

PRI RESPONSE

**SOUTH AFRICA RESERVE BANK BENCHMARK SCENARIO
WORKING GROUP: DRAFT NATIONAL CLIMATE RISK SCENARIOS
FOR THE SOUTH AFRICAN FINANCIAL SECTOR**

6 September 2022

INTRODUCTION

The Principles for Responsible Investment (PRI) is the world's leading initiative on responsible investment. The PRI has now over 5,000 signatories (pension funds, insurers, investment managers and service providers) to the PRI's six principles with approximately USD\$121 trillion in assets under management.¹

The PRI supports its international network of signatories in implementing the Principles. As long-term investors acting in the best interests of their beneficiaries and clients, our signatories work to understand the contribution that environmental, social and governance (ESG) factors make to investment performance, the role that investment plays in broader financial markets and the impact that those investments have on the environment and society as a whole.

The PRI works to achieve this sustainable global financial system by encouraging adoption of the Principles and collaboration on their implementation; by fostering good governance, integrity, and accountability; and by addressing obstacles to a sustainable financial system that lie within market practices, structures, and regulation. The PRI develops policy analysis and recommendations based on signatory views and evidence-based policy research.

The PRI welcomes the opportunity to respond to the South African Benchmark Scenario working group's request for inputs on its draft Climate Risk Scenarios for the Financial Sector.

ABOUT THIS CONSULTATION

In 2020, National Treasury recommended the development of scenarios on climate risk for use by the financial sector in South Africa in the Technical Paper on [Financing a Sustainable Economy 2021](#).

A Benchmark Scenario working group ("Working Group") was subsequently established under the Climate Risk Forum, with stakeholder representation from government, regulators, and the central bank in collaboration with international experts and academics in the field. This Working Group published a draft Climate-related Risk Scenarios shared with selected industry stakeholders for input.

The purpose of the document is to identify a common set of scenarios for the financial sector for application in the modelling of climate-related risks. Ultimately, the intent is to have comparability across the financial sector to better mitigate the financial impacts and/or other effects of climate risk on the South African economy.

In particular, stakeholders are requested to provide feedback on the following matters:

- General useability and level of detail on climate risk scenarios.
- Initial focus on a limited number of physical and transition risks.
- Application of the scenarios (once finalised) in their business to identify, monitor and manage risks.

¹ Principles for Responsible Investment, Signatory Directory (July 2022), available at <https://www.unpri.org/signatories/signatory-resources/signatory-directory>.

- Practicality or potential structural barriers identified by industry stakeholders.
- Alternative scenarios which should be included or substituted, including international references where appropriate.

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KEY RECOMMENDATIONS

PRI warmly welcomes the South African Reserve Bank's important work on developing regional Climate Risk Scenarios and supports its objective to build capacity across the financial sector to better mitigate the financial risks and other impacts on South Africa's economy. The importance for climate risk modelling focused on local conditions is essential for financial markets to more accurately assess and price in risks. This will enable investors to allocate capital more efficiently and to play their part in helping to achieve the Paris Agreement. In particular, PRI wishes to highlight:

- **The value of simplicity.** Climate scenario analysis can be incredibly complex and administratively challenging to do, yet in the first instance, there is often a value in simplifying the analysis. By focusing on a limited number of scenarios and / or utilising off-the-shelf tools such as PACTA, the Transition Pathway Initiative, IPCC sixth assessment report² and in the case of disclosure, allowing initially for reporting to be narrative based.
- **Limiting the number of scenarios.** The key function of climate scenario analysis, at least in the first instance, is not to have comparable disclosure, but rather to challenge conventional wisdom about the future, raise awareness and help organisations think forward on climate change. Therefore, limiting the number of scenarios to net-zero 2050, delayed transition and current policies is recommended as is a phased approach to financial industry implementation. Whereby, if not used already, free-to-use tools are utilised first, before more applied and granular analysis is undertaken.
- **Striking a balance between providing industry guidance and being overly prescriptive.** For capacity building it is helpful to have guidance from the central bank on what are relevant families of scenarios for regulators, However, given the multiple assumptions that these scenarios are built on, there are risks in specifying particular scenarios in disclosure regulation. Rather for reporting, PRI would recommend taken by the TCFD and the quadrant of climate scenarios proposed by the NGFS. The latter stops short of specifying any individual scenario but sets out what are relevant families of scenarios.
- **The costs of the net-zero transition.** The assumption in scenario 7GT that electricity prices would increase under a higher ambition scenario merits further investigation. Experience to date, has been that increased adoption of renewable are inherently deflationary,³ and its renewable energy resources, it is not consistent with market experience with clean energy deployment, that scaling up a technology that has low-to-zero marginal cost would result in higher electricity prices. Footnote 11 on page 20 of the climate scenario acknowledges that there would be price decreases in renewables, yet

² International Panel on Climate Change (IPCC), Sixth Assessment Report, 2021 & 2022. <https://www.ipcc.ch/assessment-report/ar6/>

³ "The trend lines show the considerable cost reductions for solar PV, wind and CSP realised since 2011 [...] and the increasing cost-competitiveness of renewable energy options compared to conventional technologies." See IRENA: Renewable Energy Prospects: South Africa, June 2020, p. 106. https://irena.org/-/media/Files/IRENA/Agency/Publication/2020/Jun/IRENA_REmap_South_Africa_report_2020.pdf

the overall cost of “bulk electricity” still rises in scenario. Further investigation of the assumed rate of price decline is recommended.

- **Focus on practical applications of climate scenario analysis**, such as providing useful disclosures for users (investors) of climate reporting. Disclosure from climate scenario analysis is not necessarily a quantitative exercise but could be narrative based and to set in motion a learning process to build understanding of how climate-related risks and opportunities could evolve over time. As issuers gain experience, the use of more quantitative information with greater rigor and sophistication may be warranted. For disclosure on scenario analysis to be useful for investor decision-making, at a minimum, companies reporting to be conducting climate scenario analysis should disclose:
 - how an organisation assessed its potential climate-related future(s) and the insights it gleaned from scenario analysis;
 - what changes, if any, the company may be considering to its business model in response to its scenario analysis;
 - how resilient management believes the company’s strategy is to various future climate states; and
 - where the uncertainties are regarding the company’s strategy and its resilience to climate-related risks and opportunities.⁴
- **Implement strong and predictable policy for net zero.** For investors dealing with portfolio decisions under climate and transition uncertainty, it is important to see clear government commitment to net zero, and reliable, regular and transparent communication of detailed implementation action and timelines for the transition to a low-carbon economy. This should include:
 - Send a strong net zero policy signal to markets through an ambitious, predictable and competitive carbon price, covering a majority of sectors and emissions, and ensuring a just and equitable transition and international cooperation.
 - Support concrete investment opportunities in transition sectors and new markets, while providing public support for local and international investors.
 - Provide use cases, i.e., publicly accessible data and information on government or private sector projects planned, in development and completed, as an incentive and risk reduction for concrete investments into the low-carbon economy transition.
- **Further research on climate risk scenarios.** Future climate risk models and assessments will be most useful for investors if their data feeds into decision useful metrics and targets, thus helping financial markets to identify exposure to climate-related impacts as well as new investment opportunities, and shifting portfolios and allocating capital towards financing needs for South Africa’s transition commitment to net-zero by 2050.

⁴ TCFD (October 2020), TCFD Guidance on Climate Scenario Analysis for non-Financial Companies, available at: https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Guidance-Scenario-Analysis-Guidance.pdf.

DETAILED RESPONSE

The latest assessment report from the Intergovernmental Panel on Climate Change (IPCC) explicitly states that “near-term actions that limit global warming to close to 1.5°C degrees would substantially reduce projected losses and damages related to climate change in human systems and ecosystems, compared to higher warming levels.”⁵ To limit global warming to 1.5°C, we need a systemic, structural transformation for the transition to net zero.

Science based climate risk assessment and modelling is the first essential step to support how policy makers, regulators, financial institutions, and businesses frame their approach to the transition and develop their plans accordingly. The Climate Risk Scenarios, developed by the South African Reserve Bank’s (SARB) Benchmark Scenario Working Group (BSWG), establishes an important foundation for stakeholders on how to tackle this issue.

The Climate Risk Scenarios contribute to the work of the Network for Greening the Finance System (NGFS), which provided six future transition pathways as a common starting point to assess climate-related financial risks. These are grouped into four “families” of transition scenarios: Orderly, Disorderly, Hot house world, and Too little, too late. NGFS risk scenarios are matched to the four most aligned local scenarios, comparing the Orderly and the Hot house world. These are: Reference Model (REF) based on unconstrained emissions; Paris Forever (PF) based on global NDCs; 2C, i.e., keeping temperature rise below 2 degrees Celsius; and 1.5C, i.e., a net zero by 2050 pathway.

Question 1: General useability and level of detail on climate risk scenarios.

The PRI supports and warmly welcomes science-based, localized and decision-useful climate risk scenarios. The climate risk scenarios at the local level provide better detail on economic, financial, and other impacts than global scale frameworks. They identify physical and transition risks which both public and private sector decision makers will be facing in their local context.

The level of detail and useability needs to be tailored to and evaluated by local and international stakeholders present in the market, as they will incorporate different needs and requirements. To introduce Climate Risk Scenarios and the practical use of climate-related risk modelling into the market, a balance needs to be struck between providing guidance for both the real-world and financial industry, and an overly prescriptive approach. Thus, such scenarios will help challenge investors’ expectations of the future, and to initiate market awareness on how organisations need to build forward thinking capacities on how their bottom lines and their business models will be affected by climate change. Eventually, this will lead to further research on more granular and targeted climate-related risk assessment, focused on specific sectors and investments interests.

Question 2: Initial focus on a limited number of physical and transition risks.

The PRI supports a phased approach, focusing on the most relevant physical and transition risks in a local context, as the most practical for implementation. Limiting the number of scenarios to three –

⁵ IPCC, Climate Change 2022: Impacts, Adaption and Vulnerability, 2022, 15.

net-zero by 2050, a delayed transition, and current policies – would help simplify presenting future outlooks and thus make it easier to interpret what this means for investors and organisations.

For each scenario, the differentiation between physical and transition risks, including the opportunities provided, becomes particularly important for investors, to provide decision-useful information about investment opportunities for the transition.

- **Physical risks** indeed carry grave consequences for the economy, social well-being, and natural capital and eco-services, as the Climate Risk Scenarios rightfully points out in its comparison of the REF and the 1.5C scenario. Negative impacts can and need to be mitigated; however, some levels of both short-term and chronic climate-related impacts are inevitable. For investors to price in such effects, the main necessity is a forward-looking risk management framework, to protect from bad investments and stranded assets, and prepare for banking and financial losses (e.g., market losses in equities, bonds or commodities, credit losses for residential and corporate loans, underwriting losses, operational and liability risks, etc.). Nevertheless, it is still possible to avoid the worst effects of climate change, as for example in the 2C scenario, since every tenth of a degree avoided in global heating will significantly mitigate negative impacts.
- **Transitional risks** on the path to a low-carbon economy, on the other hand, also include significant benefits for society, as well as opportunities for investors. At a socio-economic level, such a transition can initiate technological and industry innovation; greater energy independence with reduced reliance on natural resources; improved health and labour productivity; job creation; and new industries. For investors, these **climate-related opportunities** translate into significant financing and investment opportunities in the South African market: in the energy sector (PV, wind, hydrogen), for energy efficiency measures, the automotive value chain⁶ (for zero-emission vehicles), the circular economy⁷, new and improved climate-ready infrastructure⁸, etc.

While Climate Risk Scenarios include the inevitable negative impacts from physical risks that need to be mitigated as much and fast as possible, the significant benefits and opportunities – including concrete narrative sector examples – connected to the transition do not receive the same attention. For example, regarding the cost of the energy transition, experience to date has been that increased adoption of renewable energy is inherently deflationary. Given the landmass of South Africa and its renewable energy resources – wind and solar capacities in particular – it is not consistent with market experience with clean energy deployment, that scaling up a technology that has low-to-zero marginal cost would result in higher electricity prices. Footnote 11 on page 20 of the climate scenario acknowledges that there would be price decreases in renewables, yet the overall cost of “bulk

⁶ South Africa's “well-developed automotive value chain [is] often heralded as the crown jewels of the country's industrial policy”, 2022; see <https://www.thesouthafrican.com/lifestyle/environment/are-there-electric-vehicles-in-south-africa/>

⁷ The CSIR study shows that “transitioning to a more circular economy has the potential to create value across all sectors of the economy – opportunities to decouple development from resource consumption and, in so doing, improve the local and global competitiveness of the South African manufacturing sector; improve food security through regenerative agriculture; create more sustainable, liveable cities; improve economic development through efficient mobility systems; and decouple economic development from the demands placed on our energy and water systems, which are already under considerable strain in South Africa.” see <https://www.csir.co.za/findings-circular-economy-south-africa>

⁸ What is climate-ready infrastructure? Some cities are starting to adapt, 2018; see <https://theconversation.com/what-is-climate-ready-infrastructure-some-cities-are-starting-to-adapt-91784>

electricity” still rises in scenario. Further investigation of the assumed rate of price decline is recommended, as future climate risk assessment may benefit from a stronger inclusion of positive economic effects and financial market opportunities related to a low-carbon economy.

Question 3: Application of the scenarios (once finalised) in their business to identify, monitor and manage risks.

From PRI’s viewpoint, the user-oriented effective application of Climate Risk Scenarios depends on the needs and objectives of their respective users. For the financial industry, priority for better managing risks would be to identify the size and level of material risks in investor portfolios and underlying business activities. To better understand how climate-related risks and opportunities affect business models and investment portfolios represents the underlying foundation for financial market actors to actively monitor, evaluate and manage these risks. As many of the quantitative indicators are still developing and connected to large uncertainties of interpretation, a narrative approach may be helpful to provide context for investor decisions, and thus explore the materiality of climate-related risks within their own portfolios as well as opportunities for more efficient capital allocation.

For disclosure on scenario analysis to be useful for investor decision-making, at a minimum, companies reporting to be conducting climate scenario analysis should disclose:

- how an organisation assessed its potential climate-related future(s) and the insights it gleaned from scenario analysis;
- what changes, if any, the company may be considering to its business model in response to its scenario analysis;
- how resilient management believes the company’s strategy is to various future climate states; and
- where the uncertainties are regarding the company’s strategy and its resilience to climate-related risks and opportunities.⁹

Utilising existing off-the-shelf tools may provide a further approach to simplify climate risk management for investors. Such tools include the Paris Agreement Capital Transition Assessment (PACTA)¹⁰, the Transition Pathway Initiative (TPI), and the IPCC Sixth Assessment report. These may initially be used as part of a narrative disclosure, to provide a holistic sense of a portfolio manager’s perspective on the management of climate risk and opportunity.

⁹ TCFD (October 2020), TCFD Guidance on Climate Scenario Analysis for non-Financial Companies, available at: https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Guidance-Scenario-Analysis-Guidance.pdf.

¹⁰ See <https://impactcp.org/insights/pacta-the-paris-agreement-capital-transition-assessment/>

Going forward, the Task Force on Climate-related Financial Disclosures (TCFD) has proposed cross-industry, climate-ready and decision-useful metrics that also apply to the South African context (regarding fossil fuel demand, water stress, drought etc.). Examples are¹¹:

- **Physical risks:** Amount and extent (percentage) of assets or business activities vulnerable, for example:
 - Revenue associated with water withdrawn and consumed in regions of high or extremely high baseline water stress
 - Proportion of property, infrastructure, or other alternative asset portfolios in an area subject to flooding, heat stress, or water stress
 - Wastewater treatment capacity located in 100-year flood zones
 - Number and value of mortgage loans in 100-year flood zones
- **Transition risks:** amount and extent (percentage) of assets or business activities vulnerable, for example:
 - Concentration of credit exposure to carbon-related assets
 - Percent of revenue from coal mining
 - Volume of real estate collaterals highly exposed to transition risk
- **Climate-related opportunities:** Proportion (amount or percentage) of revenue, assets, or other business activities aligned with a 1.5C transition scenario; for example:
 - Net premiums written related to energy efficiency and low-carbon technology
 - Number of (1) zero-emissions vehicles (ZEV), (2) hybrid vehicles, and (3) plug-in hybrid vehicles sold
 - Revenues from products or services that support the transition to a low-carbon economy

Future data and climate risk scenario modelling will benefit from focusing on the sectoral level to help investors who face decisions on capital allocations and may include specific supply chains risks.¹² As part of a phased approach, future climate scenarios would give priority to high-emitting sectors most affected by physical and transition risks, as these pose the most significant risks to investor portfolios and the banking sector.

Question 4: Practicality or potential structural barriers identified by industry stakeholders.

From PRI's experience, one of the most potent barriers for industry stakeholders is the identification of bankable projects and investment opportunities, or "use cases". These are closely linked with the predictability and transparency of government policy, i.e., how it is planning to achieve its Nationally Determined Contributions (NDCs) in line with the Paris Agreement. For investors, the most important aspect is not the political decision to reach net zero emissions by 2050, as referenced in the 1.5C scenario, but instead the reliable, regular, and transparent communication on concrete implementation steps, public support provided, and proposals for private finance to support this joint

¹¹ See Task Force on Climate-related Financial Disclosures (TCFD), Guidance on Metrics, Targets and Transition Plans, October 2021; see https://assets.bbhub.io/company/sites/60/2021/07/2021-Metrics_Targets_Guidance-1.pdf

¹² In addition, responsible investors also need to include greenhouse gas (GHG) reporting covering scope 1, 2 and 3 emissions in their respective portfolios, in line with the Global GHG Accounting and Reporting Standard for the Financial Industry. See <https://ghgprotocol.org/global-ghg-accounting-and-reporting-standard-financial-industry>

objective. In communicating its policy priorities and related investment opportunities, government may also consider combining “narrative with numbers” to stimulate financial market appetite, innovation, and creativity.

In this regard, the PRI encourages:

- **Policy predictability.** Investor confidence is dependent on credible government commitment to their own net-zero commitment, as implemented in policy, legislation, and financial support for the transition. According to the Carbon Action Tracker¹³, despite a planned decommission of 35GW of coal-fired power capacity within its Integrated Resource Plan (IRP 2019), more action is needed to align with Paris Agreement goals (or the PF scenario), such as increased renewable energy capacity, ending investments in coal and natural gas, and a full phase-out of coal-fired power generation by 2040 at the latest. The carbon pricing implemented in 2019 is another valuable policy signal for future investment decisions, which is, however, hampered by the low pricing level and its limited reach due to tax exemptions.¹⁴
- **Transparency.** National transition pathway plans with clear targets by 2030 and beyond would ideally include government investment priorities and support provided, specified by regional targets, sectors, and investable projects. Next to essential policy steps included in the Working Groups Climate Risk Scenarios – i.e., coal phase-out, carbon pricing, and expanding renewable energy – in order to increase investment opportunities for other sectors, government investment priority plans may also include electric vehicles (EV), energy efficiency, clean industry, low-carbon buildings, and agriculture, among others.¹⁵
- **Promoting investment opportunities.** To incentivize financial markets with actionable climate-related investment opportunities coupled with government support schemes, priority sectors could be defined for the financial market. For example, South Africa has only begun to tap its large potential for hydrogen production from renewable resources, to produce ammonia for fertiliser.¹⁶ This would mitigate regional climate-related risks for agricultural production (like water stress and droughts), strengthen its food security, and enable green hydrogen exports to other markets, such as Northern Europe. In addition, South Africa dominates global supplies of platinum group metals (PGMs) and is also a leading producer of chromium and manganese, which are critical for multiple clean energy technologies. While these resources have the potential to create new export markets, they need to be managed well, which requires improved geological surveys, robust governance, improved transport infrastructure and a particularly strong focus on minimising the environmental and social impacts of mining operations. Public-private partnerships, government supported loans,

¹³ Carbon Action Tracker Oct 2021 South Africa update, see <https://climateactiontracker.org/countries/south-africa/policies-action/>

¹⁴ Effective carbon prices are ambitious, just, predictable, competitive, and promote international cooperation; for more information, see the UN-convened Net-Zero Asset Owner Alliance Position Paper on Carbon Pricing, https://www.unepfi.org/wordpress/wp-content/uploads/2022/06/NZAOA_Governmental-Carbon-Pricing.pdf

¹⁵ UNPRI Inevitable Policy Response (IPR), see <https://www.unpri.org/inevitable-policy-response/what-is-the-inevitable-policy-response/4787.article>

¹⁶ IEA Africa Energy Outlook 2022. See <https://www.iea.org/reports/africa-energy-outlook-2022/key-findings>

grants, special purpose vehicles (SPVs) and other blended finance approaches for investors can reduce investment risks and accelerate green finance allocation.¹⁷

- **Use cases.** To increase transparency and investor confidence, concrete examples of planned, current, and completed transition projects can help address financial market uncertainty. For example, a database of renewable energy projects, completed as well as under development, with risk-return data, can support investors to identify opportunities, better assess and manage risks, simplify capital allocation, and strengthen a competitive market for industry innovation and emerging technologies.¹⁸

Question 5: Alternative scenarios which should be included or substituted, including international references where appropriate.

The research and further development of climate risk scenarios will be essential to create more financial market engagement and confidence for climate-related investments. At the investor level, climate risk assessments need to inform portfolio risks, and most importantly, help to develop and implement an internal strategy for more sustainable investment decisions.

There are numerous initiatives developing approaches on how responsible investors can assess climate-related risks, change their decision-making process, and create action plans to shift portfolios towards a net-zero emission pathway in line with the Working Group's 1.5C scenario. Some notable examples include:

- **Task Force for Climate-Related Disclosure (TCFD).**¹⁹ TCFD develops science-based recommendations on the types of information that companies in financial and non-financial sectors should disclose, to support investors, lenders, and insurance underwriters in appropriately assessing and pricing risks related to climate change. Disclosure recommendations are structured around four thematic areas that represent core elements of how companies operate: **governance, strategy, risk management, and metrics and targets**. The objective is to increase companies' and investors' understanding of physical and transitional risks, so information becomes more decision-useful; and for risks and opportunities to be more accurately priced, allowing for the more efficient allocation of capital.
- **Transition Pathway Initiative (TPI).**²⁰ TPI is a global initiative led by asset owners and supported by asset managers to develop a leading corporate climate action benchmark. Using publicly disclosed company information, TPI evaluates and tracks the quality of companies' management of their GHG emissions and of risks and opportunities related to the low-carbon transition; and how companies' planned or expected future carbon performance compares to international targets and national pledges made as part of the Paris Agreement.

¹⁷ IRENA: Renewable Energy Prospects: South Africa, June 2020. See https://irena.org/-/media/Files/IRENA/Agency/Publication/2020/Jun/IRENA_REmap_South_Africa_report_2020.pdf

¹⁸ The Transition Pathway Initiative (TPI) has published several case studies on how and what kind of data global investors use to enhance their investment decision-making. <https://www.transitionpathwayinitiative.org/publications/66.pdf?type=Publication>

¹⁹ See <https://www.fsb-tcf.org/>

²⁰ See <https://www.transitionpathwayinitiative.org/>

- **Glasgow Financial Alliance for Net Zero (GFANZ).**²¹ The Glasgow Financial Alliance for Net Zero (GFANZ) was launched in April 2021 by UN Special Envoy on Climate Action and Finance Mark Carney and the COP26 Presidency in partnership with the UN-backed Race to Zero campaign, to unite net-zero financial sector-specific alliances from across the globe into one industry-wide strategic alliance. GFANZ firms' net-zero commitments must use science-based guidelines to reach net-zero emissions across all emissions scopes by 2050, include 2030 interim target settings, and commit to transparent reporting and accounting in line with Race to Zero criteria.

The PRI has experience of contributing to public policy on sustainable finance and responsible investment across multiple markets and stands ready to support the work of the South Africa Reserve Bank and the Climate Benchmarking Working Group further to identify and further develop a common set of scenarios for the financial sector for application in the modelling of climate-related risks.

Please send any questions or comments to policy@unpri.org.

More information on www.unpri.org

²¹ See <https://www.gfanzero.com/>