Keeping Good Company in the Transition to a Low Carbon Economy? An Evaluation of Climate Risk Disclosure Practices in Australia

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Private sector action to reduce carbon emissions and increase uptake of clean energy practices is critical to achieving the goals of the 2015 Paris Agreement and averting dangerous climate change. An important driver is disclosure of the business risks posed by climate change (including physical risks to company assets or supply chains and financial transition risks, associated with changing law and policy, markets and technology). For companies, climate risk disclosure focuses attention internally on managing risk and harnessing associated market opportunities. Disclosure is also essential to market transparency, providing external stakeholders, such as institutional investors, with the information required to manage long-term investment risks. This article canvasses legal and policy frameworks for carbon risk disclosure in Australia, and samples the disclosure practices of a group of large Australian companies. It argues that current regulations and associated practices are not fit for purpose and proposes reforms to bring Australia into line with comparable jurisdictions internationally.

INTRODUCTION

In December 2015, 195 countries, including Australia, adopted the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC). The agreement came into force on 4 November 2016;[1] and commits parties to hold global temperature increases, brought about by industrial carbon emissions, to "well below" 2°C above pre-industrial levels, and "to pursue efforts" to limit temperature increases to 1.5°C, "recognizing that this would significantly reduce the risks and impacts of climate change".[2] Article 4.1 of the Agreement further commits states parties to a collective goal of reaching "global peaking" of carbon emissions as soon as possible and undertaking rapid reductions thereafter so as to achieve zero net carbon in the second half of the century. This means that greenhouse gas emissions should be reduced to a point where there is a balance between emissions and sequestration, either through natural sinks like forests or using technologies such as carbon capture and storage.

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[1] Paris Agreement, Paris (France), opened for signature 13 December 2015, (entered into force 4 November 2016) (in UNFCCC, Report of the Conference of the Parties on its Twenty-First Session, Addendum, UN Doc FCCC/CP/2015/10/Add 1, 29 January 2016) (Paris Agreement). Article 21(1) provides that the Agreement would enter into force thirty days after ratification by 55 countries representing 55 per cent of global greenhouse gas emissions: Art 21(1). On 5 October 2016, this threshold was achieved following the ratification by the European Union. See United Nations Framework Convention on Climate Change, Paris Agreement – Status of Ratification <http://unfccc.int/paris_agreement/items/9444.php>.

[2] Paris Agreement, n 1, Art 2.1(1)(a).

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Under the Paris Agreement, parties must develop plans, called Nationally Determined Contributions (NDCs) that detail their strategies for achieving these collective climate change mitigation goals, regularly report on their implementation, and review and improve on these contributions every five years.[3] NDCs contain contemplated national legal and policy measures and reforms that will ensure parties achieve their mitigation objectives. Such measures may include, for example, the introduction of market mechanisms such as emissions trading, or new or existing regulatory measures to achieve energy efficiency or renewable energy targets. The requirement under the Paris Agreement to revise and strengthen NDCs progressively over time is critical because countries' current pledged contributions fall short of the required ambition to meet the long-term global temperature goals.[4] The central machinery of the Agreement is a set of procedural rules that will monitor both individual and collective progress in meeting parties' self-determined mitigation contributions over time. Countries will be required to provide the information necessary to track progress in implementing and meeting NDCs, which will be audited by technical expert review.[5] Regular stocktakes will also assess whether the collective mitigation contributions (expressed through NDCs) are consistent with the overarching global temperature goals of limiting warming to 2°C or below.[6]

The successful conclusion of the Paris Agreement has been supported by some key leaders in the business and finance communities in Australia and internationally,[7] and is widely heralded as a game-changer for the private sector worldwide.[8] The Agreement represents a consensus among nation states regarding the need for rapid transition to a low carbon economy in order to prevent unsafe levels of global warming. The regular submission of national climate action plans in the NDC process will allow companies to anticipate domestic climate policy.[9] Further, the Agreement is likely to generate additional pressure for information collection and reporting on mitigation activities, including by the private sector, to support each country's international reporting obligations.

Alongside these international developments, many leaders in the business and finance communities increasingly acknowledge that climate change poses *material* risks and opportunities across all sectors of the economy.[10] These risks relate both to the *physical* and *non-physical* impacts of climate change. Physical risks, associated with both acute weather events and longer-term changes to rainfall, temperature and other factors, include potential disruptions to operations, transportation, supply chains; damage to physical assets; and reduced resource availability.[11] Non-physical risks refer to a range of interacting legal, technological, market and reputational risks.[12] For example, new laws and policies introduced to address climate change are likely to impose compliance costs and liabilities and lead to restrictions on the use of carbon-intensive assets. If the world is to have a 50 per cent chance of limiting global warming to 2°C consistent with the Paris Agreement, the International

[3] See Paris Agreement, n 1, Art 4, especially 4.2 4.3, 4.8, 4.9, 4.13.

[4] See Decision 1/CP.21, "Adoption of the Paris Agreement", 12 December 2015, FCCC/CP/2015/L.9/Rev 1, [17] <http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600008865>.

[5] Paris Agreement, n 1, Arts 4.13, 13.7, 13.11, 13.12.

[6] Paris Agreement, n 1, Art 14. See also paragraphs 17 and 20 of the Decision 1/CP.21, n 4) that require an earlier stocktake of initial intended NDCs in 2018, in light of the fact that initially communicated NDCs fall short of the required ambition to meet global temperature goals.

[7] See, eg, James Murray, "Paris Agreement: Top CEOs React" *BusinessGreen* (online) 14 December 2015 <http://www.businessgreen.com/bg/analysis/2439055/paris-agreement-top-ceos-react>; "COP 21: Business Leaders React to UN Climate Deal", *Climate Home* (online) 13 December 2016 <http://www.climatechangenews.com/2015/12/13/cop21-business-leaders-react-to-un-climate-deal>.

[8] See, eg, Paul Simpson, "What the Paris Agreement means for Business", *The Economist* (online) 11 January 2016 <http://www.eiuperspectives.economist.com/sustainability/what-paris-agreement-means-private-sector>.

[9] Simpson, n 8.

[10] Taskforce on Climate-Related Financial Disclosures (TCFD), *Phase One Report* (31 March 2016) 7.

[11] TCFD, n 10, 24, Table 3b.

[12] TCFD, n 10.

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Energy Agency estimates that more than two thirds of coal, oil and gas reserves cannot be burnt before 2050;[13] consequently the viability of fossil fuel assets may be affected, potentially leaving them "stranded".[14] The rapid development of clean energy technology and changing energy markets also pose very significant risks for many companies, particularly traditional energy generators and fossil-fuel based industries.[15] On the flipside of this multitude of risks is the range of potential commercial opportunities associated with transition to a low carbon economy, including the development of new clean energy markets and improved operating efficiencies.[16]

Disclosing climate-related risks and opportunities is increasingly seen as an important driver of private sector action on climate change and an essential part of mainstream strategic risk management for business. For companies, reporting climate-related risks focuses attention internally on developing risk management strategies and harnessing associated market opportunities, including accelerating investments in technological innovation and clean energy.[17] More broadly, full and timely risk disclosure is crucial to market transparency and efficiency, and can help to maintain economic stability and resilience.[18] Driven by concerns about the longer-term impacts of climate risk exposure, there is growing demand for targeted, decision-ready information from a range of market participants, particularly large-scale investors.[19] There is also considerable evidence of this information being used by investors to shape their decisions, including divesting from fossil fuel investments.[20] The establishment of the Taskforce on Climate-related Financial Disclosures (TCFD) by the Financial Stability Board of the G20[21] in 2015, to "develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to lenders, insurers, investors and other stakeholders",[22] has placed climate risk disclosure is now firmly on the agenda for the business and finance community around the world. In Australia, the Senate commenced an inquiry in March 2016 to explore these rapid international developments and assess relevant Australian laws and practices,[23]

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[13] International Energy Agency, *Redrawing the Energy-Climate Map: World Energy Outlook Special Report* (2013) 98.

[14] Ceres, *Carbon Asset Risk* <http://www.ceres.org/issues/carbon-asset-risk>.

[15] Ben Caldecott, "Opening Keynote" (Presentation delivered at Climate Change Risk and Corporate Governance: Director's Duties and Liability Exposures in a Post-Paris World, Melbourne, 29 August 2016) <http://www.eucentre.unimelb.edu.au/wp-content/uploads/ 2016/09/Climate-Change-RIsk-and-Corporate-Governance-Symposium-Report-29-30-August-2016.pdf>.

[16] TCFD, n 10, Table 3b.

[17] Nigel Topping, "How Does Sustainability Disclosure Drive Behaviour Change?" (2012) 24 *Journal of Applied Corporate Finance* 45; Jane Andrew and Corinne L Cortese, "Carbon Disclosures: Comparability, the Carbon Disclosure Project and the Greenhouse Gas Protocol" (2011) 5 *Australasian Accounting Finance and Business Journal* 5.

[18] Mark Carney, "Breaking the Tragedy of the Horizon: Climate Change and Financial Stability" (Speech delivered at Lloyd's of London, September 29, 2015); TCFD, n 10, 8.

[19] TCFD, n 10.

[20] Examples of investor coalitions driving carbon risk disclosure and better company performance on clean energy practices include *The Carbon Asset Risk Initiative* <http://www.ceres.org/issues/carbon-asset-risk>; *Carbon Action Initiative* <https://www.cdp.net/en-US/Programmes/Pages/Initiatives-CDP-Carbon-Action.aspx>; *We Mean Business Coalition* <http://www.wemeanbusinesscoalition.org/take-action>.

[21] The FSB is an international body that monitors and makes recommendations about the global financial system. Its mandate is to promote international financial stability by coordinating national financial authorities and international standard-setting bodies as they work toward developing strong regulatory, supervisory and other financial sector policies: <http://www.fsb.org/about>.

[22] Financial Stability Board, "FSB to Establish Taskforce on Climate-related Financial Disclosures" (Press Release, 4 December 2015) <http://www.fsb.org/2015/12/fsb-to-establish-task-force-on-climate-related-financial-disclosures>. The TFCD released its draft recommendations for climate-related financial risk disclosures for use by companies in providing information to lenders, insurers, investors and other stakeholders in December 2016. TFCD, *Recommendations of the Taskforce on Climate-Related Financial Disclosures* (2016). The final report is expected later in 2017.

[23] The inquiry received submissions but later lapsed due to the timing of the July 2016 federal election. The terms of reference included (a) current and emerging international carbon risk disclosure frameworks; (b) current carbon risk disclosure practices within corporate Australia; (c) Australian involvement in the G20 Financial Stability Board discussions on carbon risk impacts for financial stability; (d) current regulatory and policy oversight of carbon risk disclosure across government agencies; and (e) any other related matters: see <http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/Carbon_Risk_Disclosure/Terms_of_Reference>.

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and has only recently released its final report.[24] In addition, a legal opinion issued by leading Sydney barristers, Noel Hutley SC and Sebastian Hartford-Davis, outlining potential liability implications for company directors and others who fail to consider and disclose foreseeable climate risks has further focused attention domestically on the issue.[25]

Against this background, this Article explores the nature of climate risk and the importance of risk disclosure for Australian companies, focusing particularly on resource and energy companies and their financial backers, all of which have a relatively high and direct exposure to non-physical climate risks. It then discusses and critiques the current regulatory and policy arrangements for climate risk disclosure in Australia. This discussion is supplemented through consideration of the practice of a sample group of resource, energy and financial sector companies. Following this, this article examines recent developments in a number of comparable international jurisdictions to identify gaps in the Australian framework. Finally, it proposes legal and governance reforms to institute a workable, best practice model for climate risk disclosure in Australia.

Understanding Climate Risk and Disclosure

What is Climate Risk?

The risks posed to businesses by climate change are complex and numerous, and their materiality will differ significantly depending on the nature of the business, especially the sector, size and level of diversification. Much of the recent attention to climate risk disclosure has centred on resource and energy companies and the banking sector which finances these companies as a result of their particularly high exposure to financial risks associated with climate change and the potential flow on effects for investors and the financial system as a whole.[26] For these sectors, it is *non-physical climate risks* that are of particular concern. These risks are also often referred to as *carbon risks*[27] or *transition risks*.[28] In their overview of common climate-related risks and opportunities, the TCFD outlines the following categories of non-physical risks:

- **Policy/Legal/Litigation**: new laws and policies (international, national, subnational) to address climate change and drive transition to a low carbon economy, and changing litigation and related allocation of liabilities. Potential financial impacts include compliance costs, liabilities, limits on the use of carbon-intensive assets, stranded assets and asset impairment.
- **Technology**: the rate of progress of investment in and uptake of low carbon and emissions reduction technology. Associated financial impacts include existing technology investment write-offs, required investments in new technology, and associated operational and processing changes.
- **Market/Economic**: changes in supply, demand and competition, as well as the potential re-pricing of carbon intensive assets and the rate at which this re-pricing occurs. Associated financial impacts include changing viability of business models, asset impairment, and a reduction in the value of companies and securities.
- **Reputation**: damage to reputation and brand value stemming from association with a particular asset or company, potentially leading to lost revenue.[29]

[24] Senate Economics Reference Committee, Carbon Risk: A Burning Issue (2017).

[25] Noel Hutley and Sebastian Hartford-Davis, Climate Change and Director's Duties, Memorandum of Opinion (7 October 2016). The opinion is available at <http://cpd.org.au/2016/10/directorsduties>.

[26] The Climate Institute, *Australia's Financial System and Climate Risk* (2015); Julian Poulter, "Climate Change and the New Financial Literacy: The Dangers of a High Carbon Diet" [2014] (April–June) *Australian Quarterly* 28.

[27] For example, The Climate Institute defines carbon risk as "financial exposure to the risk of carbon emissions or carbon-intensive assets being priced, regulated, stranded by technology or incurring legal risk". This is distinct from the concept of *climate impact risk*, where a company's assets may be damaged or devalued as a result of the physical impacts of climate change. The Climate Change Institute, n 26, 1.

[28] See, eg, UK Prudential Regulation Authority, *The Impact of Climate Change on the UK Insurance Sector* (2015) uses the categories of physical, transition and liability risks.

[29] TCFD, n 10, 24.

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Risks for the Resource, Energy and Finance Sectors in Australia

For companies in the resource sector, whose business involves the extraction, processing, and sale of fossil fuels (coal, oil, gas), one of the central material risks posed by climate change relates to carbon-intensive assets (eg proven and probable fossil fuel reserves) being impaired[30] or stranded[31] as a result of changes in laws and regulations which limit the full exploitation of these resources through pricing or regulatory measures. Associated market risks will differ depending on the type of fossil fuel and the speed with which renewable technologies mature to displace fossil fuels. For example, natural gas is widely seen as a transition fuel, which is likely to play a key role in energy markets in the near to medium term due to its lower emissions profile relative to coal.[32] In addition, technological developments in hydraulic fracturing have lowered the price of natural gas, helping to increase its market share.[33]

For energy companies that produce and sell electricity generated by burning fossil fuels, one of the main risk factors is the pricing and regulation of emissions, which could lead to decreased profit margins on operations, reduced longevity of power stations and consequent write-downs of these generating assets leading to balance sheet losses.[34] In most developed economies, some level of accounting and reporting of scope 1 emissions (direct, on-site emissions from a company's activities, including fugitive emissions from coal mining) and scope 2 emissions (indirect emissions from the consumption of an energy commodity, such as electricity) is already required.[35] While comprehensive regulatory limits and pricing of these emissions is currently limited to a small number of jurisdictions,[36] the implementation of the Paris Agreement is likely to see much wider application of market mechanisms such as emissions trading and carbon taxes to contain and price emissions.[37] As for resource companies, the changing energy market (including the rise in distributed technologies, and development of battery storage capacity) poses risks to traditional business models in this sector.[38] Reputational exposure is also a significant risk, potentially leading to "loss of custom, diminished credibility and influence on public policy, and reduced attractiveness as an employer".[39]

For banks and other financial institutions, there are a range of non-physical climate risks related to "financed emissions" – the emissions that can be attributed to a financial institution as a consequence of the loans it has financed or the businesses it has invested in.[40] Of particular relevance are risks relating to *loan exposure* for fossil fuel–intensive projects and businesses that may default on debts,

[30] The value of an asset is impaired when the sum of estimated future cash flow from that asset is less than the book value of the asset, requiring a write-down of these assets in financial reports.

[31] "Stranded" is an economic term used to describe an asset which loses economic value prior to the expiry of its useful life.

[32] International Energy Agency, n 13, 28. See also, Franziska Holz et al, "A Global Perspective on the Future of Natural Gas: Resources, Trade and Climate Constraints" (2015) 9 *Review of Environmental Economics and Policy* 85.

[33] Centre for Climate and Energy Solutions, *Leveraging Natural Gas to Reduce Greenhouse Gas Emissions* (2013) <http://www.c2es.org/publications/leveraging-natural-gas-reduce-greenhouse-gas-emissions>.

[34] ACCR, *"Unburnable Carbon" Risk and the Australasian-listed Gentailers* (2015).

[35] In Australia, Greenhouse Gas (GHG) emissions reporting is tightly regulated under the *National Greenhouse and Energy Reporting Act 2007* (Cth) and aligned to the Intergovernmental Panel on Climate Change (IPCC) reporting framework.

[36] For example, emissions trading schemes of various scope and design now operate in Europe, some states of the United States and China, and many other countries have some form of carbon tax or carbon price. See Mat Hope, "The State of Carbon Pricing: Around the World in 46 Carbon Markets", *Carbon Brief* (online) 29 May 2014 <http://www.carbonbrief.org/the-state-of-carbon-pricing-around-the-world-in-46-carbon-markets>.

[37] For example, upon ratifying the Paris Agreement, Canada announced the introduction of a nationwide carbon tax. See, "Canada Will Tax Carbon Emissions to Meet Paris Climate Agreement Targets", *The Guardian* (online) 4 October 2016 <https://www.theguardian.com/world/2016/oct/03/canada-carbon-emissions-tax-paris-climate-agreement>.

[38] ACCR, n 34. These risks are also noted in the 2015 Annual Reports of AGL and Origin discussed in this article.

[39] ACCR, n 34 8.

[40] ACCR, *Financed Emissions, "Unburnable Carbon" Risk and the Major Australian Banks* (2014) 8. See also, Boston Common Asset Management, *Financing Climate Change: Carbon Risk in the Banking Sector* (2014).

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and *equity exposure* where there is a level of direct ownership of a fossil fuel project or business[41] whose value may be impaired as a result of the types of factors discussed above. These risks are of particular concern where there is a high concentration at a portfolio level in particularly exposed areas of sectors. Reputational risks associated with funding polluting industries have also emerged recently as a significant issue for the banking sector.[42]

Given that a significant proportion of the listed value of the Australian Stock Exchange consists of resource or financial services companies, the risks associated with the future regulation and pricing of carbon emissions and also the specific financial, transition risks posed by stranded carbon assets, are particularly pronounced for the Australian economy.[43] Australian energy generators and retailers also have a considerably higher exposure to carbon risks than many comparable jurisdictions with more diversified, less fossil fuel–intensive energy markets.[44] Further, many of these energy companies also hold significant fossil fuel reserves, meaning they are also exposed to asset stranding risks.[45] However, when considering the exposure of particular companies operating within the Australian economy, it is important to stress that these risks will differ significantly depending on the level of diversification within the enterprise. As the Australasian Centre for Corporate Responsibility [ACCR] notes, "a specialist reserve owner or pure play extraction business is more likely to face business pressures which result in default than a diversified company with both fossil fuel and non-fossil fuel operations".[46]

Admittedly, considerable uncertainties remain concerning the likely timeframes for the materialisation of the business risks discussed here. There is, for example, substantial uncertainty around the extent to which nation states will implement new laws and policies to curb greenhouse gas emissions and transition to clean energy, how quickly this will occur, and how consistent the approach will be. For large resource companies operating in international markets, the level of risk will depend on the regulatory and policy settings in a range of different jurisdictions. While these uncertainties do not necessarily undermine the materiality of climate-related risks, they do necessitate particular guidance on how risk disclosure should be approached in this context.

Finally, while this article focuses on non-physical climate risks in its analysis, this is not to understate the broader profile of physical risks posed by climate change to Australian businesses whose assets or supply chains may be vulnerable to physical impacts, including sea level rise, storm water inundation, heat stress, drought, and water scarcity. These impacts are clearly also relevant to any assessment of material climate risks facing Australian enterprises and are likely to impact on corporate value into the future.

[41] Equity exposure to carbon risk may arise as a result of an equity interest held by bank's defined benefit super funds or insurance operations.

[42] A recent example is the campaign against the four big Australian banks in relation to their financing of the Adani coal mine in the Galilee Basin in Queensland, which has seen all four banks make public statements distancing themselves from the project: Joshua Robinson, "Four Big Banks Distance Themselves from Adani Coal Mine as Westpac Rules Out Loan", *The Guardian* (online) 28 April 2017 < https://www.theguardian.com/environment/2017/apr/28/big-four-banks-all-refuse-to-fund-adani-coalmine-after-westpac-rules-out-loan>. See also, Caitlin Fitzsimmons, "Sustainability in the Spotlight Keeps Banks on Guard against Greenwash", *Australian Financial Review* (online) 7 February 2013 <http://www.afr.com/it-pro/sustainability-in-the-spotlight-keeps-banks-on-guard- against-greenwash-20130206-jygbi>.

[43] ACCR, n 40, 6. The ACCR estimates that about 17 per cent of the total market capitalisation of the ASX is exposed to the risk of equity write-down as a consequence of the "un-burnable carbon bubble" bursting.

[44] ACCR, n 34, 5.

[45] For example, AGL is a leading Australian energy generator and retailer but is also the 56th largest global coal company by reserves. ACCR, n 40, 5.

[46] ACCR, n 40, 6.

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Disclosing Climate Risks: International Drivers

Over the last decade, civil society and the investment community have led the development of a range of disclosure initiatives at the international level, many of which involve voluntary self-reporting of various aspects of climate risk.[47] These initiatives target large, listed companies and particularly carbon-intensive sectors. Of these, the CDP (previously Climate Disclosure Project) provides a good example, given its considerable coverage and impact. The CDP requests information on climate risks and opportunities from the world's largest companies on behalf of a major proportion of global institutional investors. Based on self-reporting against a standardised questionnaire, CDP reports on climate *performance* (the level of action on climate change mitigation and adaptation, eg through setting and meeting emissions reduction targets in direct operations and supply chain), and the completeness and quality of *disclosure* by participating companies. CDP now holds information from 5500 companies, representing nearly 60 per cent of global market capitalisation and 25 per cent of the world's carbon emissions.[48]

In terms of *non-physical* climate related risks (or *carbon risk*), the latest CDP questionnaire (2016) requests specific data on:

- any climate risks that have been identified by the company (including changes in regulation);[49]
- three years' consecutive data on greenhouse gas emissions, including detailed reporting requests for both scope 1 and 2 emissions (including external verification/ assurance);[50] and
- sector specific information, including:
  - factors focused on carbon asset stranding risk for fossil fuel companies, such as disclosures regarding proven and probable fossil fuel reserves;
  - an assessment of how climate regulation will impact the demand for, and price of, hydrocarbons; and
  - metrics for measuring carbon emissions embedded in the reserve and resource base.[51]

Voluntary disclosure initiatives, such as CDP, have been successful in supporting efforts to improve market transparency and encourage companies to minimise carbon risks. There has been an explosion in recent years in the use of CDP, or similar, data (including disclosed data and the fact of non-disclosure) by investors.[52] For example, *The Carbon Asset Risk Initiative*, a coalition of 75 investors managing more than $4 trillion in assets, have called on 5 of the world's largest fossil fuel companies to assess and disclose these risks. This coalition seeks to prevent companies from wasting investor capital by developing high-cost, high-carbon reserves that may never be used and to demonstrate how carbon risk poses an existential threat to business models, accrues increasing levels of stranded assets, and puts trillions of capital expenditures at risk.[53] Similarly, the *Carbon Action Initiative* is a coalition of over 300 large-scale investors that is asking the world's highest emitting companies to make emissions reductions (year on year) and publicly disclose targets.[54] The *We Mean Business Coalition* provides a platform for companies and investors to commit to one or more of their initiatives, including adopting a science-based emission reduction target; procuring 100 per cent electricity from renewable sources; and reporting climate change information in mainstream reports as a fiduciary duty.[55]

However, voluntary self-reporting captures only a subset of companies. The vast majority of companies are non-leaders – while they may acknowledge climate change risks, they have no specific

[47] The TCFD provides an up to date list of relevant schemes. See, TCFD, n 10, 12–14 and Appendix 2.

[48] Topping, n 17.

[49] CDP, *CDP's 2016 Climate Change Information Request*, 9, §CC5.

[50] CDP, n 49, §CC7, 10.

[51] Carbon Tracker Initiative and CDSB, *Considerations for Reporting and Disclosure in a Climate-constrained World* (2016) 4.

[52] The Climate Institute, n 26.

[53] Ceres, n 14.

[54] See further <https://www.cdp.net/en/investor/carbon-action>.

[55] See further <http://www.wemeanbusinesscoalition.org/take-action>.

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measures in place to address these risks.[56] Further, voluntary reporting can be of variable quality and extent. For example, early assessments of CDP disclosure found that comparability, accessibility, and reliability of data reported were lacking, making it of little use to external decision-makers such as investors.[57] While there has been considerable improvement in the scope and quality of reporting over time,[58] identifying the carbon exposure of an individual company remains challenging, despite the voluntary efforts of many companies through the CDP.[59] Indeed, the remit of the recently formed TCFD is to develop *consistent* standards to guide the future development of climate risk disclosure frameworks.[60]

The participation of Australian companies in these international schemes appears to be variable, and limited to large, diversified companies.[61] An early analysis of CDP reporting by Australian companies found a poor response rate relative to companies in comparable jurisdictions and highly variable quality and extent of disclosure.[62] The most recent report of the CDP notes that from 2010 to 2015 there has been no increase in the number of Australian companies reporting to CDP and significantly more non-responders than responders among the companies targeted.[63] However, for those companies participating, the quality of reporting has improved (eg independent verification of emissions reporting) and companies are also reporting significant improvements in performance (eg adoption of emissions reduction targets, reductions in scope 2 emissions).[64]

Regulatory and Policy Arrangements for Climate Risk Disclosure in Australia

With the exception of limited climate-specific laws,[65] current Australian legislation and regulations do not specifically require Australian companies or their directors to disclose information on climate-related risks to investors and shareholders. However, similar to comparable jurisdictions, such as the US and UK,[66] Australian corporations law does require companies to disclose certain information which is relevant to the operations, financial position, and business strategies of an entity, as well as any matters deemed to be *material* to the price or value of the entity's securities. Essentially, a particular factor will be considered to be material, and should accordingly be disclosed in financial statements and other reports, if it might influence the economic decisions of stakeholders

[56] Carbon Disclosure Project (CDP), *Global 500 Climate Change Report 2013* (2013).

[57] See Andrew and Cortese, n 17. See also: Ans Kolk, David Levy and Jonatan Pinkse, "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure" (2008) 17 *European Accounting Review*, 719.

[58] For example, the Climate Disclosure Standards Board offers a global climate change reporting framework that is intended for use by companies making disclosures in, or linked to, their mainstream financial reports. It is "standard-ready" for adoption by regulators contemplating the introduction or development of climate change disclosure practices. For further information, see, <http://www.cdsb.net>.

[59] The Climate Institute, n 26, 7. See also, KPMG, *Currents of Change: The KPMG Survey of Corporate Responsibility Reporting* (2015).

[60] TCFD, n 10, 3.

[61] Approximately 45 per cent of the companies listed in the ASX 200 index currently disclose their carbon footprint to CDP. See South Pole Group, *Submission to the Australian Senate Economics Reference Committee on Carbon Risk Disclosure* (2016).

[62] Susan Shearing, "Raising the Boardroom Temperature? Climate Change and Shareholder Activism in Australia" (2012) 29 EPLJ 479, 483.

[63] CDP, *CDP Australian Climate Leadership Report 2015* (2015) 19–23. In 2015, 135 of companies approached by CDP did not respond to the request for climate disclosure; 99 did respond.

[64] CDP, n 63.

[65] Such as the *National Greenhouse and Energy Reporting Act 2007* (Cth) (reporting of emissions and energy consumption).

[66] In the United States, for example, a management discussion and analysis must accompany the financial report and, in the United Kingdom, a strategic review must be provided in addition to the directors' report. See further, the discussion at n 110 and n 123.

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that use that information in their assessments and decisions.[67] Adequate and timely disclosure of financial information about a company's position and business prospects is a fundamental part of the corporate regulatory scheme, which serves to maintain investor confidence and achieve fair and efficient markets.[68] Penalties are provided for false or misleading disclosure.[69] With increasing recognition of climate-related risks as a key strategic and financial consideration for many Australian enterprises, which will have a material impact on corporate value into the future, there is a strong argument that these risks will, in many instances, fall under these mainstream financial reporting requirements.[70]

CORPORATE REPORTING REQUIREMENTS AND CLIMATE RISK

Table 1 below identifies the relevant sources of reporting and disclosure requirements under Australian law and their potential application to climate risk disclosure.[71] Given the article's focus on resource, energy and finance companies, the analysis is limited to key disclosure provisions under the Corporations Law that apply to public listed companies and the related compliance role of the Australian Securities and Investments Commission (ASIC), as well as specific climate change legislation (*National Greenhouse and Energy Reporting Act 2007* (Cth)). The analysis does not address the particular obligations that apply to institutional investors, such as superannuation trusts, which are regulated under different legislation and governance arrangements.[72]

[67] The Australian Accounting Standards Board provides the following guidance on the concept of materiality as it relates to financial reporting: "omissions or misstatements of items are material if they could, individually or collectively, influence the economic decisions that users make on the basis of the financial statements. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances. The size or nature of the item, or a combination of both, could be the determining factor." Australian Accounting Standards Board, *Compiled AASB Standard 108* (2011) cl 5, Definitions.

[68] ASIC, *Regulatory Guide 247 – Effective Disclosure in an Operating and Financial Review* (2013) 6.

[69] See, eg, *Corporations Act 2001* (Cth) s 1308.

[70] This view is supported by the legal opinion issued in Hutley and Hartford-Davis, n 25.

[71] In addition to the primary sources noted, the overview in this table also draws on Shearing, n 63; Riccardo Troiano, "Climate Change: Corporate Liability, Disclosure Requirements and Shareholders' Remedies" (2008) 26 C&SLJ 418; John A Purcell and Janice A Loftus, "Corporate Social Responsibility: Expanding Directors' Duties or Enhancing Corporate Disclosure" (2007) 21 *Australian Journal of Corporate Law* 135; Karen Bubna-Litic, "Climate Change and CSR: The Intersection of Corporate and Environmental Law" (2007) 24 EPLJ 253. Table 1 refers only briefly to relevant statutory provisions for misleading disclosures and this article does not consider in any detail whether misleading statements or a failure to adequately disclose climate risk would, in particular circumstances, amount to misleading disclosure giving rise to liability. For further discussion of this issue, see Tim Bednall and Pamela Hanrahan, "Officer's Liability for Mandatory Corporate Disclosure: Two Paths, Two Destinations?" (2013) 31 C&SLJ 474; Gill North, "Companies Take Heed: The Misleading or Deceptive Conduct Provisions are Gaining Prominence" (2012) 30 C&SLJ 342; Elizabeth Boros, "Public and Private Enforcement of Disclosure Breaches in Australia" (2009) 9 *Australian Journal of Corporate Law* 409.

[72] Governing legislation includes the *Superannuation Industry (Supervision) Act 1993* (Cth) and the *Financial Sector (Collection of Data) Act 2001* (Cth). The Australian Prudential Regulation Authority is the prudential regulator of banks, insurance companies and superannuation funds, credit unions, building societies and friendly societies. Importantly, APRA recently announced that it views climate change as posing financially material and foreseeable risks to Australian businesses, with potentially system-wide implications for the financial system, and that it intends to monitor the consideration and disclosure of climate risks by banks, insurers, superannuation funds and wealth managers. See Clancy Yeates, "Climate Change: A 'Material' Risk for the Financial System: APRA", *Sydney Morning Herald*, 17 February 2017 (online) <http://www.theage.com.au/business/banking-and-finance/climate-change-a-material-risk-for-the-financial-system-apra-20170217-guffhm.html>.

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TABLE 1 Potential application of current disclosure and reporting obligations to climate risk

Disclosure Obligations	Relevance to Carbon Risk Disclosure
Periodic Reporting Requirements (Annual Financial Statements, Director's Report, Operating and Financial Review) *Corporations Act 2001* (Cth) ss 292 – 301. Section 292 provides the range of entities that must prepare Financial Statements and Director's Reports, and includes all public companies and also a range of other large or otherwise significant, entities. Section 299A (Operating and Financial Review) applies only to listed public companies. ASIC, Regulatory Guide 247, *Effective Disclosure in an Operating and Financial Review* (2013) *Mandatory–civil penalties apply for failure to comply; civil and criminal penalties for misleading or dishonest reporting*.	No explicit statutory requirements relating to climate risk for annual financial statements and Director's Reports. Section 299(1)(f) requires specific disclosure if the entity's operations are subject to any particular and significant federal or State environmental regulation and, if so, their performance in relation to this regulation. However, this requirement remains largely irrelevant so long as there are no mandatory controls on carbon emissions in Australia. Given increasing recognition that climate risk is a key strategic, financial consideration for many companies, these risks are likely to be captured by the specific reporting requirements for the Director's Report. Section 299A(1) requires that a Director's Report contain information that members of the listed entity would reasonably require to make an informed assessment of: the operations of the entity; the financial position of the entity; and the business strategies and prospects for future financial years (Operating and Financial Review). Section 299A(3) does exempt companies from disclosing information about business strategies and prospects for future financial years if it is likely to result in unreasonable prejudice to the entity. If information is omitted, the report must note this omission. The accompanying Regulatory Guide notes that it will not be possible to rely on this exemption for information that is already in the public domain. Further, because only the information that is reasonable required to make an "informed assessment" about the matters in s 299A needs to be disclosed, "in most cases, it should be possible to provide this level of information about strategy without causing unreasonable prejudice to the entity". (Regulatory Guide 247, 19–20)
Continuous Disclosure Requirements *Corporations Act 2001* (Cth) s 674 – 677. ASX Listing Rules – Chapter 3, Continuous Disclosure, especially Listing Rule 3.1 – Chapter 5 – Additional Reporting on Mining and Oil and Gas Production and Exploration Activities The ASX rules target listed disclosing entities, however, unlisted disclosing entities are also required to disclose under s 675, although the process is different. *Mandatory–civil and criminal penalties* for failure to report.	Once a listed entity becomes aware of any information (not already generally available) which a reasonable person would expect to have a material effect on the price or value of the entity's securities, this information must be reported to the Australian Stock Exchange (ASX). Given the longer term nature and uncertainties surrounding many aspects of climate risk, it is difficult to predict if and when entities may be required to report under these provisions. However, it is conceivable that particular circumstances will arise which give rise to a requirement to report (eg a sudden drop in commodity value as a result of the introduction of stringent emissions controls in countries which are key trading partners). Mining, oil and gas companies have additional specific reporting requirements, including requirements to report on proven and probable mineral resources and ore/oil/gas reserve holdings; and the material economic assumptions underpinning resource development feasibility studies, unless these assumptions are commercially sensitive. These factors, particularly the underlying economic assumptions for proposed resource developments, are critical aspects of climate risk, especially relevant to un-burnable carbon and asset stranding. However, current reporting requirements are not specifically directed to understanding and managing these risks.

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TABLE 1 *continued*

Disclosure Obligations	**Relevance to Carbon Risk Disclosure**
Australian Stock Exchange– Principles and recommended practices for good governance ASX Corporate Governance Council, *Corporate Governance Principles and Recommendations*, Third Ed. (2014). **Principle 5:** A listed entity should make timely and balanced disclosure of all matters concerning it that a reasonable person would expect to have a material effect on the price or value of its securities. **Principle 7:** A listed entity should establish a sound risk management framework and periodically review the effectiveness of that framework. *Not mandatory, but any non-compliance must be justified and reported in the annual report. Recommended disclosures should be made in the annual report or on the company website.*	Principle 5 relates to the continuous disclosure provisions noted above. Principle 7 recommends that a listed entity disclose any *material exposure* to economic, environmental and social sustainability risks and how it manages, or intends to manage, those risks (rec 7.4). The key terms (material exposure, economic/environmental/social sustainability) are broadly defined and reference "the increasing calls globally for the business community to address matters of economic, environmental and social sustainability and the increasing demand from investors, especially institutional investors, for greater transparency on these matters so that they can properly assess investment risk". These definitions and this language suggest that reporting climate risk would be captured by these provisions, though there is no specific guidance to this effect. These matters may be reported in the Annual Report or on the company website.
Prohibitions on false or misleading disclosures (Criminal, civil penalty or civil liability provisions apply. Generally enforced by ASIC or persons aggrieved.) *Corporations Act 2001* (Cth), various provisions, eg ss 1041E, 1041H, 1308. *Australian Securities and Investments Commission Act 2001* (Cth), Part 2, eg s 12DA.	The Corporations Act provides variously for criminal, civil penalty or civil liability for breaches of specific disclosure requirements (eg continuous disclosure, takeover documents, fund-raising documents) and more generally for false or misleading disclosure. The ASIC Act addresses unconscionable conduct and consumer protection (including misleading representations) in relation to financial products and services. Of potential relevance to this discussion of climate risk disclosure are the more general provisions addressing false or misleading statements (eg s 1041E) and misleading and deceptive conduct in relation to a financial product or service (s 1041H).However, a detailed consideration of whether or not a failure to disclose aspects of climate risk or any false or misleading statements made about this risk could potentially amount to a breach and result in legal liability is beyond the scope of this article.
Reporting greenhouse gas emissions, energy production/ consumption *National Greenhouse and Energy Reporting Act 2007* (Cth) *Mandatory for facilities and corporate groups which meet certain emissions and energy thresholds. Penalties for entities that fail to register or for non-compliance.*	Companies and facilities (eg power stations) captured by this legislation account for approximately 60 per cent of Australia's greenhouse gas emissions. The legislation covers resource and energy sectors predominantly. Reported information on scope 1 and 2 emissions is important to assessing climate-related risk, but this reporting is not targeted to understanding and managing the associated financial and transition risks (eg potential future pricing and regulation of carbon emissions). Associated accounting and reporting practices provide a good basis for further development of climate risk disclosure practices.

Obligations to Report Climate Risk

The survey of corporate reporting requirements in Table 1 above suggests that, under current law, many Australian companies, particularly in the resource, energy and finance sectors, would be obligated to report aspects of climate-related risks as part of mainstream financial reporting, especially within the Operating and Financial Review (OFR) required under s 299A of the *Corporations Act 2001*. To comply with the ASX Corporate Governance Principles, climate risks should also be disclosed in any discussion of material exposure to economic, environmental, and social sustainability risks, either within the annual report or on the company website. This disclosure would be additional to, and of a distinctly different nature than, any reporting of greenhouse gas emissions that is required under the *National Greenhouse and Energy Reporting Act 2007* (Cth).

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In its submission to the recent Senate Inquiry into Carbon Risk Disclosure, ASIC (Australia's corporate regulator whose role it is to enforce company and financial services laws to protect Australian consumers, investors and creditors) appeared to confirm this view. ASIC's submission drew specific attention to the requirements under s 299A of the *Corporations Act 2001* for companies to report on business strategies and prospects for future financial years, suggesting that any material business risks arising as a result of climate change should be disclosed in this statement.[73] ASIC also made reference to the Regulatory Guide 247, which was released in 2013 to provide companies with additional guidance in preparing an OFR sufficient to meet the requirements of s 299.[74] While this guide does not refer specifically to climate-related risks, the general recommendations within the Guide support the argument that various aspects of climate-related risks should be included within an OFR.

For example, in relation to business strategies and future financial prospects, the Guide makes it clear that material business risks that could adversely affect the achievement of the financial performance or financial outcomes must be described. Relevant to the offence provisions noted above, the Guide also notes that "it is likely to be misleading to discuss prospects for future financial years without referring to the material business risks that could adversely affect the achievement of the financial prospects described for those years".[75] Material business risks are defined as "the most significant areas of uncertainty or exposure, at a whole-of-entity level, that could have an adverse impact on the achievement of the financial performance or outcomes disclosed in the OFR".[76]

Relevantly, the Guide also states that, for the purposes of the OFR, a company must adopt a time frame greater than one financial year:

> [T]he relevant time period will depend on the individual circumstances of the entity, taking into account factors such as the age of the entity, the business in which it is engaged, the industry in which it operates and the types of commitments it enters into.[77]

Given the uncertainties surrounding the time frames in which both physical and non-physical climate change impacts will materialise, adopting a longer time frame is critical to requiring companies to acknowledge and report on these risks within mainstream financial reports.

Although it is clear that the current legal framework already requires some level of reporting on climate risks for many companies, this is not explicit. There is no available guidance on the level and nature of reporting that would be required to comply with existing legal obligations. The review of the reporting practices of a sample of Australian companies, provided in the following section, suggests that the uncertainties and gaps in the existing regulatory framework have resulted in patchy, limited and often inaccessible disclosure of climate risks, even by some companies that have a high relative exposure to these risks.

EMPIRICAL STUDY OF REPORTING BY SELECTED AUSTRALIAN COMPANIES

This section presents the results of an initial exploratory inquiry into the disclosure practices of a selection of ASX-listed resource and energy companies that rank in the list of top 20 greenhouse gas emitters, according to the most recent National Greenhouse and Energy Reporting (NGER) data.[78] As this is an initial inquiry used by the authors to establish a baseline for further investigation, the sample

[73] ASIC, *Submission to the Australian Senate Inquiry into Carbon Risk Disclosure* (2016).

[74] ASIC, n 68.

[75] ASIC, n 68, 19.

[76] ASIC, n 68.

[77] ASIC, n 68, 17–18.

[78] Australian Government Clean Energy Regulator, *Corporate Emissions and Energy Data 2014–15* <http://www.cleanenergyregulator.gov.au/NGER/Published-information/Reported-greenhouse-and-energy-information-by-year/greenhouse-and-energy-information-2014-15>. See also, "Australia's Top 20 Greenhouse Gas Emitters", *Renew Economy* (online) 2 March 2015 <http://reneweconomy.com.au/2015/graph-of-the-day-australias-top-20-greenhouse-gas-emitters-98644>.

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size is relatively small, comprising six resource and energy companies.[79] While this small sample cannot claim to be representative of broader business practice in Australia, the practices of these companies are nonetheless significant for a number of reasons.

First, the primary reason for selecting these companies was their high exposure to climate risk. Australian resource and energy companies face considerable and diverse risks from climate change. It can reasonably be expected that the companies in the sample are among the most exposed given the size and nature of their businesses and their high emissions. This high level of exposure, coupled with the size and value of the companies surveyed, suggests that climate risk could reasonably be expected to be a significant issue on the management agenda. Not all of the top 20 emitters were included in the survey either because they are from a different industry sector (eg Qantas) or because, due to varying corporate structures and ownership patterns, not all are similarly subject to the reporting obligations of Australian corporate law discussed in this article. As such, the sample does not include energy companies that are listed on foreign stock exchanges,[80] or those that are owned by state governments and regulated under specific state-level legislation.[81]

Secondly, although the number of companies included is small, their significance in terms of market share and value is large. The sample includes three of Australia's top resource companies – BHP Billiton, Rio Tinto, Woodside Petroleum – all of which currently feature in the top 20 listed Australian companies by market capitalisation.[82] BHP Billiton and Rio Tinto also rank consistently in the top 10 Australian companies by revenue.[83] The sample also includes two of the leading Australian energy producers and retailers – AGL and Origin Energy – companies which feature in the top 50 listed companies by market capitalisation[84] and which also account for a very significant proportion of market share in both energy generation capacity and in the electricity retail market.[85] For example, in 2015 AGL had the largest share of generation capacity in New South Wales, Victoria and South Australia; and Origin had proportionally significant shares in New South Wales, Queensland and South Australia.[86] Together, in 2015, AGL and Origin accounted for over 50% of the retail electricity market.[87] Australia's leading steel company, Bluescope Steel, was also included in the sample due to recent investor interest in the climate risk exposure and preparedness of this high emitting sector.[88] Examining this sample of companies thus provides a useful picture of the disclosure practices of a major proportion of both the energy and resource sectors in Australia.

Because these are large companies, facing high levels of climate risk, who are already required to report on their greenhouse gas emissions under the NGER, it is reasonable to assume that they may be leaders in the field of climate risk disclosure and management in Australia. Further, aside from Bluescope Steel, most of the companies are quite highly diversified, a factor which arguably increases

[79] Further empirical work building on this initial survey is planned as part of the ongoing research project (ARC Discovery Project – DP 160100225 "Developing a Legal Blueprint for Corporate Energy Transition"). This is likely to include comparing companies of different size and levels of diversification in a range of different sectors.

[80] For example, Energy Australia is a private company, wholly owned by CLP Holdings, listed in Hong Kong.

[81] For example, CS Energy and Stanwell Corporation are state-owned generators and retailers in Queensland. Delta was a significant NSW government owned generator at the time of NGER listing, however, assets have been progressively offered for sale by the NSW government and Delta is no longer a significant player.

[82] As at 13 October 2016, all three companies feature in the S&P ASX 20 Index, a stock market list of the 20 largest companies by capitalisation: <http://www.marketindex.com.au/asx20>.

[83] IbisWorld, "IbisWorld Reveals Australia's Top 1000 Companies" (Press Release, 7 March 2016) <http://media.ibisworld.com.au/2016/03/07/ibisworld-reveals-australias-top-1000-companies>.

[84] As at 13 October 2016, both AGL and Origin Energy feature in the S&P ASX 50 Index, a stock market list of the 50 largest companies by capitalisation: <http://www.marketindex.com.au/asx50>.

[85] Australian Energy Regulator, *State of the Energy Market* (2015) 42 & 126. As noted above, the other major energy producers and retailer in Australia – EnergyAustralia, is not included as it is a private company, listed in a foreign stock exchange.

[86] Australian Energy Regulator, n 85, 42.

[87] Australian Energy Regulator, n 85, 126.

[88] CDP, *Nerves of Steel: Who's Ready to Get Tough on Emissions? Executive Summary* (2016).

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their capacity to manage climate risks and which also promotes a more transparent approach to risk reporting than in the case of more specialised fossil fuel businesses, such as pure-play coal miners, whose core business model is undermined by these risks. Some of the companies in the sample have also been subject to considerable shareholder pressure to improve their practice in this area.[89] As such, it is expected that this survey provides a reasonable indication of how leading and highly exposed companies are approaching climate risk reporting in Australia, and a baseline which can be further investigated with more targeted future inquiry.

For the selected sample of companies, the inquiry considered:

- whether climate-related risks were disclosed in the most recent company annual report (2014–2015) and specifically within the discussion of business strategies and prospects for future financial years required by s 299A;
- whether climate-related risks were reported by the company in other media (eg company website, sustainability reports, targeted publications); and
- the extent and quality of climate risk disclosure, focusing particularly on
  - coverage (whether relevant aspects of climate risk for the particular sector were reported and whether they were treated as a material business risk);
  - performance (discussion of the risk management approach and company performance against this approach); and
  - accessibility of the information provided for a varied audience.

The results of this survey are provided in Table 2 below. Following this is a discussion on the carbon risk disclosure practices of Australia's four big banks, which are extensively involved in financing loans and investing in fossil-fuel intensive businesses and therefore also exposed to significant levels of climate risk.[90]

[89] For example, organisations such as ACCR have led shareholder engagement strategies and brought shareholder resolutions to the AGM of companies including AGL and Origin. See ACCR, *Clean Power?: AGL and Origin Make Climate Commitments after Shareholder Pressure* <http://www.accr.org.au/power>.

[90] ACCR, n 40.

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TABLE 2 Survey of Climate Risk Disclosure: Australian Resource and Energy Companies

Company and Sector	OFR - Annual Report (2014–2015)	Other Reporting	Extent and Quality of Disclosure
Rio Tinto (*Resources*) Diverse portfolio includes: aluminium, copper, diamonds, gold, industrial minerals, iron ore, thermal and metallurgical coal, and uranium.	***Strategic Review*** (formspart of OFR): Climate change is noted in context of principal risks and uncertainties(operational and compliance risks). More detailed discussion of climate risks and risk management approaching Sustainable Development section(1/2 page). Emissions intensity targets included as KPI. Not linked to executive remuneration like therapies.	***Climate Change Position Statement (2012)***, available on website (2 pages). Brief and high level outline of risks and actions taken to mitigate risk (eg emissions intensity targets not quantified here). ***Sustainable Development Report*** (2014) also discusses climate change policies and reports on emissions targets, investment in renewable energy sources and other matters.	**Coverage:** Physical and non-physical risks (such as carbon policy and regulation) are covered, but quite general discussion only (eg no direct reference to potential impaired/ stranded assets as a result of carbon policy and regulation).Discussion largely limited to Sustainable Development section of annual report or other reports, not integrated into financial reporting. **Performance:** Sustainable Development Report reports on total emissions, emissions intensity, performance in reducing emissions intensity, and some level of scope 3 emissions (third party transport of product, use of coal and iron ore in steel production). Also describes risk management approach for non-physical risks, which includes scenario testing (using carbon regulation and pricing scenarios) to consider the economic viability of existing ore reserves, strategic focus of exploration activity and the evaluation of new capital investment. However, no detail of scenarios or results provided in either report. **Accessibility:** Fragmented reporting makes information on climate risks difficult to locate and extrapolate. Annual Report is large and complex, substantive discussion of climate change limited to sustainability section.

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TABLE 2 *continued*

Company and Sector	**OFR - Annual Report (2014–2015)**	**Other Reporting**	**Extent and Quality of Disclosure**
BHP Billiton (*Resources*) Diverse Portfolio includes: iron ore, metallurgical coal, copper and uranium, conventional and unconventional oil and gas, and thermal coal.	***Strategic Review*** (formspart of OFR): Includes upfront recognition of climate change as apriority governance and strategic issue for the company. Discussed in various sections of the strategic review, including external factors and trends; corporate planning (scenario testing incorporates climate policy information); strategic priorities; risk identification (explicit discussion of climate change as sustainability risk that may impact value of company, operations and markets); and risk management approach. GHG emission reductions included as KPI (Sustainability).	***Climate Change Portfolio Analysis (2015),*** available on website. Detailed, comprehensive treatment of non-physical risks. Seen as a leader in the field of carbon risk disclosure.	**Coverage:** Comprehensive discussion of physical and non-physical risks and integrated approach to risk management. Treated as a central cross-cutting issue in annual report. **Performance:** Describes an integrated approach to addressing climate risks: taking action to reduce emissions and adapt to the physical impacts of climate change; development and deployment follow emissions technologies; regular identification and assessment of the impacts of climate change on portfolio using a range of climate policy/economic scenarios. Presents results of scenario testing: suggests that BHP's diversified portfolio of assets is robust across all scenarios, including in a carbon-constrained world. **Accessibility:** Presenting the portfolio analysis as a standalone document with more detailed and substantive discussion improves accessibility of carbon risk disclosure.
Woodside Petroleum (*Resources*) Oil and Gas – exploration, extraction and production.	***OFR***: Discussion of financial position and market outlook contains no mention of climate change. Climate change is noted as one of 11 significant material risks at the whole-of-entity level, but fairly brief, general discussion	***Sustainable Development Report (2015)***: Fuller discussion recognising exposure to the economic risks and opportunities of an accelerated transition to clean energy, uncertainty surrounding future regulatory and policy frameworks, and increasing social pressure for action on climate change. Includes brief discussion of risk management approach and likely business outlook	**Coverage:** Limited general level reporting and discussion in annual report with little integration into financial reporting. More detail on non-physical risks in Sustainable Development Report but this is a high level discussion rather than a quantified, detailed analysis. **Performance:** Uses scenario testing (including different carbon reduction targets and carbon pricing) to test key commercial decisions. Results suggest that natural gas consumption will continue to grow until at least 2040. **Accessibility:** Fragmented reporting makes information on climate risks difficult to locate and extrapolate. Annual Report is large and complex, substantive discussion of climate change is limited.

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TABLE 2 *continued*

Company and Sector	OFR - Annual Report (2014–2015)	Other Reporting	Extent and Quality of Disclosure
Bluescope (*Resources/ Materials*) Steel manufacture, Iron sand mines for export and steel making.	***OFR:*** Discussion of future prospects and risks includes very brief mention of changing government regulation relating to GHG emissions. Regulatory and policy developments in Australia and NZ noted briefly.	***Community, Safety and Environment Report (2015).*** More detail on company approach to reduce energy use and emissions intensity.	**Coverage:** Discussion in Annual Report is minimal and general, considering the emissions intensity of this business. More detailed discussion of non-physical risks in CSER Report, including quantified emissions intensity and energy usage. **Performance:** CSER Report discusses GHG intensity of steel making and company efforts to improve energy and carbon efficiency of operations via process and energy efficiency projects. Total energy usage and GHG emissions have reduced significantly in recent years, but have now largely stabilised for this level of operation. Intensity levels show incremental improvements that reflect the successful implementation of process and energy efficiency projects. **Accessibility:** Fragmented reporting makes information on climate risks difficult to locate and extrapolate. Annual Report is large and complex, substantive discussion of climate change is limited.

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TABLE 2 *continued*

Company and Sector	**OFR - Annual Report (2014–2015)**	**Other Reporting**	**Extent and Quality of Disclosure**
AGL (*Energy***)** Power generation and retail. Diverse power generation portfolio: traditional thermal coal and renewables (hydro, wind, solar, landfill gas and biomass). Recent acquisition of a number of NSW coal power plants makes AGL the largest and lowest cost thermal electricity generation portfolio in the National Electricity Market and the highest scope 1 emitter captured by the NGER.	***OFR***: Discussion of business strategies and prospects is based around longer-term energy industry transformation. Also discussion of business risks and risk mitigation strategies includes policy uncertainty and investment risks for new energy part of business. 12 material issues identified for 2015, include energy policy uncertainty.	***AGL Greenhouse Gas Policy (April 2015)***: Outlines pathway to decarbonisation of electricity generation by 2050. ***Sustainability Report (2015)*** Further discussion of GHG policy; investment in clean energy technology; and approach to GHG emissions reporting (operational, equity and also supply emissions, which covers emissions resulting from the production, transportation, distribution and consumption of electricity and gas).	**Coverage**: Reasonably comprehensive discussion in Annual Report; GHG Gas Policy provides detailed plan for risk management. Treats energy industry transformation as a long time-frame risk to business model, not as an immediate threat to business. This is reflected in ongoing dominance of coal fired power generation within portfolio. **Performance**: GHG Policy contains an ambitious risk management/business transformation plan to 2050, with a range of specific commitments, including: no building, financing or acquiring of new conventional coal-fired power stations in Australia (ie without carbon capture and storage); no extension of the operating life of existing coal-fired power stations; and closing, by 2050, all existing coal?fired power stations in its portfolio. However little detail available on performance against these commitments as this is a new policy. Also notable that the policy was released following major acquisitions of NSW coal power plants, which undermine the value of the commitments. Reported 95 per cent increase in emissions across all three measures (due to major acquisitions); however, emissions intensity remained constant. **Accessibility**: Fragmented reporting makes information on climate risks difficult to locate and extrapolate.

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TABLE 2 *continued*

Company and Sector	OFR - Annual Report (2014–2015)	Other Reporting	Extent and Quality of Disclosure
Origin (*Energy/Resources*) Exploration and production of oil and gas; electricity generation (includes some coal); and wholesale and retail sale of electricity and gas.	***OFR***: Discussion of business strategy, prospects and outlook is based on energy industry transition. Discussion of material risks (regulatory, tax and legal) includes brief one line mention of relevant regulations including exposure to the risk of changes in climate and renewable policy.	***Sustainability Report (2015):*** More detailed discussion of climate risks, including carbon intensity of company electricity generation assets and future trends in carbon intensity in light of planned expansion of natural gas and renewables. Also outlines approach to GHG emissions (operational & equity) and intensity reporting and recent results.	**Coverage:** Compared to AGL, quite limited explicit discussion of climate risks in Annual Report; however more comprehensive discussion of carbon intensity in Sustainability Report. **Performance:** Despite limited reporting in Annual Report, business model and strategy illustrate how climate risks (& opportunities) are being taken into account in practice. For example, Origin aims to grow interest in natural gas resources and renewables (especially wind and solar); thereby substituting low carbon intensity fuels for high carbon intensity fuels. More detail in Sustainability Report: reporting on operational and equity emissions, notes increases on last year. **Accessibility:** Fragmented reporting makes information on climate risks difficult to locate and extrapolate.

Evaluating Climate Risk Disclosure by Australian Energy and Resource Companies

This survey of climate risk disclosure by the above companies has revealed considerable variation in disclosure practices and, on average, fairly generalised reporting of the non-physical risks associated with climate change.[91] While all companies surveyed do recognise relevant risks at an overarching level, in many cases, the reports surveyed included little detailed discussion, nor substantive evaluation of, the potential business impacts of various likely regulatory and market developments. A notable exception is BHP Billiton's *Climate Change Portfolio Analysis*, which presents the results of scenario testing using a range of carbon regulation and pricing scenarios (with explicit acknowledgement of key uncertainties) and attempts to quantify, as far as possible, the range of potential impacts to the portfolio.[92] The survey also revealed that climate-related risks were not well-integrated into the OFR within the mainstream financial reports in most cases, with far more detail on climate risks included in other documents, such as Sustainability Reports, or as in BHP Billiton's case, the forward-looking statements made in the targeted Portfolio Analysis.

These results, from this initial sample of companies with significant market share and high risks, suggest that these businesses do not perceive (or choose to report) climate-related risks as material financial risks within the time-frames they use for assessing and reporting on business strategies and

[91] Similar observations have been made in: Senate Economics Reference Committee, n 24, 23–23; Hutley and Hartford-Davis, n 25.

[92] BHP Billiton, *Climate Change: Portfolio Analysis* (2016). This analysis presents information on the long term demand range for the company's key commodities, the business contributions by each commodity across the group as a whole, earnings before interest, tax, depreciation and amortisation (EBITDA) and how this is likely to be affected by different climate regulation and pricing scenarios, both for the combined group and for the different commodity streams within the group.

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prospects for future financial years. To some degree, this is understandable in light of the considerable policy and regulatory uncertainty and changeability in this area, particularly in Australia, over the last decade. Indeed, the reporting period considered in this analysis (2014–2015) coincided with the repeal, by the Abbott government, of the short-lived carbon tax[93] and also preceded the conclusion of the Paris Agreement, which has brought more certainty for business that carbon emissions are likely to be regulated moving forward. This uncertainty makes it difficult to quantify many of the potential business impacts in a meaningful way. Nonetheless, the BHP Billiton Portfolio Analysis appears to be well regarded by the investment community as an example of leading practice in this area[94] and may therefore provide a basis for developing a consistent and useful approach going forward as regulatory approaches to climate change develop.

The varied and largely generalised approach to reporting in this area could also be partially attributed to the lack of explicit regulatory requirements and/or guidance provided by Australia's corporate regulator ASIC on whether and how to report climate risks in mainstream financial reports. As noted above, the regulatory framework is not explicit on this issue, and lacks guidance on the extent to which climate risks should be disclosed in financial reports and/or reported as material sustainability risks in other documents.

Annual Reports are, by their nature, large, comprehensive documents. It is arguable that there is little room for additional, expansive (and sometimes speculative) discussion of business risks and opportunities over a different (ie longer) time frame than has been used traditionally for financial reporting. This may be an additional reason behind the limited disclosure of climate risk in the mainstream financial reports reviewed in our survey. Indeed, the purpose-specific BHP Billiton Climate Change Portfolio Analysis appears to be a sensible model, which allows a more accessible and informative presentation of relevant information on climate risk outside the annual report. However, removing substantive discussion of these risks from the annual report could also misrepresent their materiality to the business prospects of the company, which may be a liability consideration for directors and other parties who sign off on reports as a true and fair representation of the affairs of the company.[95]

Climate Risk Disclosure in the Australian Finance Sector

Currently, the Australian banking sector is dominated by four major banks.[96] These institutions have been the subject of much recent scrutiny and shareholder action, led by civil society and investor groups such as ACCR, which have sought to quantify the *financed emissions* of these institutions, encourage better disclosure of associated risks to shareholders, and drive the banks to shift their

[93] A carbon pricing system was introduced by the Gillard government and took effect on 1 July 2012. It was repealed by the Abbott Government in July 2014.

[94] See, eg, Australian Council of Superannuation Investors, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016), which states that the BHP analysis is "widely considered in the investment community to have set a new high water mark for climate disclosure by major extractives companies globally". BHP's approach is also recognised, referred to and, in many cases, applauded by the following organisations and companies which made submissions to the inquiry: ANZ (ANZ, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016)); the Business Council of Australia (BCA, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016)); Sustainable Business Australia (SBA, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016)); Investor Group on Climate Change (IGCC, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016)); Environmental Justice Australia (EJA, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016)).

[95] This article does not consider potential liability exposure for misleading representation of climate risk and related issues of breach of directors' duties. For further discussion of this issue, see Sarah Barker, *Director's Duties in the Anthropocene: Liability for Corporate Harm Due to Inaction on Climate Change* (2013) <http://responsible-investmentbanking.com/wp-content/uploads/2014/11/Summary-Directors-Duties-in-the-Anthropocene-December-2013.pdf>; Sarah Barker, "Company Director's Duties and Climate Risk Governance" (Presentation delivered at Climate Change Risk and Corporate Governance: Director's Duties and Liability Exposures in a post-Paris World, Melbourne, 29 August 2016) <http://www.eucentre.unimelb.edu.au/wp-content/uploads/2016/09/Climate-Change-Risk-and-Corporate-Governance-Symposium-Report-29-30-August-2016.pdf>.

[96] Australia and New Zealand Banking Group, Commonwealth Bank of Australia, National Australia Bank and Westpac Banking Corporation.

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investments and loan support away from fossil fuel-intensive industries. As part of this advocacy, in 2014, the ACCR compiled an analysis of the level of exposure to climate risks for each institution and the extent and quality of disclosure to shareholders.[97] This report found that while each bank had a policy "containing platitudinous references to the magnitude of the potential social impact of climate change",[98] none contained any quantification of the potential impact of *un-burnable* carbon on future business prospects, or any quantification of the extent of financed emissions. Further, none of the banks had an externally disclosed target for reductions in financed emissions.[99] Considering the high level of lending and investment in fossil-fuel intensive projects by the top four Australian banks[100] and their legal obligations under the *Corporations Act 2001* to report material business risks that are likely to impact on business strategies and future financial prospects,[101] this poor disclosure was of both financial and legal concern.

Following the release of this report, the ACCR lodged a number of special shareholder resolutions with the big banks in the 2015 AGM season, seeking amendments to the various company constitutions:

> That, each year at about the time of the release of the Annual Report, at reasonable cost and omitting any proprietary information, the Directors report to shareholders their assessment of the quantum of greenhouse gas emissions we are responsible for financing calculated, for example, in accordance with Greenhouse Gas (GHG) Protocol guidance.[102]

ACCR also brought a case against the Commonwealth Bank of Australia (CBA), whose Board had refused to put a number of proposed non-binding resolutions regarding carbon risk disclosure to the AGM.[103] The case sought to clarify the Australian law around shareholder rights to bring non-binding resolutions. Although ACCR was unsuccessful in this instance,[104] the considerable attention that this case and associated shareholder actions and engagement generated has prompted the CBA, along with the other top banks, to significantly improve their disclosure practices.[105] The banks have agreed to collaborate to pilot disclosure methodologies and approaches that can feed into UNEP Financial Initiative Greenhouse Gas Protocol Financed Emissions Initiative.[106] There has also been a substantial improvement in information provided on lending activities. For example, in 2015, the CBA released three reports detailing its financed emissions with respect to business lending and project finance.[107] However, the ACCR argues that further improvement is still required: in particular, the

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[97] ACCR, n 40.

[98] ACCR, n 40, 15.

[99] ACCR, n 40.

[100] ACCR, n 40, 8–10.

[101] See Table 1 above.

[102] See <http://www.accr.org.au/anz>. See also, ACCR, *Update Note: Financed Emissions, "Un-burnable Carbon" Risk and the Major Australian Banks* (2014).

[103] *Australasian Centre for Corporate Responsibility v Commonwealth Bank of Australia* (2015) 325 ALR 736; [2015] FCA 785.

[104] Davies J's decision held that the CBA Board was entitled to refuse to put the ACCR's non-binding resolutions to the AGM as this would have infringed upon the well-established "division of powers" doctrine, which governs the division of powers and functions between the board and the general meeting. This is however a controversial aspect of Australian Corporations Law, especially given the position in comparable jurisdictions such as the United States and United Kingdom. Commentators have questioned Davies' reasoning in applying the doctrine in this way, given that non-binding resolutions have no legal effect and thus arguably do not interfere with the board's powers. See discussion in, Michael Hey, "Case Note: ACCR V CBA [2015] FCA 785: Nonbinding Shareholder Resolutions and Implications for Shareholder Activism" (2015) 40 *University of Western Australia Law Review* 399.

[105] ACCR, n 40.

[106] See <http://www.accr.org.au/nab>.

[107] CBA, *Group Energy Exposures and Assessed Carbon Emissions of Project Finance Energy Sector* (2015); CBA, *Group Energy Exposures and Assessed Carbon Emissions of Business Lending Energy Sector* (2015); CBA, *Assessed Carbon Emissions of the Group's Business Lending Portfolio* (2015).

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banks have not provided adequate information about their wealth management activities,[108] which are probably more significant in terms of carbon risk than lending to fossil-fuel industries.[109]

INTERNATIONAL DEVELOPMENTS

It is instructive to consider the Australian law and practice discussed so far in the context of recent regulatory developments in comparable jurisdictions. Developments in the United States (US), United Kingdom (UK) and France discussed here illustrate a growing interest in strengthening, expanding, and enforcing climate risk disclosure practices. In order to identify workable reforms for the Australian legal context, this discussion draws particularly on relevant developments in the common law jurisdictions of the US and UK, which – like Australia – maintain a strong focus on the disclosure of all material information and business risks to the market. However, recent reforms in both jurisdictions have introduced additional guidance and expanded reporting requirements to drive improvements in the recognition and reporting of climate risks as a matter of material business risk. In contrast, the French approach integrates disclosure obligations for companies and investors within a broader regime for emissions reduction and clean energy uptake. This significantly extends the substantive reach of disclosure obligations, with the ostensible goal of driving private sector uptake of clean energy practices. Given the current absence of a comprehensive policy and legal framework for energy transition in Australia, and the underlying differences between the Anglo-American common law and civil legal traditions with respect to corporate and securities law, the French model appears to be less readily transferable to the Australian context, at least in the foreseeable future.

United States

Like Australia, the US has federal securities law that requires public listed companies to disclose material business risks on a regular basis.[110] In 2010, the US securities regulator – the Securities and Exchange Commission (SEC) – issued guidance on how the existing disclosure requirements under federal securities laws applied to climate change matters.[111] The SEC's guidance addresses both physical and non-physical climate risks, with the latter including the need to comply with changing climate regulatory requirements, the indirect effects of those requirements, and business trends that include declining demand for carbon intensive products.

Immediately following the SEC ruling, company disclosure of climate risks was found to increase significantly. However, this reform has had a more limited longer-term impact as a result of inadequate compliance activity: "comment letters over the last four years show minimal attention by the SEC to climate risk as a disclosure issue and do not reveal an ongoing SEC commitment to implement the

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[108] Banking organisation asset and wealth management (AWM) activities include traditional trust services such as investment management, investment advisory, personal trust, corporate trust, transfer agent services, and certain employee benefit account services, as well as securities custody, securities lending, securities clearing and settlement, and functionally regulated securities broker-dealer and registered investment advisor activities. Serving as trustee and paying agent for bond issues including structured debt and asset-backed issues also is considered an AWM activity. For further discussion, see <https://www.federalreserve.gov/bankinforeg/topics/awma.htm>.

[109] See <http://www.accr.org.au/wbc>, <http://www.accr.org.au/cba>. See also Carol A Adams, "Bank Exposure to Coal Projects drowning in Greenwash", *The Conversation* (online) 1 September 2015 <https://theconversation.com/bank-exposure-to-coal-projects- drowning-in-greenwash-45835>.

[110] The *Securities Exchange Act of 1934* 15 USC §78A establishes the SEC and outlines its functions, including empowering the SEC to require periodic reporting of information by companies with publicly traded securities (s 13). Disclosure obligations are provided in Regulation S-K 17 CFR part 229. For a discussion of the similarities and differences between the US and Australian disclosure regimes, see Andrew Cassidy and Larelle Chapple, "Australia's Disclosure Regime: Lessons from the US Model" (2003) 15 *Australian Journal of Corporate Law* 1.

[111] SEC, *Commission Guidance Regarding Disclosure Related to Climate Change Release Nos 33-910627, 34-61469, FR-82* (2 February 2010). The SEC guidance points to the four most pertinent sources of climate change related disclosure requirements, all contained in Regulation S-K (17 CFR Part 229): Item 101 – Description of Business; Item 103, Legal Proceedings; Item 503(c) risk factors and Item 303 – Management Discussion and Analysis.

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guidance".[112] Although more companies are mentioning climate change in their reports, their actual disclosures have become briefer and less substantive.[113] A recent analysis of 2014 financial filings by the top US-listed companies found that

> 27% of companies identified no material climate risk at all. Of the approximately 70% that did, only 15% used metrics, and approximately 40% used boilerplate language – broad, nonspecific wording that does not describe the realities of the reporter's particular operating context.[114]

Of course, there may be companies for whom there is no material climate risk requiring disclosure. Further, the regulatory and policy uncertainties that affect perceptions of materiality in Australia are also prominent in the United States.

Recently, there has been a particular focus in the US on the quality of disclosure by fossil fuel companies. For example, an analysis of disclosures made under these new rules by 10 of the world's largest publicly-traded oil and gas companies found them to be "generally inadequate to allow investors to conduct complete and accurate assessments of risks and future performance".[115] The authors of this analysis argued that the investigated companies were making extensive capital investments related to climate change that carried material financial risks, but were generally failing to disclose them adequately consistent with SEC rules and growing investor expectations.[116]

The financial disclosure practices of fossil fuel companies have also been the subject of recent investigations and enforcement actions brought by state Attorneys General and, more recently, by shareholders and the SEC. For example, the New York Attorney General investigated the SEC filings from 2011–2014 from Peabody Energy Corporation, and found that these disclosures misled shareholders by understating the severe potential impacts of carbon risk to its business and claiming an inability to predict the financial impacts of future climate policy laws or regulations.[117] A similar investigation was launched in late 2015 by Attorneys General in New York and California against Exxon Mobil, claiming the company has repeatedly and deliberately concealed from investors the financial risks associated with climate change.[118] In September 2016, it was reported that federal regulators (the SEC) were investigating Exxon's accounting and reporting practices along similar lines.[119] In a related matter, the SEC recently ruled that ExxonMobil must include a climate change resolution (requiring disclosure of specific risks that climate change, or legislation designed to curb it,

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[112] Jim Coburn and Jackie Cook, Ceres, *Cool Response: The SEC & Corporate Climate Change Reporting* (February 2014); David Gelles, "SEC is criticised for Lax Enforcement of Climate Risk Disclosure", *New York Times* (online) 23 January 2016 <http://www.nytimes.com/2016/01/24/business/energy-environment/sec-is-criticized-for-lax-enforcement-of-climate-risk-disclosure.html?_r=0>.

[113] Coburn and Cook, n 112.

[114] TCFD, n 10, 17, referring to data from the Sustainability Accounting Standards Board (SASB).

[115] Jim Coburn et al, *Sustainable Extraction?: An Analysis of SEC Disclosure by Major Oil and Gas Companies on Climate Risk and Deepwater Drilling Risk* (CERES, 2012) 2.

[116] Coburn et al, n 115.

[117] This investigation, under state laws prohibiting false or misleading conduct in connection with securities transactions, was settled in November 2015. Peabody did not admit to fraudulent disclosure practices, however, it undertook to improve climate risk disclosure. See, Attorney General Eric T Schneiderman, "AG Schneiderman Secures Unprecedented Agreement with Peabody Energy to End Misleading Statements and Disclosure Risks Associated with Climate Change" (Press Release, 9 November 2015) <http://www.ag.ny.gov/press-release/ag-schneiderman-secures-unprecedented-agreement-peabody-energy-end-misleading>.

[118] Justin Gillis and Clifford Krauss, "Exxon Mobil Investigated for Possible Climate Change Lies by New York Attorney General", *New York Times* (online) 5 November 2015 <http://www.nytimes.com/2015/11/06/science/exxon-mobil-under-investigation-in-new-york-over-climate-statements.html>. A further investigation is underway in California: Ivan Penn, "California to Investigate Whether Exxon Mobil Lied about Climate Change Risks", *Los Angeles Times* (online) 12 October 2016 <http://www.latimes.com/business/la-fi-exxon-global-warming-20160120-story.html>.

[119] See Jackie Wattles, "SEC is Latest Regulator to Investigate Exxon Mobil's Accounting Practices", *CNN Money* (online) 20 September 2016 <http://money.cnn.com/2016/09/20/news/companies/exxon-mobil-sec-investigation/index.html>.

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could pose to its ability to operate profitably) in its annual shareholder proxy, so that it can be voted on by all shareholders at the next annual general meeting.[120]

In November 2016, a shareholder class action was commenced against ExxonMobil on behalf of purchasers of Exxon stock during the class period (February–October 2016).[121] The complaint alleges that throughout this period, Exxon repeatedly highlighted the strength of its business model and its transparency and reporting integrity, particularly with regard to its oil and gas reserves and the value of those reserves. It is alleged that these public statements by the company were materially false and misleading because they failed to disclose Exxon's own internal reports concerning the nature and extent of climate change risks; that, given these risks, a material portion of Exxon's reserves were stranded and should therefore be written down; and that Exxon had used an inaccurate price on carbon to value certain of its future oil and gas prospects in order to keep the value of its reserves materially overstated. As a result of these misleading statements, Exxon stock traded at artificially inflated prices. The claimants allege that they suffered a loss when the value of Exxon stocks fell substantially as a result of the above noted regulatory investigations into the company's disclosure and accounting practices and subsequent announcements by Exxon that it might be forced to write down nearly 20 per cent of its oil and gas assets.

These investigations and enforcement actions are examples of the growing interest in enforcing corporate disclosure obligations as they relate to carbon risk. For Australian companies, they provide an indication that understating the severe potential business impacts of climate risks or claiming an inability to predict business impacts of future climate laws may be found to be misleading disclosure. For Australian regulators, the SEC guidance provides a low-level intervention option for addressing the current lack of guidance within the Australian framework on how climate risks should be disclosed. However, the experience of its implementation underscores the importance of adequate attention to, and resourcing for, compliance. It also indicates the value of having multiple enforcement pathways, as the Attorney General actions and shareholder resolutions in the US are helping to address the gap in direct SEC enforcement. By contrast, in Australia, private enforcement of disclosure obligations is far less developed.[122]

United Kingdom

The corporate reporting regime in the UK is broadly similar to the Australian regime. However, recent reforms to the *Companies Act 2006* (UK) and regulations have introduced some more specific requirements that capture aspects of climate risk. These include mandatory reporting of greenhouse gas emissions for a broad range of companies and new strategic reporting requirements.[123]

Greenhouse Gas Emissions Reporting

Quoted companies[124] are now required to report their annual emissions within the Director's Report in the Annual Report.[125] Requirements cover both direct (scope 1) emissions from the activities for which the company is responsible (eg combustion of fuel and operation of facilities) and indirect

[120] Ernest Scheyder, "Exxon Mobil must Allow Climate Change Vote: SEC", *Reuters* (online) 24 March 2016 <http://www.reuters.com/article/us-exxon-mobil-shareholders-exclusive-idUSKCN0WP2TG?type=companyNews>.

[121] See <http://www.rgrdlaw.com/cases/exxon>.

[122] See Boros, n 71; Cassidy and Chapple, n 110.

[123] The *Climate Change Act 2008* (UK) requires that regulations be made under the *Companies Act 2006* (UK) requiring the directors' report of a company to contain such information as may be specified in the regulations about emissions of greenhouse gases from activities for which the company is responsible. The relevant regulations (*Companies Act 2006 (Strategic Report and Director's Report) Regulations 2013*) came into force on 1 October 2013. Further European Union reporting requirements also apply: see Linklaters, *New UK Reporting and Disclosure Obligations under the FSA's Transparency Rules* (November 2006). Also relevant is the recently updated *UK Corporate Governance Code* (2014), section C which provides recommendations for financial and business reporting, risk management and audit. See discussion in Client Earth, *Submission to the Australian Senate Inquiry into Carbon Risk Disclosure* (2016).

[124] This is defined in s 385(2) of the *Companies Act 2006* to include those companies with equity shares listed on London Stock Exchange Main Market, EEA regulated, NYSE or NASDAQ.

[125] *Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013* (UK) Pt 7.

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emissions from the purchase of electricity, heat, steam or cooling (scope 2).[126] Emissions intensity reporting is also required.[127] Companies are required to report on all emissions from activities for which they are responsible, which may include emissions associated with operations outside the UK.[128] These regulations apply to a broader range of companies than the Australian emissions reporting requirements discussed in Part 3, which, due to relatively high emissions thresholds, principally cover large resource and energy companies and facilities.[129] However, UK companies are only required to report emissions to the extent that this is practical,[130] and can avoid or dilute these obligations by stating what information is missing and for what reason.[131]

Strategic Reports

Publicly listed companies must now prepare a Strategic Report (in addition to the Director's Report) within the company's Annual Report each financial year.[132] The purpose of the Strategic Report is to inform members of the company and help them assess how the directors have performed their statutory duties[133] which, in addition to general duties to act in good faith and promote the success of the company for the benefits of its members, also require directors to have regard to matters such as the long-term consequences of decisions, and the impact of the company's operations on the community and the environment.[134] The Strategic Report must include information on "the main trends and factors likely to affect the future development, performance and position of the company's business",[135] a description of "principal risks and uncertainties facing the company",[136] and "information about environmental matters, social, community and human rights issues".[137]

The Financial Reporting Council (FRC) – the UK regulator responsible for monitoring and enforcing corporate reporting requirements - has issued guidelines for the preparation of the Strategic

[126] *Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013* (UK) Pt 7, para 15. Emissions must be reported to the extent practicable (para 15(4)) and methodologies used must be stated (para 16). Guidance on methodologies and metrics has been issued and recommends the use of existing methodologies that are consistent with the CDSB Climate Change Reporting Framework and the CDP climate change information request. See UK Department for Environment, Food and Rural Affairs, *Environmental Reporting Guidelines: Including Mandatory Greenhouse Gas Emissions Reporting Guidance* (2013) Ch 2. See also CDSB, *Guidance on UK Mandatory GHG Emissions Reporting* (2013).

[127] *Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013* (UK) Pt 7, para 17.

[128] UK Department for Environment, Food and Rural Affairs, n 126, 24–25.

[129] The reporting regime under the *National Greenhouse and Energy Reporting Act 2007* (Cth) was introduced to inform government policy and help meet Australia's international reporting obligations, rather than to influence corporate and investor behaviour. See, *About the National Greenhouse and Energy Reporting Scheme*, at <http://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme>. Reporting thresholds for individual facilities and corporate groups are based on emissions levels or levels of energy production or consumption: <http://www.cleanenergyregulator.gov.au/NGER/Reporting-cycle/Assess-your-obligations/Reporting-thresholds>. This is broadly similar to the emissions reporting requirements for large sources and suppliers in the US under the EPA's Greenhouse Gas Reporting Protocol, see <https://www.epa.gov/ghgreporting/learn-about-greenhouse-gas-reporting-program-ghgrp>.

[130] *Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013* (UK) Pt 7, para 15(4).

[131] For an explanation of the "comply or explain" approach, see UK Department for Environment, Food and Rural Affairs above n 126, 28.

[132] *Companies Act 2006* (UK) s 414A. An exemption applies for small companies, s 414B.

[133] *Companies Act 2006* (UK) s 414C(1).

[134] Director's duties are provided in s 172 which requires requires a director to act in the way he considers, in good faith, would be most likely to promote the success of the company for the benefit of its members as a whole, and in doing so have regard (amongst other matters) to: the likely consequences of any decision in the long term; the impact of the company's operations on the community and the environment; and the desirability of the company maintaining a reputation for high standards of business conduct. For further discussion of the enlightened shareholder value approach embodied in these provisions and how it compares to US and European jurisdictions, see Andrew Keay, "Moving Towards Stakeholderism? Constituency Statutes, Enlightened Shareholder Value, and More: Much Ado about Little?" (2011) 26 *European Business Law Review* 1.

[135] *Companies Act 2006* (UK) s 414C(7)(a) (applies to quoted companies only).

[136] *Companies Act 2006* (UK) s 414C(2)(b) (applies to all companies).

[137] *Companies Act 2006* (UK) s 414C(7)(b) (applies to quoted companies only).

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Report.[138] While there is no direct reference to climate change, the guidance provided clearly suggests that the types of climate risks discussed in this article would be required to be reported within the Strategic Report. For example, in relation to trends and factors influencing the future of the company, the FRC recommends that the Strategic Report should cover "significant features of its external environment (e.g. the legal, regulatory, macro-economic and social environment) and how those influence the business"[139] and set out the directors' analysis of the potential effect of the trends or factors identified on the development, performance, position or future prospects of the entity.[140] In relation to principal risks and uncertainties, the guidelines discuss both financial and non-financial risks, stating "a risk or uncertainty may be unique to the entity, a matter that is relevant to the market in which it operates or something that applies to the business environment more generally".[141] The guidelines also indicate that the Report should explain how these risks and uncertainties are managed or mitigated to allow shareholders to assess the impact on the company's future prospects.

These provisions are not dissimilar to the OFR required under Australian corporations law, which was discussed in detail in preceding sections. However, the UK provisions can be distinguished by a stronger emphasis on longer-term risks and future prospects, which is well suited to discussion of issues such as climate risk. The UK regime also draws an explicit link between directors' duties to the company (which include long-term consequences of decisions and potential impacts on the environment and community),[142] their performance in meeting these statutory obligations, and disclosure of this information in the Strategic Report. Linking these provisions in this way gives added weight to the statutory duties and shifts the focus to longer time frames more conducive to requiring proper consideration and treatment of climate risks in decision making.[143]

In an effort to enforce these reporting obligations in relation to climate risk, a leading environmental law NGO in the UK has recently submitted regulatory complaints to the FRC alleging that two major oil and gas companies have failed to disclose climate-related risks to investors.[144] The complaints argue that the annual reports of these companies do not provide a fair review of the company's business;[145] a proper account of the main trends and factors likely to affect the future development, performance and position of the company's business;[146] nor a proper description of the principal risks and uncertainties facing the company,[147] as required by the governing legislation. The reports therefore prevent shareholders from assessing how the directors have performed their duties to

[138] Financial Reporting Council (UK), *Guidance on the Strategic Report* (2014).

[139] Financial Reporting Council (UK), n 138, para 7.19.

[140] Financial Reporting Council (UK), n 138, para 7.17–7.22.

[141] Financial Reporting Council (UK), n 138, para 7.24–7.28.

[142] *Companies Act 2006* (UK) s 414C(1).

[143] Whether or not these provisions open up the possibility of a director being held liable for a failure adequately to consider longer term considerations, such as climate risk, is beyond the scope of this article. Many commentators have argued that this is unlikely for a number of reasons. For example, the broad scope of the statutory duties and the way they are expressed in a hierarchy, effectively place longer term and environmental considerations subordinate to the overarching duty to promote the success of the company for the benefit of its members (s 172). Further, the statutory duties are owed to the company. As such, if there is an alleged breach of duty to have regard to broader, longer term considerations, enforcement options are limited to situations where there is a majority of shareholders who bring the action, or where a minority is able to bring a derivative action. As such there are significant legal and practical barriers to a group of shareholders bringing an action of this sort. See, John Lowry, "The Duty of Loyalty of Companies Directors: Bridging the Accountability Gap through Efficient Disclosure" (2009) 68 *The Cambridge Law Journal* 607; Andrew Keay, n 128; Janet Dine, "Corporate Regulation, Climate Change and Company Law: Challenges and Balances in an International and Global World" (2015) *European Business Law Review* 173-202.

[144] ClientEarth, *Investor Briefing: Complaints filed against SOCO International PLC and Cairn Energy PLC* (2016) <http://www.documents.clientearth.org/library/download-category/climate-governance>.

[145] As required under *Companies Act 2006* (UK) s 414C(2)(a).

[146] *Companies Act 2006* (UK) s 414C(7)(a).

[147] *Companies Act 2006* (UK) s 414C(2)(b).

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promote the success of the company.[148] Particular reference was made in the complaints to statements in the reports which were alleged to be misleading,[149] and which lacked any substantive consideration. Importantly, the faults found with these reports are not dissimilar to the gaps and inadequacies noted in the initial empirical inquiry reported earlier in this article. For Australian companies and regulators, this is therefore further evidence, from a very similar jurisdiction, of growing scrutiny and interest in enforcing these reporting obligations as they relate to climate risk.

France

In 2015, France introduced a comprehensive piece of legislation – the *Energy and Ecology Transition Law* (2015-992) – which sets emissions reduction targets as well as targets for reducing primary energy consumption of fossil fuels and for the uptake of renewables. Of particular interest for this discussion is the way in which this law also addresses companies and investors as part of efforts to transition France's economy.[150] Listed companies are now required to report on financial risks linked to the effects of climate change and the measures that the company takes to reduce such effects by implementing a low-carbon strategy in all components of its business.[151] Further, the law introduced the world's first mandatory requirements for institutional investors to report climate-related information and disclose the carbon exposure of their assets.[152] A wide range of investors are now required to disclose how they address both "physical"[153] and "transition"[154] climate change risks, and to assess and report on their contribution to international efforts to cap global warming and to support France's energy transition targets. They must describe how they take into account issues, such as changes in the availability and price of natural resources, policy risk related to the implementation of international climate targets, and the soundness of capital expenditure for developing fossil fuels.[155] They must also set their own targets to assess their contribution to meeting international and French energy transition targets, and report on actions taken to achieve these targets, including divestment, changes made to investment strategy, engagement with issuers, and increases in investments made to thematic funds, securities, or assets which contribute to the energy transition.[156]

The introduction of this legislation by the French parliament was followed by a number of preliminary actions from other European governments, including Switzerland,[157] Germany,[158] and Sweden,[159] who are all in the process of assessing the link between carbon risks and financial stability.[160]

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[148] *Companies Act 2006* (UK) s 172.

[149] For example, one complaint highlighted that the statements in the report implied that the Paris Agreement was the first relevant development in climate change policy and legislation, which it is not; only related to one aspect of climate risk (regulatory risk) and did not refer to other aspects such as physical and other transition risks which had been identified by the company in their CDP reporting; and implied that any impact would be limited to operational emissions rather than considering broader potential impacts on the demand for the company's products.

[150] These French developments should be viewed in the context of broader European Union reforms to corporate reporting of both financial and non-financial information. A new Accounting Directive (Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013) was introduced in 2013 and addresses annual financial statements, consolidated financial statements and related reports of certain types of undertakings. Additional non-financial reporting obligations for certain large undertaking and groups were also introduced in 2014 (Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014).

[151] *Energy and Ecology Transition Law* (2015-992) Art 173 introduced amendments to the French Commercial Code.

[152] These new obligations are found in Article 173. For further information and an analysis of the implementation challenges, including the extent of qualitative and quantitative reporting required, see: 2 Degree Investing Initiative, *Decree Implementing Article 173 VI of the French Law for the Energy Transition: Challenges and First Recommendations* (August 2015).

[153] Defined as exposure to the physical impacts directly induced by climate change.

[154] Defined as the exposure to changes caused by the transition to a low-carbon economy.

[155] Susana Rust, "France Aims High with First Ever Investor Climate Change Reporting Law", *Investment and Pensions Europe* (online) 1 February 2016 <http://www.ipe.com/countries/france/france-aims-high-with-first-ever-investor-climate-reporting-law/10011722.fullarticle>.

[156] 2 Degree Investing Initiative, *Final Decree on the Implementation of Art. 173 of the French Law on the Energy Transition for Green Growth – Climate and ESG disclosure from Institutional Investors*, (translation from the French Interpretive Guidance

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The key differences between the French model and the previous examples from Anglo-American common law systems are the ways in which climate risk disclosure obligations are integrated within a broader legislative program for clean energy transition and the level of specificity and substantive reach of these obligations. Requiring companies and investors to report and quantify their *performance* in transitioning to clean energy, for example, through targets for fossil fuel divestment or clean energy investment, extends significantly beyond requiring companies to disclose material business risks as part of their regular financial reporting.

CONCLUSION: IMPROVING CLIMATE RISK DISCLOSURE BY AUSTRALIAN COMPANIES

Considering the high exposure to climate risks in the Australian energy, resource and finance sectors, increasing recognition of the materiality of these risks to many Australian businesses, and the potentially severe flow-on implications for broader economic stability, the lack of explicit provision within Australia corporate law and policy on whether and how companies should disclose climate risks within mainstream corporate reports is concerning. The empirical review of reporting by a sample of Australian companies presented in this article demonstrates a varied and often minimal treatment of climate risks within existing reports. While this survey is only a small snapshot of current business practice, the size and importance of these particular companies, as well as their high levels of exposure to climate risks, suggests that these examples provide a useful indication of current practice in the Australian resource and energy sectors. These results indicate that there is considerable uncertainty around what is required by current legal provisions, including the time frames to apply to consideration of these risks, the scope of reporting required and the medium in which it should be reported. To address these gaps and inadequacies in existing law and practice, Australian lawmakers and regulators can reference a rapidly developing range of climate risk disclosure models internationally, as well as the best practice approaches of leading companies. The reform options discussed below draw on these developments with the aim of formulating recommendations for a workable disclosure regime for Australian companies that also provides useful information to investors and helps to support companies in managing emerging climate risks.

Regulatory Guidelines

As a minimum measure for improving disclosure regulations, Australian regulators could develop a Regulatory Guide[161] along the lines of the SEC Guidance. This Guide could provide explicit direction on how climate risks should be disclosed in order to meet existing legal obligations to report on material business risks. This would clarify current uncertainty about legal requirements and would help to address the varied and minimal reporting practice concerns raised by our empirical survey. Yet, as the US experience has demonstrated, such measures will not necessarily lead to improved disclosure practices and provision of useful information to investors without a corresponding enforcement effort. In the US, the lack of enforcement by the SEC has been offset to some extent by the efforts of state Attorneys-General and private parties. However, given that private enforcement options are considerably less developed in Australia, consideration would need to be given to ensuring ASIC has sufficient resources for effective compliance activity.

Considering the ways in which climate risks will vary among sectors and companies, it would be important to provide specific guidance on what may constitute a material business risk for different sectors, sub-sectors and asset-classes. Consideration would also need to be given to the information

<http://2degrees-investing.org/IMG/pdf/2ii_art173_decree_final_en.pdf>).

[157] See <http://www.bafu.admin.ch/dokumentation/medieninformation/00962/index.html?lang=de&msg-id=59285>.

[158] See <http://www.spiegel.de/wirtschaft/soziales/regierung-erwaegt-gutachten-zur-gefahr-einer-carbon-bubble-a-1036196.html>.

[159] See <http://www.government.se/opinion-pieces/2015/12/the-sustainability-revolution-in-finance>.

[160] South Pole Group, n 61.

[161] This mechanism is already widely used by ASIC. Examples of Regulatory Guides can be found at: <http://www.asic.gov.au/regulatory-resources/find-a-document/regulatory-guides>.

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requirements of particular user groups, particularly in relation to the time frames over which risks should be considered.[162] For example, investors with a long-term investment horizon, such as pension funds and insurance companies, may be particularly interested in information on how climate change may affect a company in the medium to long term. Further, requiring the use of standardised metrics for different sectors that are most effective in monitoring risks or the development, performance or position of a company, would allow for comparison within sectors.[163] The extensive work which has taken place internationally on this issue, including through the FSB Taskforce on Climate-related Financial Disclosures and the Climate Disclosure Standards Board,[164] provides ready-made guidance on models and metrics which may be used as the basis for new Australian regulations or policy guidance.

Towards More Comprehensive, Integrated Emissions and Risk Reporting?

The far-reaching new French disclosure obligations discussed above are unlikely to be a comfortable fit within current Australian business law and practice, especially considering the different underpinning legal traditions and the lack of a comprehensive policy and legal framework for climate change mitigation and energy transition in Australia. This may change in the future as international and domestic regulatory responses to climate change evolve and awareness of the climate risks posed to companies and investors grows. However, in the meantime, there are available options to build gradually on the current regime by strengthening existing greenhouse gas emissions reporting and better integrating this with corporate reporting, along the lines of the UK model.

For example, a number of submissions to the recent Senate Inquiry into Carbon Risk Disclosure recommend expanding the scope and improving the nature of emissions reporting under the *National Greenhouse and Energy Reporting Act 2007* (Cth).[165] The regime could be expanded to encompass, for instance, not just the operational emissions of companies, but also the financed emissions of the finance sector. Similarly, emissions thresholds could be lowered so as to capture a greater number and greater diversity of companies, and companies could be required to report not only on Australian, but also on all global assets and operations.[166] Australian companies are already required to disclose their performance in relation to any particular and significant federal or state environmental regulation (such as the NGER) within the mainstream financial reports,[167] and many companies report emissions in their annual reports or sustainability reports. However, to integrate this specific disclosure regime with corporate reporting requirements so as to highlight the links between greenhouse gas emissions and the longer-term financial prospects of companies, further guidance could be provided on how to report effectively on emissions, emissions intensity and associated risks within the mainstream financial reports.

Finally, it is important to note that climate risk disclosure is just one of a series of regulatory measures that can potentially be used to encourage the private sector to lower emissions, adopt energy efficiency measures, switch to renewable energy, divest of fossil fuels, and invest in clean energy developments. Improving climate risk disclosure offers an indirect, relatively low-level regulatory

[162] TCFD, n 10, 18.

[163] See discussion in Australian Council of Superannuation Investors, *Submission to the Australian Senate Inquiry into Carbon Risk Disclosure* (2016).

[164] TFCD, n 22. See also, <http://www.cdsb.net>.

[165] See, eg, Australian Ethical Investment Ltd, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016); Sustainable Business Australia, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016); Australian Council of Superannuation Investors, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016); Investor Group on Climate Change, *Submission to the Australian Senate Inquiry on Carbon Risk Disclosure* (2016).

[166] Some submissions recommended that certain sectors (such as fossil fuel resource companies) be required to report on scope 3 emissions associated with the use of fossil fuels in other jurisdictions, as this could reasonably be considered to be financially material. See, eg, Investor Group on Climate Change, n 159. There were also suggestions to require companies to commit to an emissions reduction target which aligns with broader emissions reduction and temperature goals and report on progress in meeting this target, which would align with the new French model.

[167] *Corporations Act 2001* (Cth) s 299(1)(f).

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intervention that offers considerable potential to tap into economic and market drivers to spur private sector transition to clean energy practices. At a time when regulatory responses to climate change at the domestic level in Australia remain so highly contested, this is a target for reform that may be less contentious and that would help to ensure that Australian companies are as well prepared as their international counterparts to successfully navigate the clean energy transition.

Postscript: In April 2017, the Senate Economic Reference Committee released its final report from the inquiry into carbon risk disclosure which commenced in March 2016. The report makes a number of recommendations that align broadly with the suggestions for reform in this article. In particular, it recommends that financial regulators and the Australian Stock Exchange provide clearer guidance to company directors on how to report carbon risk under existing disclosure requirements and that the Australian Government commit to implementing the final recommendations of the TFCD, including considering potential law reform to give effect to these recommendations.

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