transition risks. A Pillar II 'alignment approach' would grant the supervisors further-reaching powers in assessing the viability of banks' approaches in a forward-looking manner. Furthermore, thematic reviews of transition plans conducted with the purpose of capturing insights into the risk patterns observed across the participating Member States would facilitate macroprudential assessment. The macroprudential assessment would ideally also entail cooperation across financial market segments. In this context, the ECB would have to work with the Joint Committee (EBA, ESMA, European Insurance and Occupational Pensions Authority [EIOPA]) and engage national conduct supervisors, with due respect for respective mandates. Banking supervisors could promote timely implementation of the Type 2 non-prudential net zero plan disclosures under the CSRD/CDDD framework in a way that supports supervisory goals. Within the banking union specifically, the ECB should work with the national supervisors, national market conduct authorities and ESMA to support consistent interpretation of the regulatory requirements.
- Second, given the different socioeconomic and environmental implications of the transition and misalignment across the EU (ECB, 2021a), C&E risks and transition plans would have to be subject to a dedicated procedure within the supervisory colleges of the EU's cross-border bank groups. This would enable host countries to raise local transition risk-based financial instability concerns to inform the assessment of the cross-border group. Cross-border EU bank groups should nonetheless be assessed for their alignment with an EU climate neutrality pathway on a consolidated level, with due regard for their activities and portfolios outside the EU.

### Step 3 for the EU: Mitigating risks from misalignment through supervisory consequences

For there to be supervisory consequences from banks' misalignment, EU supervisors would need to have the power to act on concerns. In addition to setting supervisory expectations and assessing prudential transition plans, supervisors' existing supervisory powers could be extended to allow them to intervene directly and indirectly where banks are not adequately addressing risks arising from misalignment.

Consequences should include requiring banks to apply corrective measures to their operations and management as well as, in exceptional circumstances, the setting of a capital add-on by supervisory authorities. The European Commission's prudential transition plan proposal already foresees that EU supervisors should be granted powers to "require institutions to reduce the risks arising from the institutions' misalignment with relevant policy objectives of the Union and broader transition trends relating to environmental, social and governance factors over the short, medium and long term, including through adjustments to their business models, governance strategies and risk management" (European Commission, 2021: Art. 104[1][m] CRD proposal). In cases where transition plans do not meet expectations, additional capital requirements may be imposed to cover that risk (as already suggested by the ECB in its 2022 report on banks' progress towards transparent disclosure of their C&E risk; see ECB, 2022b). Existing

supervisory sanctions could be extended to cover transition plans, including restrictions on dividend payments and bonus payments as well as pecuniary fines, where the required standard of transition plans is not met.

The regulatory framework could also allow for macroprudential tools to be used for C&E risk exposures identified through the assessment of alignment and misalignment risk of a particular bank (see Section 4).

# 6. Conclusions

Net zero transition plans are set to become a key part of the pathway to implementing the Paris Agreement. The primary rationale for the financial sector to align operations with commitments that are made by governments is to anticipate investment opportunities and mitigate transition risks. In the financial sector, voluntary transition plans have already started to emerge to give credibility to voluntary pledges made by banks. Mandatory transition plans are currently introduced in a number of jurisdictions as a matter of general non-financial disclosure and, as outlined in this report, prudential transition plans have the potential to provide supervisors with an additional dynamic and forward-looking prudential instrument.

In practice, the requirements placed on banks by the three types of transition plan could be met by a single document, but it is important to keep the distinct functions of Type 1, 2 and 2 plans in mind. Already, in jurisdictions where Type 2 disclosures are mandatory, these are replacing Type 1 voluntary transition plans. Similarly, a well-designed Type 3 mandatory transition plan that focuses on misalignment could be adequate for meeting the disclosure requirements required by Type 2 plans. Alternatively, some jurisdictions may prefer a separate Type 3 disclosure process that only complements the required Type 2 disclosures.

Even if corporate and supervisory plans cover similar terrain, the discussed prudential Type 3 transition plans serve the distinct purpose of identifying prudential risks related to alignment as well as ways to address risks from misalignment. Accordingly, it may be the case that the same metrics and other information disclosed in Type 2 plans need to be integrated separately into Type 3 plans to ensure that prudential concerns are adequately met.

Furthermore, prudential transition plans can offer a useful risk assessment tool for prudential supervisors to evaluate whether individual banks and the banking system at large are on a transition pathway that is in line with a country's legally binding climate goals. These prudential transition plans could become a supervisory instrument to provide insights into banks' exposure and risk management over long time horizons and could be employed as a forward-looking prudential risk assessment tool by linking banks' operations today to their practice in the distant future. Furthermore, dedicated prudential transition plans promise to offer a valuable additional risk assessment tool for the prudential supervision of individual banks and the banking system at large to help overcome some of the limitations of traditional risk management tools and supervisory practices.

Crucially, prudential supervisors would have to develop suitable frameworks to integrate transition plans into their supervisory practice. This Supervisory Playbook has suggested three steps to guide this integration:

- **Step 1:** Set supervisory expectations for prudential transition plans to ensure they are fit for prudential purpose.
- **Step 2:** Undertake supervisory assessment of prudential transition plans to determine whether financial institutions are exposed to risks in the context of alignment with the government's transition pathway.
- **Step 3:** Take steps to mitigate the risks to which banks whose plans indicate acute and significant transition risks are exposed, utilising the micro- and macroprudential toolbox.

Prudential transition plans will have to be clearly defined in terms of scope, relevant methodologies and how they complement and integrate climate scenario analysis. As an initial step to introduce and prudentially utilise net zero transition plans for financial institutions, it would be helpful to implement the mandatory climate-related disclosure for financial and non-financial corporates in line with the IFRS Foundation's International Sustainability Standards Board (ISSB) and the EU's Corporate Sustainability Reporting Directive (CSRD). This would improve the availability and granularity of the underlying data that, in turn, enables the assessment of transition risks. In addition, forward-looking methodologies, including climate risk scenario analysis and prudential transition plans, need to be further developed and disseminated through capacity-building efforts that enable financial institutions to assess their future risk exposures, and prudential supervisors to assess and address relevant risks. As discussed, in the EU, where discussion around all three types of transition plan have advanced or even led to regulatory efforts, supervisors can already rely

on important standards and instruments to set supervisory expectations (e.g. the EU Taxonomy, guidance on climate risk scenarios, supervisory expectations for banks, risk management expectations and Pillar III requirements).

Strategically, in this first phase of the elaboration of net zero transition plans, the related applications, expectations and potential prudential as well as alignment aims will have to be explored further. This is the case both for market-led corporate disclosures and on the prudential supervision side. It will be important for the prudential community to be active participants in the discussion around the design of transition plans so that they can play their full part in addressing climate risks. Financial supervisors should also coordinate their activities to develop international standards for prudential transition plans. In this context, international information sharing will be important to develop effective tools for assessing transition plans from all regulated financial sectors, pointing to a role for the Bank for International Settlements (BIS), the Financial Stability Board (FSB), and the Network for Greening the Financial System (NGFS) to work towards developing international guidance on supervisory approaches to prudential transition plans.

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