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The Bureau
of Meteorology

Response to consultation paper on climate-related financial disclosure

February 2023

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1. About the Bureau of Meteorology

The Bureau of Meteorology (the Bureau) is Australia's national weather, climate and water agency, providing a wide range of products and services to support informed decision-making by governments, emergency services, industry and the community.

The Bureau operates under the authority of the *Meteorology Act 1955* (Cth) and the *Water Act 2007* (Cth), which together provide the legal basis for its activities. The Bureau must also fulfil Australia's international obligations under the Convention of the World Meteorological Organization (WMO) and related international meteorological treaties and agreements.

The Bureau is an Executive Agency under the *Public Service Act 1999* (Cth), and a non-corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013* (Cth). The Bureau operates under the Climate Change, Energy, the Environment and Water portfolio and reports to the Minister for the Environment and Water generally, and to the Minister for Emergency Management on emergency management matters.

The Bureau's products and services include a range of observations, forecasts, warnings, analyses and advice covering Australia's atmosphere, water, ocean and space environments. Its expertise and services assist Australians to manage and live safely and productively within their natural environment.

2. Response to consultation paper

The Bureau welcomes the opportunity to respond to Treasury's request for initial views on key considerations for the design and implementation of standardised, internationally-aligned requirements for disclosure of climate-related financial risks and opportunities in Australia.

The Bureau's response addresses 2 questions in the consultation paper: *Data and capability to support climate reporting (Question 13)* and *Governance of supporting information for disclosures (Question 14)*.

The Bureau does not have accountability for modelling greenhouse gas emissions but does create climate and water projections used by third parties to assess physical climate risk. The Bureau does not have a view on whether an agreed set of standard scenarios should be used in scenario analysis in the financial sector. However, the issues below may be worth considering when making such a decision.

2.1. Climate risk assessment in the finance sector

When completing climate risk assessments, large financial institutions increasingly utilise scenario analyses to assess climate risk under a range of plausible futures. This approach enables them to assess the vulnerability of investments to plausible future climates and the effectiveness of mitigations of that vulnerability. A range of plausible scenarios, none of which might actually occur in a given location, is fit for this purpose. Development of such scenarios does not necessarily require outputs from sophisticated climate models, as it is the range of plausible future conditions, rather than the likelihood of a single particular future, that is most useful. The benefit of this approach is that the same scenarios can be used to consistently assess investments all over the world. Many financial institutions use scenarios provided by the Network for Greening the Financial System for this purpose. (<https://www.nafs.net/nafs-scenarios-portal/>).

This approach is distinct from that deployed in natural resource management, where extensive scientific analysis and regional-scale modelling is generally undertaken in an attempt to most closely estimate the type and scale of future change in specific climate parameters (e.g. temperature, wind speed, humidity) at a particular location. Financial institutions will often utilise these more granular, location-specific projections when assessing a particular geographically-defined investment.

If creation and adoption of standardised climate scenarios were to be considered, it would need to take into account the (necessary) diversity of use cases for that data.

Further, the intended benefits of setting consistent standards for climate data as inputs to financial risk assessment may not be realised if the processes by which the data are used are not also standardised; yet diversity in analytical approaches necessarily exists because business structures, needs, risks and mitigations vary widely.

2.2. Diversity of climate projections data in Australia

There is a range of climate projections data services provided by Australian institutions. Most of these services are intended to support natural resource management and planning. These

services are constantly being enhanced as this field of science evolves and users become increasingly sophisticated and demand greater geographic and temporal granularity for a wider range of climate parameters. Some services are designed to meet the requirements of particular industries or particular jurisdictions. This may cause challenges when attempting to develop standards. For example, when assessing physical risk to agricultural investments, a financial institution may wish to use climate scenarios specifically designed to reflect physical risks to agricultural production. Alternatively, when assessing the future performance of a water dependent business, a financial institution may wish to utilise specialised hydrological projections.

A summary of some of these services is provided below.

2.2.1. Climate Change in Australia

Climate Change in Australia (CCiA) (<https://www.climatechangeinaustralia.gov.au/>) provides climate projections data to support the planning needs of Australia's natural resource management sector, and to provide information to assist climate adaptation processes. Climate models included in CCiA have been assessed as to how well they simulate aspects of the Australian climate. Model evaluation is provided for users (<https://www.climatechangeinaustralia.gov.au/en/communication-resources/reports/>). Projections that represent a range of Representative Concentration Pathways are provided. CCiA also provides a range of guidance material on data selection and carrying out impact assessments.

2.2.2. Bureau products and services

The Bureau's main focus is the provision of operational weather, water and climate services that keep Australian's safe, and support the resilience and productivity of Australian industries. Forecast services mostly fall within the time period from now to four months into the future. These types of services are not useful for climate risk assessment, which requires projections of climate decades into the future. However, the Bureau does offer some services that operate in this timeframe.

2.2.2.1. The Australian Water Outlook

The Australian Water Outlook (AWO) (<https://awo.bom.gov.au/>) includes projections of changes in precipitation, soil moisture, evapotranspiration and runoff for a series of aggregated periods out to the end of the century. The outputs from the AWO have a range of uses in relation to water availability, agriculture and planning for potential hazards, such as flood, drought and fire. The AWO also includes 8 National Hydrological Projections Assessment Reports based on 8 clusters of natural resource management (NRM) regions of Australia, each with distinct geographic and climate conditions that are affected differently by climate change. These regions align with regions used in the Climate Change in Australia initiative.

2.2.2.2. Climate Services for Agriculture

The Bureau is partnering with CSIRO to deliver the Australian Government's [Climate Services for Agriculture](#) program. To date, the Australian Government, through the Future Drought Fund (FDF) has invested a total of \$29 million over several commitments to continue the program to June 2024. The program is providing tools and information to help farmers and regional communities

understand and prepare for the impacts of climate change on their business and region. The service allows users to understand how observed and predicted changes to the climate have and will impact the production of specific commodities in specific locations. The data provided through this project may be useful for financial institutions to assess climate risk to specific agricultural businesses.

2.2.3. The Australian Climate Service

The Bureau of Meteorology hosts the Australian Climate Service. It is a partnership involving the Bureau of Meteorology, CSIRO, the Australian Bureau of Statistics and Geoscience Australia.

Various parts of the Australian Government hold world-leading expertise, data and information that can be used to support better planning, preparedness and response to climate challenges and natural hazards. The Australian Climate Service, established by the Australian Government in 2021, aims to connect and leverage the Commonwealth's extensive climate and natural hazard information into a single national view. The service will work with decision makers to provide data and intelligence to support each phase of the national disaster continuum - Prevention, Preparedness, Response, Recovery, Relief and Resilience

The ACS has been working to support the National Emergency Management Agency in both its operational roles and in considering ways to reduce future climate risks. The ACS is helping to make data more accessible and practical for decision-making. It is anticipated that some of this data will be made publicly available for other parties to draw on and use in their climate change and natural disaster preparedness, planning and reporting.

The ACS is helping the Australian Government undertake its first national risk assessment as committed in the National Climate Resilience and Adaptation Strategy. This assessment aims to provide advice and understand the impacts of climate and natural hazards. To provide this advice the ACS assesses how climate change scenarios (and associated risks) flow through to impacts on Australian communities. This requires integrating climate data with other datasets such as social and economic data or understanding of the built environment to also assess the level of exposure and vulnerability to climate-related risks. In the future the ACS anticipates playing a role in communicating climate science and scenarios and making these publicly accessible.

2.2.4. State-based services

Several Australian states have their own climate projections and scenario projects. Each has been developed to meet the needs of users in each state and each is underpinned by climate models that have been evaluated and validated in each region. These include [NSW and Australian Regional Climate Modelling](#) in New South Wales and ACT, [The Long Paddock](#) in Queensland and [Victoria's Future Climate Tool](#) in Victoria.