



Sam Woods

Deputy Governor for Prudential Regulation and
CEO of the Prudential Regulation Authority
[1 July 2020]

Dear Chief Executive Officer

Managing climate-related financial risk – thematic feedback from the PRA’s review of firms’ Supervisory Statement 3/19 (SS3/19) plans and clarification of expectations

Climate change represents a material financial risk to regulated firms (firms) and the financial system. Whilst the Covid-19 pandemic is a present risk and an understandable priority for firms, minimising the future risks from climate change also requires action now. We continue to work on understanding and mitigating these risks.

In April 2019, we issued a supervisory statement on enhancing firms’ approaches to managing climate-related financial risks (SS3/19).¹ This letter builds on the expectations set out in that statement, provides observations on good practice, and sets out next steps for implementation.

Recognising the novel nature and challenges presented by climate-related financial risks, we asked firms to have an implementation plan in place by October 2019 but did not set a date for full implementation. In light of observed progress in the analysis and management of climate-related financial risks across the financial sector, we are now clarifying our expectations on timing. **Firms should have fully embedded their approaches to managing climate-related financial risks by the end of 2021.** This means that by the end of 2021, your firm should be able to demonstrate that the expectations set out in SS3/19 have been implemented and embedded throughout your organisation as fully as possible. In doing this, you should continue to take a proportionate approach that reflects your institution’s exposure to climate-related financial risk and the complexity of its operations.

The end of 2021 timeline will represent more than two and a half years since the publication of SS3/19, and over two years from the development of implementation plans and the allocation of responsibility for climate-related financial risks to Senior Management Function (SMF) holders. There are some areas of our expectations where few barriers exist to full implementation, but we recognise that challenges remain in others. Where challenges exist we will work closely with firms to understand how they are seeking to overcome them. For example, we recognise that data limitations mean that you will not be able to embed an end-state analysis of

¹ April 2019: <https://www.bankofengland.co.uk/prudential-regulation/publication/2019/enhancing-banks-and-insurers-approaches-to-managing-the-financial-risks-from-climate-change-ss>.



climate-related financial risks within your firm's capital frameworks by end-2021. However, you should be able to explain what steps your firm has taken to ensure that, where appropriate, capital levels adequately cover the risks to which your firm is, or might be, exposed.

Earlier this week the Climate Financial Risk Forum (CFRF), which is co-chaired by the PRA and FCA, produced a guide written for industry by industry on how to approach climate disclosure, risk management, scenario analysis and innovation.² The Bank of England (the Bank) will also be issuing additional guidance and useful material such as reference scenarios prior to the launch of the 2021 climate focused Biennial Exploratory Scenario (BES).³ These steps, alongside the examples of good practice set out in this letter, will assist you in meeting our supervisory expectations.

Observations from our thematic review of firms' SS3/19 plans

We have reviewed a large number of firms' SS3/19 implementation plans. We have found that most firms are making good progress in developing approaches to identify, assess, manage, report and disclose climate-related financial risks and have started to embed them in associated governance and control structures. Best practice continues to evolve and will do so for a number of years.

The annex to this letter provides examples of good practice and highlights where we see gaps between firms' intentions and our expectations. We highlight some key gaps below.

Governance

- i. **Firms' strategic responses** need to be clearer and firms need to continue developing tools that inform business decisions. Climate management information should be communicated more consistently and actively discussed at board level.
- ii. **Firms' oversight of climate-related financial risks** could better demonstrate an appreciation of the far-reaching breadth and magnitude of the risks and a clearer understanding of their relationship to financial risks. This includes a clearer understanding of the physical and transition risk transmission channels and interactions between multiple lines of business, sectors and geographies.

² <https://www.bankofengland.co.uk/climate-change/climate-financial-risk-forum>. The CFRF guide is written by industry for industry and does not constitute regulatory guidance.

³ <https://www.bankofengland.co.uk/paper/2019/biennial-exploratory-scenario-climate-change-discussion-paper>



Risk management

- iii. **Metrics and quantification** were identified as the most challenging aspect of assessing climate-related financial risks. We recognise that there are some areas where the science, data or tools are not yet sufficient to estimate the risks accurately. In these cases firms should ensure that identified risks are recognised through the use of reasonable proxies and assumptions.
- iv. **Risk management processes** within banks, building societies and insurers are at the early stages of development. Few firms have implemented integrated policies, thresholds, mitigation strategies, monitoring capabilities and risk appetites.

Scenario analysis

- v. **Firms have significant gaps in their capabilities, data and tools** and have not yet integrated scenario analysis into their broader risk assessments. The development of a proportionate and integrated approach to scenario analysis by the end of 2021 will require many firms to increase their capabilities materially in the near-term.

Disclosure

- vi. **Firms' appetite for making climate disclosures is limited by capabilities** and as a result some firms are yet to make any associated disclosures. Capabilities will need to be materially improved to facilitate future disclosures.

Next steps

Just as we ask you to embed climate-related financial risk into your business strategy, we also continue to embed climate-related financial risk into our supervisory approach. We will continue our ongoing engagement on climate risks to discuss the implementation and progress of your plans with key individuals, particularly the assigned SMF holder(s). You should also expect climate-related financial risk to be integrated within our full range of regular supervisory activities, including the 2021 BES exercise. We expect that you will continue to provide periodic updates to your board throughout the process of embedding.



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You may, after reading this letter, wish to discuss your approach further with your supervisor.

Yours sincerely

A handwritten signature in black ink, appearing to read 'S. Woods'.

Sam Woods

Deputy Governor and CEO, Prudential Regulation Authority



Annex 1

Thematic findings of our review of firms' plans to address SS3/19

Observations of good practice are provided in boxes

1. Proportionality

We are mindful of the need to take a proportionate approach and accept that smaller firms do not have the resources to develop as sophisticated an approach as larger firms. However, smaller firms are not immune from climate-related financial risk and could be more susceptible if they are particularly concentrated in a vulnerable sector, product or geography. Therefore, an appropriate approach depends on the firm's business model.

Firms should consider how they can assess the climate-related financial risks associated with their clients and counterparties and have a clear high-level strategy for adapting to the range of potential climate outcomes.

As a guide, small firms and firms with smaller exposures to climate-related financial risk may focus more on a qualitative strategy for adapting to climate change without as much need for quantitative metrics to substantiate their approach, possibly relying on third party metrics. A good starting point for smaller firms when undertaking scenario analysis might be to do a qualitative 'walk-through' scenario considering a possible sequence of events (shocks and responses) before moving on to quantification.

The expectation for small firms with material exposures would be more aligned with the expectations of medium and large firms. Medium and large sized firms, and firms with medium or large exposures to climate risk, should link business strategy changes to scenarios, identifying triggers to modify their strategies. Larger firms are expected to develop a range of stress scenarios designed to examine the particular risks inherent in their business models.

Below we provide observations of good practice and elaborate on our supervisory expectations in the four areas of focus in SS3/19.

2. Governance

- i. **SMR.** The vast majority of firms have allocated responsibility for climate-related risks to an SMF holder and set out the responsibilities in the relevant SMFs' Statements of Responsibilities (SoRs).

The more advanced firms were able to describe clear allocation of responsibility below the SMF(s) and clear roles and responsibilities across all three lines of defence.

Ordinarily we would expect the responsibility to be allocated to one SMF holder, but we accept that for some firms it may be suitable to share the responsibility between two. Some firms with complex group structures have allocated this to



multiple SMFs, which may be consistent with their model for governing legal entities. Nevertheless, we expect the roles and responsibilities to be allocated within the group in line with the principles of the SMR which explains that where a responsibility is shared among two or more SMFs, firms are expected to use the free text section in the SoR⁴ to provide additional details on how the responsibility applies to the different individuals sharing it in practice. This is to ensure that responsibility for implementing strategy is clearly owned and joined-up, and the coherence of measures is not undermined due to fragmented responsibility.

- ii. **Structures.** Firms have established a variety of governance structures around climate-related financial risk, using a combination of existing and new committees and working groups.

The better arrangements observed demonstrate a clear distinction between elements of climate risk as a financial risk, a reputational risk and a corporate social responsibility issue. Some firms have amended committee terms of reference to include explicit reference to climate risk.

Governance structures should be effective in cascading the strategy throughout the firm, promoting a strong understanding of the risks and embedding the chosen approach within the risk management framework (see next section on risk management).

- iii. **Board oversight.** While the nature and frequency of board engagement may vary, we expect that the board will oversee the development of a climate risk strategy and ensure that it is implemented robustly, through regular updates and management information. The board is responsible for setting climate-related financial risk appetite and obtaining assurance (for example, from the Internal Audit function) that the risks are effectively managed and controlled.

The more advanced firms have provided training for their board to enable them to oversee this risk appropriately. These firms have demonstrated that the skills required throughout the organisation have been identified, evaluated and a plan made and resourced to close any gaps.

The board is also responsible for ensuring the appropriateness of climate-related objectives for the SMF(s) with responsibility for managing financial risks from climate change (as recorded in their SoRs) and ensuring that performance against these objectives is reflected in the variable remuneration of such executive(s), including via the application of risk adjustments.

⁴ https://www.bankofengland.co.uk/prudential-regulation/authorisations/senior-managers-regime-approvals#application_forms



Climate-related factors constitute a business risk that should be taken into account when determining variable remuneration in line with the PRA rules and expectations set out in SS2/17 on remuneration.⁵ PRA Rules and Financial Stability Board (FSB) standards require adjusting variable remuneration for all types of current and future risks, including those where measurement is harder or judgement is required. Some of the more advanced firms have incorporated climate risk in their incentive structures, in order to drive the right progress in the firm. This provides incentives for decision-makers to weigh various considerations around climate risk against other factors when setting strategy.

- iv. **Strategy.** We are pleased to see that some firms are beginning to consider the impact of climate change on their business strategy, but note that most firms need to be clearer on their strategic response and continue to develop tools to help inform business decisions.

A strategic response may be facilitated by clearly categorising assets subject to climate risk and considering associated strategic options. While this may enable a risk-based approach, it should not detract from the need to ensure that the whole of the balance sheet has been assessed.

Some firms have considered their role in supporting their clients and counterparties to meet the UK's target to achieve net zero emissions by 2050.⁶

In order to ensure full buy-in from the board to the climate strategy, it may be helpful to hold explicit discussions at board level on the projected impact on profitability of the various strategic options for responding to climate risk.

3. Risk management

- v. **Overview.** We asked firms to have a credible plan and policies for managing exposures to climate-related financial risks. By the end of 2021, firms should be able to demonstrate how they have embedded climate risk management within their frameworks to identify, measure, monitor, manage and report on their exposure to climate risks against a well-defined risk appetite that considers the current balance sheet and business model risk.

The more advanced firms have largely completed this, whilst acknowledging that their frameworks will need to be reviewed periodically (at least annually) to remain relevant to the unique and evolving challenges of climate change.

More work is required to incorporate the distinctive elements of financial risks from climate change listed in SS3/19 into risk management frameworks. However, we did observe that some firms:

- considered the far-reaching breadth and magnitude of climate risk by distinguishing between financial risk management and corporate

⁵ April 2017: <https://www.bankofengland.co.uk/prudential-regulation/publication/2017/remuneration-ss>.

⁶ <https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>



responsibility (particularly in relation to reputational risk, customer behaviour and legal risk);

- managed uncertain and extended time horizons through using scenario analysis/stress tests; and
- differentiated the foreseeable nature of financial risks that arise from a combination of physical and transition risk factors from tail risks.

We have highlighted areas for further consideration below; these should be read in conjunction with the risk management chapter of the CFRF guide, which provides additional detailed advice.

- vi. **Risk identification and measurement.** We observed that analysis and strategies for mitigation of physical risks are generally more developed than for transition risks. We expect firms' output and assessments to be based on quantitative and qualitative evidence, even if this is crude and lacks granularity. We expect firms to be able to quantify their exposure to climate-related financial risks and develop risk metrics that indicate potential financial loss.

We have observed varying degrees of evolution in firms' use of climate risk metrics. As with other areas of risk, there should be a clear flow of metrics from root analysis through to decisions and disclosure. Over the period to end-2021, we will be paying particular attention to the metrics and targets that firms are using, their comparability and how they are incorporated into risk and governance frameworks.

The nature of climate risk means firms will have to use long-term, forward-looking risk assessments (i.e. scenario analysis/stress tests). This is why we have dedicated a section to this in our supervisory statement and below.

We expect firms to use analytical approaches suitable for their exposures and business models. Firms may develop their own tools or draw from the range of tools and methodologies available (some of which are proprietary). It is up to the firm to establish that the selected approach is suitable.

Where firms are reliant on third party information (e.g. climate scenarios and portfolio warming metrics) or outsourced providers, we expect them to have an understanding of the key assumptions and limitations inherent in the information they receive, and to use the information appropriately in their risk management frameworks.

Most firms identified metrics and quantification as the most challenging aspect of assessing climate-related financial risks. We recognise that there are some areas where the science, data or tools are not yet sufficient to estimate the risks accurately. In such cases, we expect you to use reasonable proxies and assumptions to work around these issues, and not leave known risks unrecognised.



We have observed some firms modelling potential impact on capital, and associated sensitivities, by using a climate value-at-risk, warming potentials (e.g. Paris Agreement alignment), and (in banking) climate-adjusted probability of default and/or loss given default, for example.

We are aware of one firm having embedded the use of an internal climate impact risk-weight.

- vii. **Risk monitoring.** We expect firms to have developed risk management tools that support decision-making and allow them to monitor progress against their climate-related strategic aims and risk appetite – we did not see this evident in a number of plans. We expect firms to use risk management tools, which are appropriate for the speed of change that is necessary (e.g. early-warning indicators to engender prompt action where appropriate, or metrics to track a plan to pivot a firm’s business model gradually over a number of years).
- viii. **Risk management and mitigation.** We expect firms to have conversations with clients and counterparties about potential current and future impacts of the physical and transition risk factors – this will take some time to embed, but it was not evident from a number of plans that the process has commenced.

We recognise that challenges include data availability, lack of standardisation and comparability, and lack of disclosures by clients. Insurers and banks need to engage with their clients and counterparties to develop the data infrastructure required to measure the risks.

We were pleased to see that some firms are gathering relevant data during client on-boarding and at annual reviews, allowing them to develop their own management information framework. The most advanced firms are providing training to relevant staff (e.g. those involved in client on-boarding or conducting credit risk assessments).

The most advanced firms have demonstrated some of the following elements of good practice for the treatment of climate-related financial risk assessment in their banks’ Internal Capital Adequacy Assessment Processes ICAAP (for banks) or Own Risk and Solvency Assessments ORSA (for insurers):

- an explanation of how climate risk is embedded into the risk framework;.
- a description of how assets are classified for climate risk, for example using geographic, sectoral or other characteristics;
- a description of what kinds of scenarios were considered and how detailed they are;
- a description of any modelling approaches and model types used, including consideration of the assumptions, and uncertainty, in each of the key building blocks;



- a description of how risk is being measured, whether qualitatively, in capital terms or other quantitative metrics, and an assessment of materiality;
- an understanding of what climate risk means for balance sheet valuations, which in turn drive performance and regulatory capital;
- confirmation of the proportion of the balance sheet evaluated; and
- action plans to regularly quantify and mitigate climate risk.

4. Scenario analysis

- ix. **Overview.** Scenario analysis is a key tool for insurers, banks and building societies to explore different futures and ask ‘what if?’ questions. Because the past will not be representative of the future, we consider that scenario analysis is a key way for all firms to inform their strategic planning and determine the impact of the financial risks from climate change on their overall risk profile and business strategy. Scenario analysis is for all firms, whatever their size, resources and lines of business. It can produce both quantitative and qualitative outputs to inform decision-making but requires investment of time and resource to do so.

The more advanced firms are using scenarios to:

- inform their business;
- develop their understanding of climate risk (such as the potential transmission channels);
- inform their internal model risk calibrations; and
- inform the integration of climate risk into their risk management framework.

We observed a wide range of scenario analysis capability, ranging from no current use, to the use of sectoral sensitivities (e.g. through oil price shocks and rating downgrades), through to the running of broad qualitative exercises that capture a range of inter-related outcomes.

Large and medium-sized insurers have benefitted from the experience of the 2019 climate stress testing exercise,⁷ but this has exposed significant gaps in capability and understanding of risks.

Firms that have not started to develop their scenario analysis capabilities should start now. We recognise that this is an area that firms find particularly challenging, but firms will learn through the experience of undertaking such exercises and from publicly available and pragmatic advice from industry practitioners such as the CFRF.

⁷ June 2020: <https://www.bankofengland.co.uk/prudential-regulation/letter/2020/insurance-stress-test-2019-feedback>



As firms develop their scenario analysis capabilities, we expect to see appropriate climate-related discussion of results in ICAAPs and ORSAs.

- x. **Choice of scenarios.** Challenges persist on the calibration of scenario exercises, notably the duration of the underlying scenarios. Firms should consider the prolonged period over which climate risks crystallise and what that will mean for future business models. Externally calibrated scenarios could be leveraged for this purpose, for example, those being developed by the Network for Greening the Financial System (NGFS) or scenarios that the PRA will issue for the 2021 BES exercise.

Firms should consider a range of scenarios covering both short-term (business planning horizon) and long-term (in the order of decades). Firms should select scenarios and timescales appropriate for their particular business model.

When considering longer-term scenarios, firms should select a range of scenarios that reflect the range of climate outcomes (for example consistent with an average global temperature increase of less than or significantly less than 2°C) to a weak/no transition scenario (for example that results in continued growth in emissions and warming significantly in excess of 2°C by 2100).

Firms may find it helpful to use a range of approaches. For example, evaluation of abrupt near-term transitional changes using detailed traditional static balance sheet stress tests, and longer-term physical climate and socio-economic changes using less granular analysis of the business model.

We view it as useful for firms to differentiate between the central scenarios that shape their core business strategy and the tail risk scenarios that might be used to place a limit on their risk appetite or drive hedging activity and other possible actions.

Some of the more advanced firms have tailored scenarios to match better their business, and accessed a range of resources to inform their scenario work. Firm-specific scenarios tended to test different business units and differentiate impacts on business lines within business units.

Better scenario analysis looked at both physical and transition risks as well as investigating a range of short- and long-term time horizons.

- xi. **Scenario design.** Firms will want to understand broadly and also in detail what their asset holdings and liabilities are and how climate change may affect them in future. Firms may wish to consider one or more central projections alongside other scenarios to explore tail risks.

Some scenarios may be quite detailed and others more high-level. Firms should evaluate scenarios to a level of detail and accuracy appropriate to the uncertainty inherent in the scenario.



Firms should consider how quickly their business might be able to react to the changes inherent in the scenarios, and not assume the business can respond faster than the changes in the scenario.

Firms may wish to use standard, reference scenarios (such as those provided by the PRA as part of the BES, the Intergovernmental Panel on Climate Change or the NGFS)⁸ or tailor scenarios to their circumstances.

Firms may wish to consider reverse stress tests as a method to assess what could cause the firm to fail, and the extent to which this could be driven by climate-related factors. Insurers, for example, might wish to consider robustness of reinsurance arrangements.

Thinking about and responding to climate change challenges may cut across existing organisational team structures. Firms may wish to consider how those working on climate risks across the organisation are working and communicating.

- xii. **Scenario outputs.** It may be useful to consider scenario impacts in different contexts, for example impacts on the balance sheet, or on the viability of the business model, or on the overall business strategy.

Qualitative scenario outcomes can be very informative but should be supplemented by quantitative analysis, even if there is uncertainty in the calculation of the results. Relative impacts can be helpful even if absolute numbers need to be treated with caution.

5. Disclosure

- xiii. **Overview.** In SS3/19 we set an expectation that firms should consider engaging with the Taskforce on Climate-related Financial Disclosures (TCFD) framework and wider initiatives on climate-related financial disclosures to promote the benefits of disclosures that are comparable across firms. All banks and insurers should continue to develop their capability for producing robust, decision-useful disclosures.

The more advanced firms are publishing TCFD format disclosures in, or linked to, their annual reports. A few firms are now approaching fully comprehensive outputs.

We stress the importance of high quality disclosures to enable markets to operate effectively, price in risk and allocate capital efficiently. We encourage firms to consider the various users of their disclosures and to make them as decision-useful as possible for these audiences.

⁸ The Network for Greening the Financial System published reference scenarios in June 2020 available here. <https://www.ngfs.net/en/guide-climate-scenario-analysis-central-banks-and-supervisors>



We encourage firms to consult on the guidance available from the CFRF and the TCFD's 2018 and 2019 Status Reports,⁹ which provide a variety of perspectives and note areas where most companies can improve the clarity of their disclosures (for example, covering the potential financial impact of climate-related issues and the resilience of their business strategy).

- xiv. **Current status.** Most of the largest UK firms have started to produce climate-related disclosures and are making improvements year-on-year. As firms' risk management capabilities develop, they are able to complement the qualitative information disclosed with quantitative information. We observed that the majority of firms outside of the largest, largely listed groups have not yet produced disclosures of their climate-related financial risks. Most have plans to do so, but for many this is planned under a long timeframe. A minority of firms did not mention disclosure at all in their plans to meet SS3/19.

We are aware that it is a multi-year endeavour to develop high quality disclosures and that a phased approach, starting with qualitative disclosure and building out the quantitative information, is sensible. High quality disclosures require the involvement of many departments across the business, so we urge firms that have not started to do so now and encourage all firms that have made a start to continue to build capability in this area.

- xv. **Timing.** We expect firms to continue to build their capability to disclose how they govern and manage climate-related financial risks and any material exposures. The Government's Green Finance Strategy¹⁰ stated an expectation that all listed companies and large asset owners will be disclosing in line with TCFD recommendations by 2022. The Bank's response¹¹ to the Future of Finance report¹² subsequently supported this position. We also note the FCA's current policy consultation for Premium Listed firms to produce TCFD disclosures on a comply-or-explain basis,¹³ which will capture a significant proportion of larger PRA-regulated banks and insurers.
- xvi. **Location.** There are several options for the location of a climate-related disclosure. We agree with the TCFD's recommendation that the disclosure is located within the Annual Report. We accept many smaller banks' intention to disclose their financial risks from climate change in their Pillar III disclosure.
- xvii. **Groups.** We encourage UK subsidiaries to engage with their parent company to discuss their role in creating robust climate-related financial disclosures. Where

⁹ June 2019: <https://www.fsb-tcdf.org/publications/tcdf-2019-status-report/>

September 2018: <https://www.fsb-tcdf.org/publications/tcdf-2018-status-report/>

¹⁰ <https://www.gov.uk/government/publications/green-finance-strategy>

¹¹ <https://www.bankofengland.co.uk/research/future-finance>

¹² <https://www.bankofengland.co.uk/report/2019/future-of-finance>

¹³ <https://www.fca.org.uk/publications/consultation-papers/cp20-3-proposals-enhance-climate-related-disclosures-listed-issuers-and-clarification-existing>



group impetus is lacking we encourage the UK entity to drive progress and lead the way.

- xviii. **Metrics and targets.** Over time, we anticipate that there will be international convergence upon particular metrics, methodologies and targets. This will aid firms that operate across national borders, enable cross-firm comparability and improve decision-usefulness. However, we are not yet at that juncture and over-prescription at this stage could stifle firms' analysis and risk international fragmentation.

We will continue to engage with firms, other regulators, government and international bodies on this important topic and work towards prescribing a minimum harmonised set of key indicators (metrics and targets) for PRA-regulated firms. We refer firms to the CFRF guide on disclosures which includes some suggested metrics and breaks these into 'basic', 'stretch' and 'advanced' categories.

- xix. **Next steps.** We are working with a UK cross-government/regulator taskforce which is examining the most effective way to approach disclosure, including exploring the appropriateness of making reporting mandatory. We will continue to work with this group and decide on our next steps.