



**MONASH**  
University

# CLIMATE RISK AND THE FINANCIAL SYSTEM

Lessons for Australia from  
international experience

Chris Barrett and Anna Skarbek<sup>1</sup>

MONASH  
SUSTAINABLE  
DEVELOPMENT  
INSTITUTE

[monash.edu/msdi](https://monash.edu/msdi)

---



# EXECUTIVE SUMMARY

For nearly 20 years, policy responses to the challenge of climate change have largely focused on the *physical* regulation of carbon emissions — either directly, or through various forms of carbon pricing. It is only in the last three to four years that policymakers have begun to focus on what we can call the *financial regulation of climate risk* through the creation of a new agenda for banks, investment funds, insurance companies and financial regulators.

Australia has begun to play its part in staking out this new policy terrain and now faces both the challenge and the opportunity of rapid catch-up to (and beyond) the international best-practice frontier in both policy and corporate action. This paper surveys the policy and politics of the emerging international debate about climate risk for the finance system, assesses the potential implications for Australia, and frames some key questions for Australian policymakers in responding to them.

The new approach to the financial regulation of climate risk can be traced to two events. The first was the landmark speech of Bank of England Governor Mark Carney in September 2015, showing how the worst impacts of climate change will be felt beyond the typical planning horizons of the finance sector and thus

will create a “tragedy of the horizon”. The second was the Paris climate accord, agreed in December of the same year. The agreement firmly and for the first time placed a key responsibility upon the finance sector to shape the transition to a low — and eventually no — carbon economy.

For the finance sector, the Paris Agreement can be seen as a form of ‘regulatory overhang’. In other words, the transition to a low-carbon economy, once it passes into the regulations and laws of countries, will drastically reduce the value of high-emitting assets such as coal mines, power stations, gas plants and oil rigs. These assets, now worth trillions of dollars, would then become ‘stranded’ — devalued or even worthless.

Australia is disproportionately exposed to such stranded asset risk. It has a highly carbon-intensive economy, and its national emissions have been rising since 2013. The further Australia departs from an emissions pathway that is compatible with the Paris Agreement, the greater the need for a late, sharp policy adjustment, with all the attendant risks of serious damage to the finance sector and the economy. Yet Australia also stands disproportionately to benefit from a successful low carbon transition. It has a world-class solar and wind energy resource base, mineral resources critical to battery production, and a large and sophisticated funds management industry on hand to provide financial services products to realise these opportunities.

---

<sup>1</sup>Executive Director, Finance Strategy, at the European Climate Foundation (ECF) and CEO, ClimateWorks Australia. The authors acknowledge the support of the Monash Sustainable Development Institute and ClimateWorks Australia, and valuable comment and input from Rod Glover, Robert Kelly, Marine Dehayes, plus Kate Mackenzie from ECF, and Travis McLeod and Sam Hurley from the Centre for Policy Development.

*“With the recent announcement of the Australian Sustainable Finance Initiative, the ingredients are there for Australia to make significant progress, and quickly.”*

With the risks and opportunities in front of Australia set out, it is important to understand the very rapid progress that has been made around the world on the sustainable finance policy agenda in recent years. Australia can draw on this experience in its own reform process.

Financial policy and regulatory reform to address climate change has its roots in the last financial crisis and a growing determination by international policymakers to avoid climate being the cause of any future crisis. This expressed itself initially in the processes of the G20 group of nations, culminating in the report of the Taskforce on Climate-related Financial Disclosures (TCFD) to the 2017 G20 Leaders’ Summit. With the arrival of a new US administration in 2017, progress on climate issues became all but impossible in the G7 and G20 groups. Rather than the agenda collapsing, however, it found new and even more energetic and ambitious expression in two venues, in particular:

- The **Network for Greening the Financial System (NGFS)**, founded in 2017, brings together central banks and financial supervisors around the world to “contribute to the development of environment and climate risk management in the financial sector, and to mobilise mainstream finance to support the transition toward a sustainable economy”. From an initial founding coalition of eight central banks and financial supervisors, the network grew in 18 months to 35 members, including the Reserve Bank of Australia. Its ambitious workplan includes examination of micro — and macro — prudential policy as well as measures to assist in scaling up green finance. All measures offer the unprecedented prospect of central banks and financial supervisors deploying their mandates in the service of the low carbon transition, potentially including penalties for high-carbon activities.
- The comprehensive **European policy reform agenda** initiated by the European Commission’s High-Level Expert Group on Sustainable Finance (HLEG) in late 2016, and the Commission’s

response to that group’s final report in early 2018. The HLEG’s reform agenda is broad and ambitious and more than can be enacted by a commission whose mandate concludes this year, but important downpayments have been or will be made to reform sustainability benchmarks, disclosure regulations and investor duties, and to define a ‘taxonomy’ of sustainable activities. These activities will also have a large impact beyond Europe’s shores, both since they apply to businesses operating in the vast EU capital market and because they offer a best practice example for others to copy.

In addition to these two key developments, related national efforts in China and the UK are influential:

- **China**, because of the speed and impact of reforms such as compulsory liability insurance for environmental pollution and mandatory disclosure of environmental information. The potential size of China’s green finance sector gives these reforms an international resonance beyond their domestic impacts.
- The **United Kingdom** ran its own HLEG-style process, reporting in March 2018. Government is yet to respond, but the process signals a pro-green finance direction at odds with fears that the UK would turn in a deregulatory direction once freed from European Union frameworks.

Further, both Canada and New Zealand have embarked on their own expert panel processes in order to push sustainable finance reform.

In conclusion, Australia has numerous positive reform examples to draw on. With the recent announcement of the Australian Sustainable Finance Initiative, the ingredients are there for Australia to make significant progress, and quickly. Key industry players are aligned; domestic regulators have done solid groundwork; a well-defined set of international best practices now exists, and in international fora such as the NGFS best practice can rapidly be transmitted and catch-up occur.

# INTRODUCTION

The challenge of addressing anthropogenic climate change has been on the radar of policymakers across the globe since the 1980s, with studies showing an acceleration in new legislation starting in the early 2000s<sup>2</sup>.

Until very recently, however, climate policy interventions have overwhelmingly focused on what we might call the *physical* regulation of carbon emissions, be that via direct regulation such as plant, vehicle or product emission standards or more indirectly via emissions trading or carbon taxation regimes. Australia has had debates and policy interventions in this space accordingly.

Over the last 3 to 4 years, a new strand of climate policy has emerged internationally with surprising speed, focused on what we might call the *financial regulation of climate risk* through the creation of a new agenda for banks, investment funds, insurance companies and financial regulators. There has been a noticeable recent intensification in Australia's engagement with this new policy terrain, including thoughtful interventions from the Australian Prudential Regulation Authority (APRA), the Australian Securities

and Investments Commission (ASIC) and the Reserve Bank of Australia (RBA)<sup>3</sup>. In addition to this, a coalition of private sector actors has recently launched the Australian Sustainable Finance Initiative, an industry-driven grouping to devise policy recommendations and chart a course for the development of sustainable finance in Australia<sup>4</sup>.

There is now potential for the Australian engagement in financial regulation of climate risk to move rapidly, beyond catch-up and into a leadership position in the debate. Australia is obviously a highly carbon-intensive economy, yet it also has one of the world's most formidable clean energy resource bases, as well as a very large and sophisticated financial sector. Therefore, both the financial risks of a failed transition *and* the financial opportunities of a successful one make the case for a powerful Australian contribution to an important global debate.

**The purpose of this paper is to survey both the policy and the politics of this international debate around climate risk and the financial system; to assess the potential implications for Australia; and to frame some key questions for Australian policymakers in engaging and developing policy responses.**

---

<sup>2</sup>The most recent study by the Grantham Institute shows more than 1500 climate laws and policies worldwide, with 106 introduced since the Paris Agreement was reached. Michal Nachmany & Joana Setzer, Global trends in climate change legislation and litigation 2018, May 2018, <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2018/04/Global-trends-in-climate-change-legislation-and-litigation-2018-snapshot-3.pdf>

<sup>3</sup>[Australia's new horizon: Climate change challenges and prudential risk](#), Geoff Summerhayes, APRA, February 2017. [Climate change. Keynote address by John Price, Commissioner, Australian Securities and Investments Commission, Centre for Policy Development: Financing a Sustainable Economy](#), Sydney, Australia, 18 June 2018. [Climate Change and the Economy](#), Address by Dr Guy Debelle, Deputy Governor, RBA, 12 March 2019.

<sup>4</sup><https://www.sustainablefinance.org.au>

*“There is now potential for the Australian engagement in financial regulation of climate risk to move rapidly, beyond catch-up and into a leadership position in the debate.”*



# LATEST CLIMATE CONTEXT

The challenges of uncontrolled climate change scarcely need reiteration here. The recent (October 2018) special report by the Intergovernmental Panel on Climate Change (IPCC) laid out clearly the current impacts of human-induced climate change and projected future impacts<sup>5</sup>.

The report goes on to point out significantly increased damage from climate change between 1.5°C of warming and 2°C, including:

- hundreds of millions more people, particularly in poor countries, at risk of climate-related poverty;
- more severe and common extremely hot days, increasing heat-related deaths and causing more forest fires;
- 10 million more people by 2100 affected by sea-level rise; and
- marine fisheries would lose 3m tonnes at 2°C, twice the decline at 1.5°C.

Australia would be especially severely affected by an extra 0.5°C of warming, with scientists warning of significantly increased risk of drought — particularly in Australia’s southern half — and the virtually certain loss of the Great Barrier Reef to bleaching.<sup>6</sup>

*“Temperature rise to date has already resulted in profound alterations to human and natural systems, bringing increases in some types of extreme weather, droughts, floods, sea level rise and biodiversity loss, and causing unprecedented risks to vulnerable persons and populations.”*

– IPCC

---

<sup>5</sup>IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report, [http://report.ipcc.ch/sr15/pdf/sr15\\_chapter1.pdf](http://report.ipcc.ch/sr15/pdf/sr15_chapter1.pdf)

<sup>6</sup>“Australian climate extremes at 1.5°C and 2°C of global warming”, Andrew D. King, David J. Karoly & Benjamin J. Henley Nature Climate Change, volume 7, 2017, pp 412–416.

**THE CHANGING LIKELIHOOD OF AUSTRALIAN EXTREME EVENTS.** Examples of how likely four recent Australian extreme events are to occur in four scenarios: a natural world (without the present build-up of carbon emissions in the atmosphere), the current world, a 1.5 degree warmer world and a 2 degree warmer world. For the Australian drought case, changes in the likelihood of both precipitation deficits and high temperatures are considered due to their relevance. The best estimate is shown with the 5th–95th percentile confidence intervals in parentheses. Several of the impacts of each extreme event are highlighted.

Event		Associated impacts	Natural	Current	1.5°C	2°C
Angry summer 2012–2013		Severe heatwaves, Power blackouts, Bushfires	3% (1–5%)	44% (36–52%)	57% (50–65%)	77% (70–84%)
Coral Sea heat JFM 2016		Worst coral bleaching event on record	0% (0%)	31% (22–40%)	64% (53–76%)	87% (79–93%)
NE Australia rain December 2010		Widespread floods, Dozens of deaths	1% (0–2%)	2% (0–2%)	1% (1–1%)	1% (1–2%)
SE Australia drought 2006	Low rainfall	Water restrictions, Reduced crop yields	1% (1–2%)	2% (1–3%)	3% (1–4%)	3% (1–4%)
	High temperatures		1% (0–1%)	35% (28–42%)	52% (45–59%)	74% (67–81%)

**CREDIT**

King, A. D., Karoly, D. J., & Henley, B. J. (2017). Australian climate extremes at 1.5°C and 2°C of global warming. *Nature Climate Change*, 7(6), 412–416. <https://doi.org/10.1038/nclimate3296>

A narrow wooden plank bridge spans a stream in a dense forest. The bridge is made of several weathered wooden planks, with the closest one showing numerous circular holes. It is supported by thick, dark ropes or cables. The background is a lush, green forest with sunlight filtering through the trees.

*“By measuring [financial risks from climate change]...by allocating capital such that we avoid them — we not only increase our chances of avoiding dangerous climate change, we also reduce financial risk.”*

# THE FINANCIAL SYSTEM AND CLIMATE

Just as climate change is provoking feedback loops among the planet's natural systems, so too will it have far-reaching effects on the world's finance system.

Like the natural world, the financial system can both be a force for *arresting* climate change and suffer damage *from* climate change impacts as they unfold.

Mark Carney, Governor of the Bank of England, in September 2015<sup>7</sup> famously identified three types of risk in relation to climate change and the financial system: physical, liability and transition risks.

- Physical risks are those such as the impacts on insurance liabilities and the value of financial assets that arise from climate — and weather — related events.
- Liability risks are when parties who have suffered loss or damage from the effects of climate change seek compensation from those they hold responsible.
- Transition risks result from potentially rapid shifts in asset values as policy, technology and physical risks manifest themselves in the low-carbon transition.

Carney himself says that the most immediate financial stability risks probably relate to the last of these categories — transition risk. Policy and technology in particular can move very quickly, and destroy asset values as quickly as they boost others.

As this study focuses on policy, it is worth expanding on the policy and regulatory risks in particular. From the perspective of the climate community, the Paris Agreement of December 2015 is a framework every bit as much as it is an agreement — an international political process to lock in a dynamic of action and ambition in constantly improving climate policy. From the perspective of the finance system, however, one sees the Paris Agreement differently — namely as a very large “regulatory overhang” for any financiers of carbon-intensive activity.

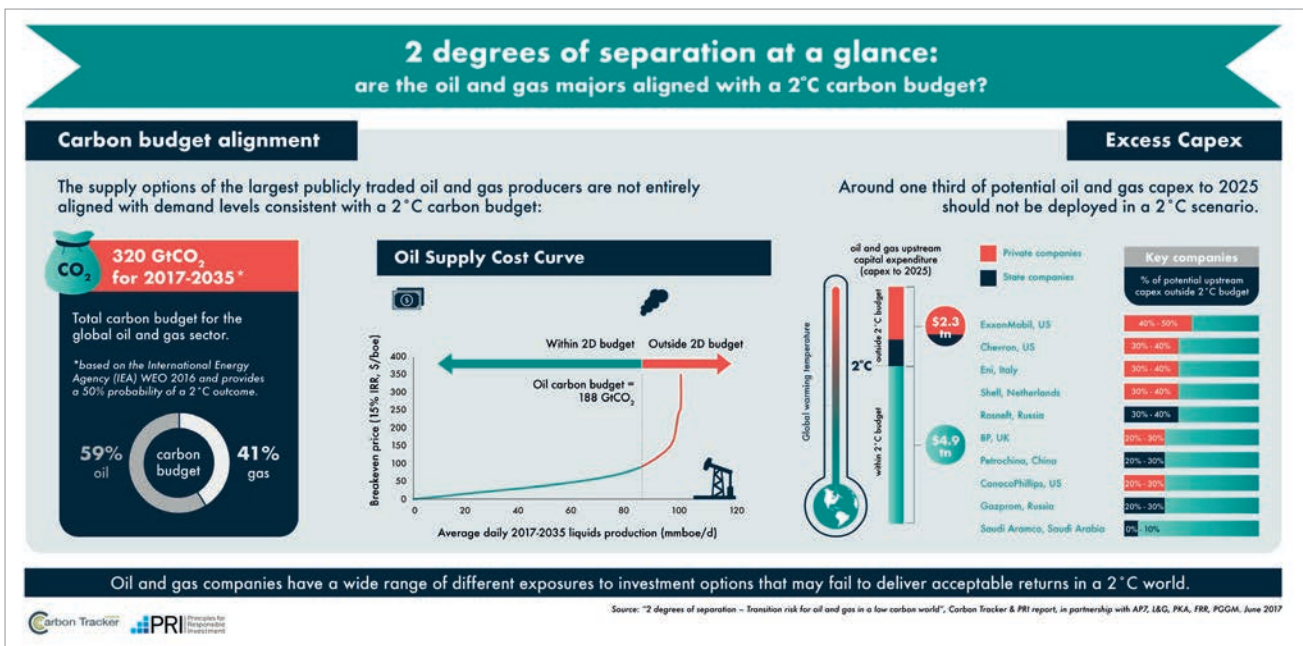
The term ‘regulatory overhang’ itself is more prevalent in financial journalism than in academia, but it expresses a key concept for how climate financial risks crystallise. Investors and market observers can — and often do — think that individual countries will never act to enforce the Paris Agreement’s “well-below two degree” average warming goal, but both the commitment of 197 signatory countries and the financial *consequences* should such rapid action to curb emissions come to pass are very clear.

One can assign a very low probability to climate change regulation or legislation actually happening, but even a very low probability multiplied by a very large potential value impact yields a significant expected value. Analysts have borrowed the term “stranded assets” from regulatory economics to describe these potential value losses.

Carbon budget analysis gives us some sense of how much current and planned investment in the capital-intensive energy sector is potentially impaired by

---

<sup>7</sup>Mark Carney, Breaking the Tragedy of the Horizon — climate change and financial stability, 29 September 2015, <http://www.fsb.org/wp-content/uploads/Breaking-the-Tragedy-of-the-Horizon---climate-change-and-financial-stability.pdf>



**CREDIT**

<https://www.carbontracker.org/reports/2-degrees-of-separation-transition-risk-for-oil-and-gas-in-a-low-carbon-world-2/>

climate change legislation or regulation. It translates the science and the texts of international climate negotiations very concretely into gigatons of carbon dioxide equivalent “permissible” under the Paris Agreement, allowing a comparison with current annual emissions, and just as importantly, to fossil fuel resources and reserves.

Examples of asset stranding risks abound: recent research by Ben Caldecott and his colleagues found that 87.7% of Southeast Asia’s *current* fossil fuel generation assets are incompatible with 1.5°C and 17.8% are incompatible with 2°C. 56.2% of Southeast Asia’s *planned* fossil fuel generation assets are incompatible with 1.5°C, with 46.5% incompatible with 2°C. This highlights the scale of premature closures required to meet climate change objectives.<sup>8</sup>

A further example comes in the form of the Carbon Tracker Initiative’s 2017 analysis of the capital expenditure plans of 69 global oil and gas companies, which found stark risks:

- US\$2.3trn — around one third — of potential oil and gas capex to 2025 is inconsistent with keeping average global temperature rise below 2 degrees (and hence potentially “stranded”); and
- Around two-thirds of the potential oil and gas production breaching a 2 degree limit is controlled by the private sector (and hence in theory capitalised in current company valuations).<sup>9</sup>

Every dollar of that \$2.3 trillion spent developing oil or gas projects incompatible with climate goals builds up financial risk in the system.

This underscores the vital importance of addressing those risks. By measuring them, by disclosing them, and by allocating capital such that we avoid them — we not only increase our chances of avoiding dangerous climate change, we also reduce financial risk — for companies, for investors and shareholders, and ultimately for the whole financial system.

<sup>8</sup>Carbon Lock-in Curves and Southeast Asia: Implications for the Paris Agreement, October 2018, Ben Caldecott, Matthew McCarten, Charalampos Triantafyllidis, <https://www.smithschool.ox.ac.uk/research/sustainable-finance/publications/Carbon-Lock-in-Curves-and-Southeast-Asia.pdf>

<sup>9</sup>Carbon Tracker Initiative, Principles for Responsible Investment (UN PRI), 2 degrees of separation — Transition risk for oil and gas in a low carbon world, 20 June 2017, <https://www.carbontracker.org/reports/2-degrees-of-separation-transition-risk-for-oil-and-gas-in-a-low-carbon-world-2/>

*“Every dollar of that \$2.3 trillion spent developing oil or gas projects incompatible with climate goals builds up financial risk in the system.”*



# EXPOSURES & OPPORTUNITIES FOR AUSTRALIA

Just as Australia is highly exposed to the physical effects of climate change, it is also disproportionately exposed — on both the risk and opportunity side — to the financial system effects of climate change.

On the risk side, Australia consistently ranks as one of the most carbon-intensive countries in the world<sup>10</sup> and has had poor recent progress on decarbonisation, from both carbon intensity and energy efficiency (see Chart 1).

Think tank Climate Analytics recently reviewed IEA energy efficiency data to show that Australia's manufacturing sector is virtually alone in making effectively no progress in the recent decade and a half on improving the efficiency with which it uses energy. Not only is this a waste of resources and a source of competitive disadvantage for Australian manufacturers, it is increasing the potential exposure to asset stranding as soon as climate policy action — international and domestic — accelerates.<sup>11</sup>

As demonstrated in past work by ClimateWorks Australia & ANU, the high emissions intensity of Australia's economy rests on a number of structural

foundations, including the dominance of coal-fired generation in Australia's electricity supply, the relatively large role of energy and emissions-intensive industrial activity in Australia's economy, the relatively large role of agriculture in the economy, and long distance transport requirements resulting from the large distances between urban centres.<sup>12</sup>

A recent analysis by IRENA — looking at decarbonisation of the global energy system in line with the Paris Agreement — shows very significant potential stranding of upstream energy assets in Australia, among other energy-intensive economies.<sup>13</sup>

It is not only the potential size of asset stranding creating financial risk for Australia. It is also the potential speed of the eventual adjustment in asset values. This is the subject of recent research done for the Principles for Responsible Investment (PRI) on the concept of the inevitable policy response (IPR)<sup>14</sup>. The IPR work recognises that every year the actual global emissions trajectory diverges from the Paris Agreement “well below 2 degrees” trajectory, the sharper and more disruptive the policy adjustment required to “shunt” global emissions onto a sustainable path.

---

<sup>10</sup>Emissions per capita data. IEA Atlas of Energy, <http://energyatlas.iea.org/#/tellmap/1378539487/4>

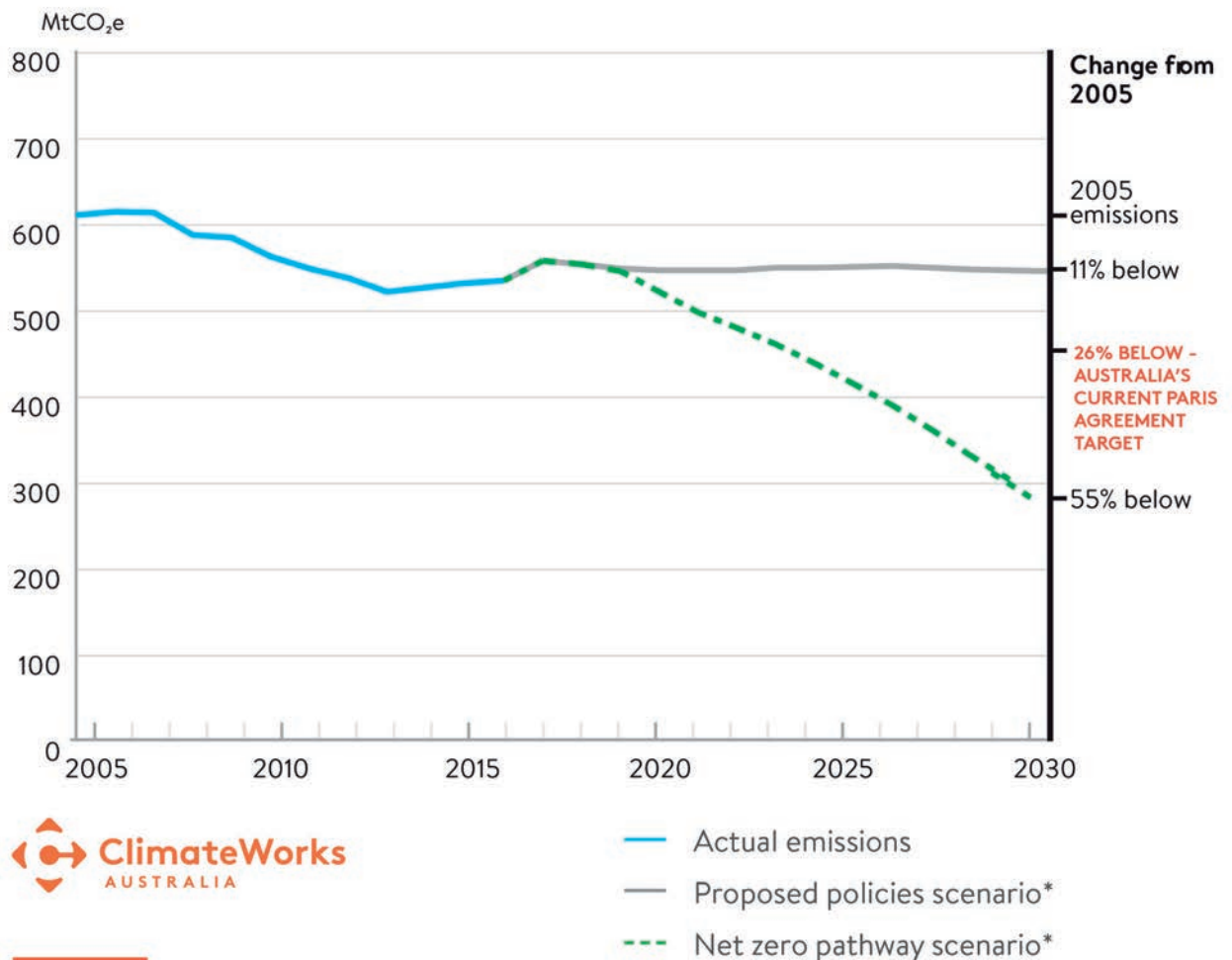
<sup>11</sup>Climate Analytics, Evaluating Australia's climate policy action, Factsheet 4, December 4, 2018, <https://d3n8a8pro7vhm.cloudfront.net/auscon/pages/10398/attachments/original/1544756305/AustraliaClimateFactsheets2018-Industry-ClimateAnalytics.pdf?1544756305>

<sup>12</sup>ClimateWorks Australia & Australian National University, Pathways to Deep Decarbonisation in 2050, 2014; [https://www.climateworksaustralia.org/sites/default/files/documents/publications/climateworks\\_pdd2050\\_initialreport\\_20140923.pdf](https://www.climateworksaustralia.org/sites/default/files/documents/publications/climateworks_pdd2050_initialreport_20140923.pdf)

<sup>13</sup>IRENA (2017), Stranded assets and renewables: how the energy transition affects the value of energy reserves, buildings and capital stock, International Renewable Energy Agency (IRENA), [www.irena.org/remap](http://www.irena.org/remap)

<sup>14</sup>PRI (2018), The Inevitable Policy Response To Climate Change, <https://www.unpri.org/climate-change/the-inevitable-policy-response-to-climate-change/3578.article>

## AUSTRALIA'S HISTORICAL AND PROJECTED EMISSIONS: 2005 TO 2030



\*This proposed policy scenario considered policy proposals well-advanced as of September 2018 and government projections available at that time. The net zero pathway scenario is based on analysis from the Deep Decarbonisation Pathway Project.

Chart 1. CREDIT

ClimateWorks Australia — modified from *Tracking Progress to net zero emissions* (2018)

*“In effect, an IPR is what would need to happen if the world was to move towards a target of 1.5–1.75°C with 50–66% probability. Indeed, if policy actions do not ratchet up from current levels, we would need urgent and forceful policy action today to achieve anything close to attaining a 1.5°C outcome. IPR can thus be considered a ‘backstop’ scenario — and a call to action — to accelerate current efforts to align with the Paris Agreement. An IPR trajectory is not being actively considered by most corporations and investors, hence the PRI’s support for assessing its effects and the preparatory actions that are needed.”*



The point here is that every year of inaction by policymakers and investors increases the risk of a discontinuous adjustment later, likely driven by mounting alarming evidence of the physical impacts of climate change such as bushfires, floods and extreme weather (all of course with their attendant financial impacts, especially for the insurance industry). This very point received an implicit endorsement by Bank of England Governor Mark Carney in recent remarks:

*“...long and short-term [climate] risks are, of course, linked — any overall misalignment with climate goals increases the short-term risks from a disorderly transition, possibly caused by extreme weather events or abrupt shifts in climate policy.”<sup>15</sup>*

A discontinuous policy adjustment must be a grave concern for Australian policymakers, not least when one considers the heavy reliance of the Australian retirement income system on the returns to risk capital, heavily invested in a carbon-intensive domestic economy. The Climate Institute provided a comprehensive catalogue of the risks to the financial system, already in 2015.<sup>16</sup>

As much as the risks to Australian business are clear, the disclosure that is the critical first step in grappling with these risks is still nascent. One year after the Taskforce on Climate-Related Financial Disclosures (TCFD) published its recommendations, the Centre for Policy Development found:

---

<sup>15</sup>A New Horizon, Speech given by Mark Carney, Governor Bank of England, 21 March 2019, <https://www.bankofengland.co.uk/-/media/boe/files/speech/2019/a-new-horizon-speech-by-mark-carney.pdf?la=en&hash=F63F8064E0408F038CABB1F29C58FB1A0CD0FE25>

<sup>16</sup>Kate Mackenzie, Australia’s Financial System and Climate Risk, Discussion Paper, The Climate Institute, July 2015, [http://www.climateinstitute.org.au/verve/resources/TCI\\_Australias\\_Financial\\_System\\_and\\_Climate\\_Risk\\_FINAL.pdf](http://www.climateinstitute.org.au/verve/resources/TCI_Australias_Financial_System_and_Climate_Risk_FINAL.pdf), pp10–12.

*“[general] support for the TCFD recommendations, but a serious deficiency in consistency and quality in disclosures — especially on scenario analysis. More organisations are conducting scenario analysis and disclosing the results, but the outcomes are patchy, due to a combination of stretched capabilities, imperfect resources and divergent standards. Many scenario exercises have employed questionable assumptions and overlooked the physical impacts of climate change. There is also little indication that scenario analysis has influenced corporate decisions and strategy.”<sup>17</sup>*



A more recent survey by APRA of 38 large entities showed only seven respondents disclosing climate-related risks as per the TCFD recommendations and 14 additional respondents were planning to disclose in line with the recommendations of the TCFD in the future. This means that a little under half of the organisations surveyed do not intend to disclose utilising the recommendations of the TCFD.<sup>18</sup>



On the other hand, Australia also enjoys significant potential opportunities in a region and world committed to climate action, including abundant solar and wind energy resources, mineral resources critical to battery production, and a large and highly sophisticated funds management industry. It is often said that the domestic finance sector has played a vital role in the global competitiveness of the Australian mining industry — it can do the same for the development of Australia’s formidable renewable energy resources and future resources for a low carbon economy.



---

<sup>17</sup>Sam Hurley and Kate Mackenzie, *Climate Horizons: Scenarios and Strategies for Managing Climate Risk*, Centre for Policy Development, June 2018, <https://cpd.org.au/wp-content/uploads/2018/06/Climate-Horizons-report-2018.pdf>. Note, however, that ASIC has recently (September 2018) reviewed the ASX300 for their TCFD disclosures.

<sup>18</sup>Australian Prudential Regulation Authority, *Climate change: Awareness to action*, 20 March 2019, [https://www.apra.gov.au/sites/default/files/climate\\_change\\_awareness\\_to\\_action\\_march\\_2019.pdf](https://www.apra.gov.au/sites/default/files/climate_change_awareness_to_action_march_2019.pdf)



*“Many years of policy efforts  
across multiple countries — not  
least in Australia — attest to  
the very significant difficulty of  
implementing [a carbon tax].”*

# ‘JUST PRICE CARBON’

Many might respond that financial system policy or regulation is itself a suboptimal response, the first-best response being to price physical carbon via a carbon tax or emissions-trading scheme and thus allow financial flows simply to follow the business opportunities arising from re-priced carbon.

Unfortunately, many years of policy efforts across multiple countries — not least in Australia — attest to the very significant difficulty of implementing and retaining any regime to price carbon at a level sufficient to drive Paris Agreement compliance.

For example, Rockström et al in their influential “Roadmap for Rapid Decarbonisation” estimate that Paris compliance would require a globally applied, sectorally comprehensive average carbon price of around \$50 a tonne in the 2020s. The largest contemporary carbon pricing scheme — the EU emissions trading scheme — is far from sectorally comprehensive (covering about 40% of EU emissions, which in turn are only 8% of global emissions) and after 13 years of operation, managed to achieve a price of €25 per tonne at the end of 2018.

For as long as carbon pricing in any given country remains what we might call “Paris insufficient” (which it does in virtually every country) climate financial risk does not simply disappear from the system: on the contrary, it multiplies.

Stefano Battiston of the University of Zürich and his colleagues have researched precisely this issue. Using empirical data of the Euro Area, Battiston et al show that while direct exposures of banks to the fossil fuel sector are small (3–12% of assets), the combined exposures to climate-policy relevant sectors are large (40–54%), heterogeneous, and possibly amplified by indirect exposures via financial counterparties (30–40%).

Many traditionally conservative financial policymakers internationally have accepted the existence of these risks and the imperative to address them, which is why sustainable finance policy action has been accelerating in recent years, and especially since the Paris Agreement was signed.

The following section provides an overview of the most potentially impactful developments in sustainable finance policy — especially for Australia — and provides a brief survey of the rest of the field.

---

<sup>19</sup>Johan Rockström, Owen Gaffney, Joeri Rogelj, Malte Meinshausen, Nebojsa Nakicenovic, Hans Joachim Schellnhuber, A roadmap for rapid decarbonization, *Science*, 24 Mar 2017, Vol. 355, Issue 6331

<sup>20</sup>Stefano Battiston, Antoine Mandel, Irene Monasterolo, Franziska Schütze & Gabriele Visentin, A climate stress-test of the financial system, *Nature Climate Change*, Volume 7, 2017, <https://www.nature.com/articles/nclimate3255>

# INTERNATIONAL ACTION ON SUSTAINABLE FINANCE

## Work on financial system reform for sustainability has its roots in international policy responses to the 2008 global financial crisis.

Although predominantly focused on questions of ‘sub-prime’ assets and the problem of “too big to fail” banks, the post-crisis response was important in laying the sustainable finance reform foundations at least insofar as it fundamentally interrogated the previously prevailing view of perfectly efficient financial markets whose sophistication in new techniques of risk management was sufficient inoculation against systemic fragilities and financial crises.

Policymakers post-crisis were at least attuned to the potential of systemic risk management failure. Literature emerged from 2011 onwards warning of a potential carbon bubble in language starkly familiar to policymakers who had just finished mopping up the toxic real estate assets of the last crash.<sup>21</sup>

In 2014, the UN Environment Program (UNEP) established an inquiry into “the financial system we need”, designed to advanced national and international efforts to shift the trillions needed for an inclusive,

green economy through a transformed financial system<sup>22</sup>. In particular, its 2015 report showed wide-ranging (and hitherto under-appreciated) policy reforms already underway, especially in developing countries.<sup>23</sup>

The real acceleration in the pace of policy reform came with two other events in 2015 — the speech in September by Bank of England Governor (and Financial Stability Board (FSB) Chair) Mark Carney to Lloyds of London, laying out the concept of climate risk and the “tragedy of the horizon” in terms (and from a credible messenger) no policymaker could ignore.<sup>24</sup>

The second, more seismic, event was the signing of the Paris Agreement that December. Not only did this represent the most successful and comprehensive international plan to combat climate change in history, it for the first time explicitly addressed the role of the finance sector with a very specific reference in Article 2.1(c), sending a clear message that both public and private finance actors must align themselves with the Paris climate goals.

Much of the resultant policy energy first found expression in G20 processes. Firstly, the Taskforce on Climate-Related Financial Disclosures (TCFD) was launched by Mark Carney as FSB Chair at the Paris

---

<sup>20</sup>Specifically, Carbon Tracker Initiative’s seminal report Unburnable Carbon: Are the World’s Financial Markets Carrying a Carbon Bubble? <https://www.carbontracker.org/reports/carbon-bubble/>

<sup>22</sup><http://unepinquiry.org/about-us/>

<sup>23</sup>UN Environment, The Financial System We Need: Aligning the Financial System with Sustainable Development, December 2015, <http://web.unep.org/ourplanet/december-2015/unep-publications/financial-system-we-need-aligning-financial-system-sustainable>

<sup>24</sup>Breaking the Tragedy of the Horizon — climate change and financial stability, Speech given by Mark Carney, Governor of the Bank of England and Chairman of the Financial Stability Board Lloyd’s of London, 29 September 2015, <http://www.fsb.org/wp-content/uploads/Breaking-the-Tragedy-of-the-Horizon---climate-change-and-financial-stability.pdf>

conference itself, and firmly placed within a G20 context, asked to report to the German presidency 18 months later. Secondly, the Chinese government demonstrated the seriousness of their Paris commitments by establishing and co-leading a Green Finance Study Group (GFSG) under their 2016 G20 presidency.

While concrete initiatives were mostly confined to the TCFD initiative as it worked its way through the FSB and G20 processes, the presence of green finance as a topic in G20 discussions and clear Chinese international leadership created momentum and enabled knowledge-sharing, educating policymakers and providing invaluable peer support for what was after all a new and unfamiliar topic for finance officials.

Though the GFSG was continued by the 2018 Argentine G20 presidency (as the Sustainable Finance Study Group or SFSG) it is clear from the attitude of the US administration to climate policy that progress on green finance in the G20 will be difficult for the foreseeable future. (The US pointedly refused to endorse the TCFD recommendations when they were presented at the July 2017 G20 Leaders' Summit in Hamburg).

What has been notable, however, is the maintenance of policy reform momentum by other means in the period since end 2016. Policy development has not ceased, instead it has relocated to national and supranational level with a variety of actors and coalitions of the willing forming to push the agenda forward.

The most potentially far-reaching initiatives — each at different levels of development — come from three main sources: central banks/financial supervisors, the European Union, and China.



**CREDIT**

*Executive Secretary of the United Nations Framework Convention on Climate Change Christiana Figueres, Secretary General of the United Nations Ban Ki Moon, Foreign Affairs Minister and President-designate of COP21 Laurent Fabius, and France's President Francois Hollande raise hands together after adoption of a historic global warming pact at the COP21 Climate Conference in Le Bourget, north of Paris, on Dec. 12, 2015. Anadolu Agency—Getty Images*



**CREDIT**

*Mark Carney 'Resolving the Climate Paradox' speech. <https://www.businessgreen.com/bg/opinion/2471831/mark-carney-speech-in-full-resolving-the-climate-paradox>*

# NETWORK FOR GREENING THE FINANCIAL SYSTEM

Probably the least-noticed but potentially most revolutionary initiative in sustainable finance policy today is the Central Banks and Supervisors Network for Greening the Financial System (NGFS).

The NGFS was established in December 2017 by 8 central banks and financial supervisors (hereafter known as CBFS). At the time of writing, the NGFS has grown to 35 members and 6 observers, representing five continents<sup>25</sup>. The Reserve Bank of Australia (RBA) has joined.

On one level, the NGFS is a clear response by a “coalition of the willing” of CBFS to the growing difficulty of making progress on climate financial risk management in other international fora such as the G7 or the G20, given the opposition of the United States. But digging deeper, it represents one of the most remarkable of the international finance policy community’s responses to the challenge of climate change. Central banks in particular — mindful of their unelected status — are highly cautious of putting their policy mandates at the service of broader policy goals, which makes the self-declared goal of the group “to contribute to the development of environment and climate risk management in the financial sector, and to mobilise mainstream finance to support the transition toward a sustainable economy” a stark change of tone in a very short space of time.<sup>26</sup>

The NGFS has created three work streams:

1. The micro-prudential/supervisory workstream looks at current supervisory practices, climate risk disclosure by financial institutions and potential

financial risk differentials between ‘green’ and ‘brown’ assets. The workstream is led by the People’s Bank of China with significant input from the Bank of England, the Monetary Authority of Singapore and German BaFin.

2. The macro-financial workstream aims to develop an analytical framework for assessing the impact of climate-related risks on the economy both in the central case and in the event of tail scenarios. Among other things, this work will draw on examples of how market stakeholders and policy makers analyse those risks. This workstream has a multi-year timeframe, starting out with a focus on transmission channels of climate-related risks. The workstream is led by the Bank of England, with input from (among others) Banque de France, BaFin, the European Central Bank, De Nederlandsche Bank, and the Bundesbank.
3. The scaling up green finance workstream focuses on the potential role of central banks and supervisors as catalysts for greening the financial system. The activity plan for this workstream covers measures that central banks may aim to include in their own operations (e.g. the integration of climate risk analysis in their own credit assessments), as well as steps they may want to take to support market initiatives. The workplan also lists topics such as a green and/or brown asset taxonomy, and labelling/standards for green bonds/loans/assets. This workstream is led by the Bundesbank with input from (among others) the Bank of England, Banque de France, De Nederlandsche Bank and the People’s Bank of China.

---

<sup>25, 26</sup><https://www.banque-france.fr/en/financial-stability/international-role/network-greening-financial-system/about-us>

## AS OF MARCH 26TH 2019, THE NGFS CONSISTS OF THE FOLLOWING MEMBERS:

Banca D'Italia	De Nederlandsche Bank
Banco de España	Deutsche Bundesbank
Banco de México	European Banking Authority
Banco de Portugal	European Central Bank
Bank Al Maghrib	European Insurance and Occupational Pensions Authority (EIOPA)
Bank of Canada	Finansinspektionen (Swedish FSA)
Bank of England	Finanstilsynet (Norwegian FSA)
Bank of Finland	Japan FSA
Bank of Greece	Monetary Authority of Singapore
Bank Negara Malaysia	National Bank of Belgium
Bank of Thailand	Norges Bank
Banque Centrale du Luxembourg	Oesterreichische Nationalbank
Banque de France	People's Bank of China
Autorité de Contrôle Prudentiel et de Résolution (ACPR France)	Reserve Bank of Australia
Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin Germany)	Reserve Bank of New Zealand
Central Bank of Hungary	Sveriges Riksbank
Central Bank of Ireland	Superintendencia Financiera De Colombia
Danmarks Nationalbank	

### Observers:

Bank for International Settlements (BIS)	Sustainable Insurance Forum
European Bank for Reconstruction and Development (EBRD)	World Bank
Organisation for Economic Cooperation and Development (OECD)	International Finance Corporation

The work is in its early stages, and very much still focused on research and joint learning. But the potential impact is obvious. Once deployed, CBFS policy mandates are extremely powerful in terms of their potential influence over the private cost of capital. Tools such as capital requirements, loan guidance, collateral rules or asset purchases (just to name a few) hold out the prospect of durably shifting the relative cost of capital for polluting versus clean assets, with potentially profound effects for the allocation of capital and the low carbon transition.

To give one example, research by the Council on Economic Policies showed the potential impact of applying a carbon risk weighting to companies eligible for the European Central Bank's bond purchase programme (CSPP). It shows that at least 8 corporate issuers would no longer be eligible for the CSPP given the potential impact of carbon risk on their creditworthiness. From other research, we know this has a measurable (up to 10 basis point) impact on the cost of debt.<sup>27</sup>

<sup>27</sup>Integrating Climate Risks into Credit Risk Assessment: Current Methodologies and the Case of Central Banks Corporate Bond Purchases, Council on Economic Policies, Pierre Monnin, 21 December 2018, <https://www.cepweb.org/integrating-climate-risks-into-credit-risk-assessment-current-methodologies-and-the-case-of-central-banks-corporate-bond-purchases/>

# EUROPEAN REFORM AGENDA

The second main driver of policy momentum has come from Europe. A sustainable finance agenda for Europe had long been an aspiration on the margins of European financial policy in Brussels but any more aggressive regulatory-based push would always founder on the resistance of the UK, wary of restrictions on the City of London.

Moreover, the UK's holding the post of Financial Services Commissioner provided institutional clout reinforcing the status quo. Efforts in the first half of this decade to incorporate sustainability into the EU's Capital Markets Union are just one example of stalled reform efforts.

Two developments brought a sudden thaw. As noted above, the signing of the Paris Agreement in December 2015 set clear expectations for the role of finance in delivering on climate goals. Just six months later, the shock Brexit referendum result removed a key source of institutional resistance to policy reform. Responsibility for financial services moved from the UK to Commission Vice-President Valdis Dombrovskis, who then moved quickly to set a comprehensive sustainable finance agenda in motion, establishing the High-Level Expert Group on Sustainable Finance (HLEG) in late 2016, with representation from the private sector, academia, and civil society. The group reported in January 2018, producing a highly ambitious reform agenda that essentially defined best practice on sustainable finance policy for developed country financial markets. The report's stated aspiration was nothing less than "building the world's most sustainable financial system".

In doing so, the definition of "sustainability" was purposely set very wide to encompass all environmental, social and governance (ESG) elements, and a focus on the 2030 Agenda and its Sustainable Development Goals (SDGs). That said, the report and the recommendations place particular weight on the Paris Agreement and supporting Europe's climate goals. This is especially evident in the Commission Action Plan issued in response, about which more below.

Importantly, the HLEG itself was supported throughout by a 40 person secretariat from the commission, with representatives of seven different directorates. This deep bureaucratic support meant the Commission was able to respond rapidly to the recommendations — crucial, as the remaining mandate (one year) of the Juncker Commission left little time for implementation.


The Commission Action Plan on Sustainable Finance (CAPSF) was released in March 2018, and deliberately chose to focus on a narrow but enabling subset of the HLEG recommendations, all placed on an aggressive legislative timetable running to the end of the Commission's mandate in 2019. Though the HLEG and the Action Plan both encompass a full range of sustainability definitions, the Action Plan prioritises an "early harvest" of initiatives heavily weighted towards climate policy, evident in the three areas where key legislation is proposed:

- **A unified EU classification system (taxonomy)**
  - this will enable an EU taxonomy on sustainable finance to be created and regularly updated. The taxonomy itself will in the first instance classify climate mitigation and adaptation activities, moving to broaden its focus later in 2019.

- **Investor duties** — would require institutional investors and asset managers to integrate sustainability considerations in the investment decision-making process and also to increase transparency towards end-investors on how they integrate such sustainability factors in their investment decisions. The transparency element in particular focuses on climate-change related risks in line with the TCFD recommendations.
- **Sustainability benchmarks** — aims to reform the benchmarking landscape in the EU to promote sustainable finance. This work too has had a particular focus on climate, kick-starting the provision of benchmarks offering investors products that support companies transitioning to a low-carbon economy, or those already aligned with Paris.

Not all of these reforms were created equal, and there inevitably arises the question of which elements will “bite” the most in terms of re-directing financial flows. The early results are promising, however, in two respects.

The first legislative agreement under the Action Plan was reached in respect of the sustainability benchmarks in late February. It is notable because the agreement between Council, Parliament and Commission would force all benchmark providers to report on ESG for their mainstream products as well as dedicated sustainability ones. This was a major development, as the original Commission proposal would merely have required benchmark providers to disclose the degree of alignment with the Paris Agreement of their green/ESG benchmarks (a 0.3%



The HLEG recommendations are too numerous to reproduce here, but the following key priorities give an indication of the scope and ambition of the reform effort, in particular the aspiration to have an impact beyond Europe’s borders with foundational work such as a sustainable finance taxonomy and redefining investor duties:

- **To introduce a common sustainable finance taxonomy to ensure market consistency and clarity, starting with climate change.**
- **To clarify investor duties to extend time horizons and bring greater focus on ESG factors.**
- **To upgrade Europe’s disclosure rules to make climate change risks and opportunities fully transparent.**
- **To establish a ‘Sustainable Infrastructure Europe’ facility to expand the size and quality of the EU pipeline of sustainable assets.**
- **To enlarge the role and capabilities of the European Supervisory Authorities (ESAs) to promote sustainable finance as part of their mandates.**

niche of the total market). Further, EU institutions agreed to create two new categories of benchmarks in the benchmark regulation, that are both climate-related:

- ‘Paris-aligned benchmarks’, selecting stocks that have a business model consistent with the Paris Agreement (stop global warming well below +2°C, pursuing efforts for +1.5°C); and
- ‘Climate transition’ benchmarks, selecting stocks that commit to align their business model with the Paris Agreement (primarily by setting a climate science-based target and annual reporting on progress).

Nor should the other areas of the taxonomy and investor duties be underestimated in terms of their potential impact, including beyond Europe’s shores.

In particular, the taxonomy’s potential power is that it responds to a genuine global concern as green investment accelerates: avoiding greenwashing and achieving consistency in how activities are assessed and financed. Allied to this point is the sheer weight of the EU capital market in global financial markets and the first-mover advantage of getting the definitions down on paper.

A useful analogue is the EU’s General Data Protection Regulation, decided in 2016 and coming into effect in May 2018. Although it only applied to the protection of individuals’ data within the European Economic Area, its extraterritorial impact (including costs for non-European businesses to comply with it) was huge, and it spawned subsequent legislation (for example in California) along the same lines. It is easy to imagine this dynamic repeating itself at least in part with the taxonomy.

There is also likely to be a strong element of “demand pull” for the taxonomy’s broader application to areas such as reporting under Article 2.1(c) of the Paris Agreement, or even to satisfy growing interest from financial and prudential regulators in a method of categorizing activities by their inherent climate risk profile.

Beyond that, two process points are important as lessons learned. The first is that the HLEG report and action plan have been critical in creating a broad-based momentum for sustainable finance policy reform.

For example, intelligence from inside the Commission suggests the ambitious result of the 2016 EU Banking Package package in late 2018 (including a path to mandatory climate risk disclosure for European banks) owed a great deal to the need for the Commission to demonstrate ambition on this agenda commensurate with the HLEG and CAPSF agenda. Secondly, the action plan will clearly only be a first legislative downpayment on the HLEG agenda which can be expected to be the global benchmark of ambitious policy reform in this area.

At the time of writing, implementation remains a work in progress.

*“The taxonomy’s potential power is that it responds to a genuine global concern as green investment accelerates: avoiding greenwashing and achieving consistency in how activities are assessed and financed.”*



# CHINA

The third major influence on the international policy direction has been the long and sustained policy reform efforts in China — important in their own right, but also in signalling the potential for a vast global green finance market.

China is engaging with the green finance policy reform agenda at the international level as noted above, but if anything, its domestic policy reforms have had a larger impact on the debate. China developed a policy goal of building an “ecological civilisation” as far back as 2012. This was very clearly driven by domestic political imperatives to clean up a highly-polluting industrial growth model causing serious political resistance among citizens concerned about poor air quality in cities and numerous pollution and food contamination scandals. Estimates of the financing need to support this industrial transformation are as high as RMB 3 to 4 trillion (\$US dollar 430 to 570 billion) annually, of which all but a very small proportion must come from private sources. These pressures, and a desire to capture new global markets for clean technology were the driving forces behind China’s green finance policy push along with the demands of China’s Paris agreement commitment to peak emissions by 2030.<sup>28</sup>

The finance sector reforms to give effect to this push were announced on 31 August 2016 by seven finance-related ministries and commissions, including the People’s Bank of China (PBoC).

Just days later, the Chinese government hosted its first G20 summit in Hangzhou where all G20 heads of state agreed for the first time on the shared goal of promoting green finance.

The potential climate risks in the prevailing Chinese financial/industrial model have arguably driven this more aggressive approach in China. For example, a recent analysis by Monasterolo et al estimates the exposure of just two Chinese policy banks to a rapid climate policy adjustment at between 4.2 to 22 percent of total loan value, and goes on to note that in view of the current leverage of Chinese policy banks, such losses could induce severe financial distress, with implications for macroeconomic and financial stability<sup>29</sup>. One can see a similar dynamic emerging in developed economies however, as policymakers recognise the speed of adjustment required in the financial system to avoid the worst impacts of climate risk on financial stability.

Chinese reforms have included:

- The PBoC incorporating green finance into its macroprudential assessment system, including through positive incentives for commercial banks to increase green credit and green deposits;
- The PBoC including green loans as collateral in its medium-term loan facility;
- A green financial standardisation project, including a focus on standards for products, information disclosure and green credit ratings;

---

<sup>28</sup>China’s green finance strategy: much achieved, further to go, Wang Yao, 24 October, 2018, <http://www.lse.ac.uk/GranthamInstitute/news/chinas-green-finance-strategy-much-achieved-further-to-go/>

<sup>29</sup>Irene Monasterolo, Jiani I. Zheng, Stefano Battiston, Climate Transition Risk and Development Finance: a Carbon Risk Assessment of China’s Overseas Energy Portfolios, *China & the World Economy*, Vol. 26, No. 6, 2018.

- A compulsory liability insurance system for environmental pollution in areas with high environmental risks; and
- A call by the PBoC for mandatory disclosure of environmental information for listed.<sup>30</sup>

In addition, China has been operating a number of regional emissions trading schemes for several years, and its much-awaited national carbon trading market is expected to be in full operation in 2019 — a very instructive example of physical carbon pricing moving in a complementary way to financial system policy reforms.<sup>31</sup>

As noted above, there are obvious differences between Chinese financial system governance and those of developed countries. While many developed country policy makers will balk at active policy preferment of specific sectors<sup>32</sup> several Chinese reforms such as mandatory risk disclosure and mandatory environmental insurance have gained traction in developed countries. The sheer size, particularly of the new green industrial sectors likely unleashed by these policy reforms mean they cannot be ignored by policymakers elsewhere, least of all in the Asia-Pacific.

The developments summarised above among central banks and in Europe and China have not gone unnoticed in the rest of the world. The echoes in traditional partners the UK, Canada and New Zealand are also of particular interest for Australia.

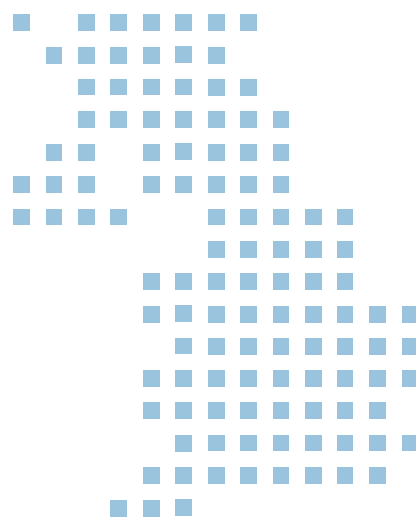


<sup>30</sup>Yao, op.cit. Peng, H., Lu, X.Q. and Zhou, C.B. "Introduction to China's Green Finance System. Journal of Service Science and Management, 11, 94–100, 2018. <https://doi.org/10.4236/jssm.2018.111009>

<sup>31</sup>China accumulated CO2 trade hits \$864 mln by end-Oct, CNBC, November 25, 2018, <https://www.cnbc.com/2018/11/25/reuters-america-update-1-china-accumulated-co2-trade-hits-864-mln-by-end-oct--ministry.html>

<sup>32</sup>This is a rule more honoured in the breach in recent years, witness the US Federal Reserve's support to mortgage and housing markets from 2008 to 2010, the Bank of England "Funding for Lending" scheme targeting household and SME lending and the Bank of Canada's support likewise for SME lending. Sini Matikainen, Emanuele Campiglio and Dimitri Zenghelis, The Climate Impact of Quantitative Easing, Grantham Research Institute Policy Paper, May 2017, [http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2017/05/ClimatImpactQuantEasing\\_Matikainen-et-al-1.pdf](http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2017/05/ClimatImpactQuantEasing_Matikainen-et-al-1.pdf)

# UNITED KINGDOM



In the UK, the key development was the creation by the UK Government in September 2017 of the UK Green Finance Taskforce, with broad representation from the private sector, academia and civil society.

The Taskforce reported in March of 2018<sup>33</sup>, providing an ambitious array of recommendations to maintain and grow London's advantage in the burgeoning field of green finance.

Its key recommendations included:

- Effectively making the TCFD recommendations mandatory via their inclusion in existing UK corporate governance and reporting frameworks and relevant regulatory practices (recs 5, 6 & 7);
- A range of policies to drive increasing demand for green lending products (operational energy ratings, Green Building Passports — recs 8 & 9);
- Clarifying investor roles and responsibilities in relation to ESG matters, and requiring investment advisors and trustees to engage clients and beneficiaries respectively on their sustainability preferences (recs 16 – 20);
- A government National Capital Raising plan to provide a clear pipeline for green and resilient infrastructure (rec 24); and
- The government to issue a Sovereign Green Bond (copying the French initiative from 2017 — rec 23).

The report and its recommendations are interesting and important in their own right, but also for what they say about the broader politics of green finance. As Brexit dominated discussion from mid-2016, it seemed plausible the UK would try to use its looming separation from the EU to double-down on London's perceived advantage as a lightly-regulated hub for financial services. As noted above, the UK had long been an especially resistant EU member state on financial regulation matters precisely because of this perceived competitive advantage in financial services. The Green Finance Taskforce showed even a Conservative government going in precisely the opposite direction — contemplating greater regulation in a number of areas in a bid to secure the City a share of the growing green finance market.

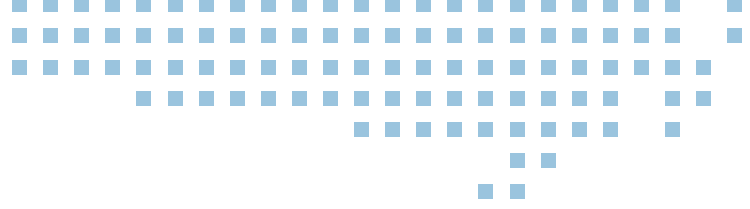
From discussions with Taskforce members, it became clear that there were several drivers for the UK to build, rather than back away from, ambition around green finance:

- Global momentum on green finance in the G20 (especially the TCFD process);
- Aggressive green finance policies emerging from China; and
- A clear European reform agenda via the HLEG process, which would henceforth be in competition for the UK in attracting green finance.

At the time of writing, the UK government's response to the taskforce's recommendations was expected imminently.

---

<sup>33</sup>Accelerating Green Finance, a report to Government by the Green Finance Taskforce, March 2018. <http://greenfinanceinitiative.org/wp-content/uploads/2018/04/Report-of-the-Green-Finance-Taskforce-1.pdf>



# CANADA

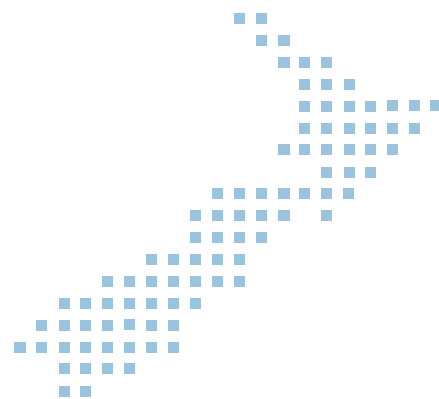
In the northern Spring 2018, the Canadian Ministers of Environment and Climate Change and Finance created a four-person Expert Panel on Sustainable Finance, chaired by former Bank of Canada Deputy Tiff Macklem, with representatives from the private and public finance sectors.

The panel has been given a short and sharp reporting timeline of a year and will deliver recommendations to ministers in the northern Spring 2019.

The panel takes as its departure point the growing physical evidence of climate change's effects and the Paris Agreement. It notes that Canada is especially exposed to any transition risks, given the carbon

intensity of much of the Canadian economy. On the positive side, the depth and sophistication of Canada's financial services industry — like Australia's — means it can play a powerful role in the transition. It is notable how strongly this message is couched in terms of opportunities, rather than risks.

The fundamental diagnosis from the panel in its interim report is that “sustainable finance is growing in Canada, but overall, we are not moving with sufficient determination or at the pace of many of our peers”<sup>34</sup>. Recommendations were not public at the time of writing.



# NEW ZEALAND

The latest recruit to the sustainable finance policy reform agenda is New Zealand, which in March 2019 initiated a new government-backed Sustainable Finance Forum.

Intended to draw on the lessons from HLEG and run in parallel to Australia's Sustainable Finance Initiative, it will commence with six months of engagement and deliberation, with an interim report late in 2019 and a final roadmap in 2020.<sup>35</sup>

---

<sup>34</sup>Interim Report of the Expert Panel on Sustainable Finance, [http://publications.gc.ca/collections/collection\\_2018/eccc/En4-350-1-2018-eng.pdf](http://publications.gc.ca/collections/collection_2018/eccc/En4-350-1-2018-eng.pdf), p2

<sup>35</sup>“New Zealand sustainable forum set up”, Responsible Investor, Paul Verney, March 27th, 2019, [https://www.responsible-investor.com/home/article/analysis\\_new\\_zealand\\_sustainable\\_forum/](https://www.responsible-investor.com/home/article/analysis_new_zealand_sustainable_forum/)

# PATH FORWARD FOR AUSTRALIA

Inevitably with the topic of climate change, much of the narrative focuses on downside risk, and this paper is no exception with the discussion above of both the stranding risks in Australia, and the growing international momentum behind the regulation of high-carbon finance.

These alone are important reasons for Australia to do an (entirely feasible) rapid catch-up on this policy agenda, using the lessons from overseas to get quickly to the reform frontier. But there are equally powerful opportunity drivers for Australia to embrace this agenda.

As the survey above has shown, policy internationally will likely drive a bow wave of demand for green projects, and the green financial products attached to them. Investors in Europe, for example, will need investable product to build their sustainable benchmark funds; to comply with new investor duties; and as an alternative to high-emitting investments increasingly freighted with new regulatory impositions. Australia can be a major destination for this investment, for the reasons outlined above.

As for the Australian finance sector itself, there is a generational opportunity for Australian funds, banks and other finance actors to develop and grow the skill set in creating and selling green finance products to the world. There will be a global league table of the top players in green finance, and given our resource

endowment — both physical and human capital — it is one Australia can legitimately aspire to getting to the top of. But this will only happen with real new policy impetus behind it.

As mentioned in the introduction to this paper, the sustainable finance policy agenda has been intensifying recently in Australia. This is not the place for a comprehensive survey, which has in any case been done impressively elsewhere.

The engagement from regulators — from APRA, to ASIC, to the RBA — is a vital element to start establishing framework conditions for the industry to thrive, and as we have seen above, now occurs in a propitious international context through the Network for Greening the Financial System. The Council of Financial Regulators (CFR) — which adds Commonwealth Treasury to the three regulators named above — has also established a working group on the implications of climate change.

Largely absent from the debate so far has been a policymaker voice from the federal government, likely as a consequence of the difficult national politics around climate change. In that context, the recent launch of the Australian Sustainable Finance Initiative (ASFI) is very positive. The ingredients are thus there for Australia to make significant progress, and quickly: alignment of key industry players; solid groundwork by key domestic regulators; a well-defined set of international best practices; and international fora such as the NGFS within which best practice can rapidly be transmitted and catch-up can occur.

---

<sup>36</sup>See recommendations in Hurley and Mackenzie, 2018, op.cit.

The coming year or two will determine whether Australia catches up quickly to the sustainable finance best-practice frontier, and goes beyond it to carve out a distinct space of competitive advantage for Australia.

**This paper aims to be a survey of recent international progress and a case for action in Australia, and hence will leave specific recommendations for ASFI and other contributors to the debate. In closing though, we do want to draw out some key questions for consideration in the Australian debate, informed by the experiences elsewhere:**

- Australia has a significantly elevated climate risk and opportunity profile compared to most countries in this survey. In what ways does the Australian response need to be adapted or accelerated to recognise this?
- Where can Australia make a fast start by copying or quickly adapting existing international frameworks or roadmaps (e.g. EU taxonomy)?
- In areas such as the taxonomy, but also in areas such as collateral requirements or capital requirements, will it be sufficient to focus on defining and treating 'sustainable' activities, or does a risk-based approach require defining and treating what is 'unsustainable'?
- Do the current mandates of key regulators allow them full scope to pursue this reform agenda, or are there areas where they may need to be adapted?
- Given the role of policy and regulation in delivering a sustainable finance agenda, what need to be the modalities of engagement between ASFI and policymakers/regulators to ensure a joined-up approach?





**MONASH**  
University

MONASH  
SUSTAINABLE  
DEVELOPMENT  
INSTITUTE

## CONTACT US

8 Scenic Boulevard, Clayton campus  
Monash University, Victoria 3800  
Australia

**T:** +61 3 9905 0124

**E:** [MSDI-enquiries@monash.edu](mailto:MSDI-enquiries@monash.edu)

**[monash.edu/msdi](http://monash.edu/msdi)**

 **[@MonashMSDI](https://twitter.com/MonashMSDI)**