Date : 21/02/2019 11:13:54 AM
From : "SEELIG Tim"
To : "MERRICK Jamie"
Subject : Fwd: Climate Change Litigation Risk
Attachment : 2018_12_05 SB proposal.pdf;Qld Gov exec leadership team 6 August 2018.pptx;Climate change is introducing new vulnerabilities for Australian states_Published.pdf;me_2ii_carbonboomerang_v0.pdf;image001.png;image002.png;

Dr Tim Seelig
Principal Advisor (Strategic Policy)
Office of the Director-General
Department of Environment and Science
---
07 3330 6298 | 6) Personal info | tim.seelig@des.qld.gov.au
Level 32, 1 William Street, Brisbane QLD 4000
GPO Box 2454, Brisbane QLD 4001

I acknowledge the Jagarra and Turrbal Traditional Owners on whose land I work and live, and I pay my respects to their Elders past, present and emerging.

From: ROODENRYS Georgine
Sent: Thursday, February 21, 2019 9:55:16 AM
To: DES Director General; SEELIG Tim
Subject: FW: Climate Change Litigation Risk
FYI Tim are you able to follow this up for me? G

From: ROODENRYS Georgine
Sent: Wednesday, 20 February 2019 11:56 AM
To: MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>
Cc: Tony Roberts (Tony.Roberts@ehp.qld.gov.au) <Tony.Roberts@ehp.qld.gov.au>
Subject: Climate Change Litigation Risk
Hi Jamie, we have been liaising with DJAG colleagues on litigation risk and they have suggested that to get this issue the profile it needs that we should put a request for consideration directly into the DJAG DG: David Mackie.
Would you be comfortable on emailing this request directly to David? If so, suggested email below. I have a general DG inbox address that I can send it to if you d prefer.
Thanks Jamie sorry to impose.
Dear David, I hope this finds you well.
At the last MOOG on the Advancing Queensland Priority Action: Protecting the Great Barrier Reef, there was an action for DES to work with DPC and DJAG to explore the issue of climate risk litigation. This action was triggered partly in response to Moody s advice published last year (attached) but also because of recent case law developing around this area.
The climate change team here have been working with Minters Ellison and Sarah Barker who is a global expert on climate risk and assisted with the Huntley advice on directors duties in relation to the same.
We asked Minters Ellison to provide a proposal for how we might explore this issue.
I ve attached 3 things from Sarah:

1. The proposal for Qld;
2. Similar work done for the EU (although limited to energy and we would be looking at whole of economy); and
3. The presentation Sarah gave to the Queensland Government Leadership Group in August last year.

It will be important that we can show progress on this action when the MOOG next meet (the date for which has yet to be set) so could I ask your assistance to expedite?
Georgine Roodenrys, Executive Director Climate Change is the key contact at DES: 3330 5928.
Happy to discuss further. Thanks David.
Regards

From: ROODENRYS Georgine
Sent: Wednesday, 20 February 2019 11:07 AM
To: 'Anthony.butler@justice.qld.gov.au' <Anthony.butler@justice.qld.gov.au>; 'struan.robertson@justice.qld.gov.au' <struan.robertson@justice.qld.gov.au>
Cc: justin.carpenter@premiers.qld.gov.au; DUNBAR Catie <Catie.Dunbar@des.qld.gov.au>
Subject: FW: Qld proposal ME-ME.FID4106510] [ME-ME.FID4591824]
Dear Anthony and Struan,
Thanks for taking my call earlier Struan and thanks for agreeing to help me out to kick off this conversation on Climate Change related litigation risk.
Any assistance to navigate to the right people in DJAG would be greatly appreciated and your idea Struan, for getting together to discuss further, is a good one and I d be keen to organise.
Below are a couple of emails that I have received from Sarah since the proposal has been received. I believe she is delicately suggesting that time may be of the essence!
I look forward to hearing from you.
Regards

Published on DES Disclosure Log
RTI Act 2009

Georgine Roodenrys
Executive Director • Climate Change & Sustainable Futures
Website www.des.qld.gov.au
Environmental Policy and Programs
Department of Environment and Science
P 07 3330 5829 **M** (6) Personal i
Level 13 400 George Street Brisbane
PO Box 2454 Brisbane 4001 Australia

As you would no doubt have seen, the Royal Commission has been followed by the 1-2 punch of Justice Preston•s judgment in the NSW Land & Environment Court re the Rocky Hill coking coal mine application in recent days • see judgment here. This might be an additional lever to pull with AG•s now • it really will force all administrative decision makers to reconsider what relevant matters they must weigh in determining any application that requires them to have regard to greenhouse gas emissions or environmental impacts. I understand that there is going to be quite a bit of commentary in the AFR and Fairfax mastheads on the weekend. Let me know if it would assist to update our Proposal with these recent developments.

In the interim, whilst we are still considering its implications for administrative decisions in-depth, initial observations on the completely different approach taken by Justice Preston to the Queensland Minister•s planning decisions in the Carmichael cases (which were then of course subject of judicial review) bear note. Different planning frameworks and relevant tests etc apply (including •direct• vs •indirect•), but compare the reasoning on a number of key points: (a) market substitution argument (b) whether overseas scope 3 from emissions are matters relevant to the planning determination and (c) the •de minimus• emissions from a single mine argument:

Adani: reasoning of Minister in giving planning approval (second approval 2015) (decision survived judicial review challenge - FFC)

138. While the proponent has identified a quantity of overseas GHG emissions that may result from burning the coal, these emissions are not a direct consequence of the proposed action. The actual quantity of emissions that is likely to be additional to current global GHG emissions depends on a range of variables. They include: whether the coal replaces coal currently provided by other suppliers, whether the coal is used as a substitute for other energy sources, and the efficiency of the coal burning power plants. The international multilateral environment agreements, the United Nations Framework Convention on Climate Change and its Kyoto Protocol, provide mechanisms to address climate change globally. Under these agreements, the nations responsible for burning the coal produced from the proposed mine would be expected to address the emissions from transport by rail, shipping and combustion of the product coal in their own countries.

...

140. I found that the quantity of [overseas emissions] from the Carmichael Coal Mine and Rail project proceeding is subject to a range of variables. It is possible to determine a possible total quantity of these emissions that may occur, as provided under paragraph 136. However, determining the actual net emissions from transport by rail, shipping and combustion of the product coal that would occur as a result of the project, after taking account of the variables outlined above, is speculative at this stage. It is therefore not possible to draw robust conclusions on the likely contribution of the project to a specific increase in global temperature. As a result it is difficult to identify the necessary relationship between the taking of the action and any possible impacts on relevant matters of national environmental significance which may occur as a result of an increase in global temperature.

141. I found that direct and consequential greenhouse gas emissions associated with the project will be managed and mitigated through national and international emissions control frameworks operating in Australia and within countries that are the import market for coal from the project.

Justice Preston reasoning (NSW L&E Court, Feb 2019)

492 •Downstream emissions• of a coal mine include Scope 3 emissions from the transportation and combustion of coal product from the mine.

493 Another applicable environmental planning instrument is GLEP 2010. A particular aim of GLEP 2010 is •to embrace and promote the principles of ecologically sustainable development• and •to recognise the cumulative impacts of climate change• (cl 1.2(2)(d)). The direct and indirect GHG emissions of a development contribute to the cumulative impacts of climate change.

494 A consent authority, in determining a development application, is also required to take into consideration the likely impacts of the development, including environmental impacts on the natural and built environments (see 4.15(1)(b) of the EPA Act). The likely impacts of a development include both direct and indirect environmental impacts.

•

513 I find, therefore, that the consideration of the impacts of the Project on the environment and the public interest justify considering not only the Scope 1 and Scope 2 emissions but also the Scope 3 emissions of the Project.

529 •The first reason GRL gave was that the increase in GHG emissions associated with the Project would not necessarily cause the carbon budget to be exceeded, because, as Dr Fisher had argued, reductions in GHG emissions by other sources (such as in the electricity generation and transport sectors) or increases in removals of GHGs by sinks (in the oceans or terrestrial vegetation or soils) could balance the increase in GHG emissions associated with the Project.

530 I do not accept this reason. It is speculative and hypothetical. There is no evidence before the Court of any specific and certain action to •net out• the GHG emissions of the Project. A consent authority cannot rationally approve a development that is likely to have some identified environmental impact on the theoretical possibility that the environmental impact will be mitigated or offset by some unspecified and uncertain action at some unspecified and uncertain time in the future. This is not a case where the applicant for development consent commits to taking specific and certain action to mitigate and offset the environmental impact of the proposed development. In the climate change context, for example, an applicant for development consent could commit to reducing the GHG emissions of the development by deploying emission reduction technologies, such as carbon capture and storage, or offsetting the GHG emissions of the development by increasing the removal of GHGs in the atmosphere by establishing sinks, such as by reafforestation or afforestation of land. The Rocky Hill Coal Project, however, is not proposed to be carbon neutral. GRL has not proposed to balance the emissions by sources with removals by sinks.

531 The second reason given by GRL was based on Dr Fisher•s argument that •the size of the global abatement task calls for making emissions reductions where they count most and generate the least economic and social harm.• (Fisher report [13]). Dr Fisher considered that refusing approval to individual coal mines, such as the Rocky Hill Coal Project, would not achieve this abatement at least cost.

532 I do not accept this second reason. A consent authority, in determining an application for consent for a coal mine, is not formulating policy as to how best to make emissions reductions to achieve the global abatement task. The consent authority•s task is to determine the particular development application and determine whether to grant or refuse consent to the particular development the subject of that development application. Where the development will result in GHG emissions, the consent authority must determine the acceptability of those emissions and the likely impacts on the climate system, the environment and people. The consent authority cannot avoid this task by speculating on how to achieve •meaningful emissions reductions from large sources where it is cost-effective and alternative technologies can be brought to bear• (Fisher Report, [13]). Such emissions reductions from other sources are unrelated to the development that is the subject of the development application that the consent authority is required to determine.

533 If the consent authority considers that the GHG emissions of the development for which consent is sought, and the impacts of those emissions, are unacceptable, and as a consequence determines that the development should be refused in order to avoid the emissions and their impacts, it would not be rational to nevertheless approve the development because greater emissions reductions could be achieved from other sources at lower cost by other persons or bodies. As Mahoney JA observed in BP Australia Ltd v Campbelltown City Council (1994) 83 LGERA 274 at 279, the function of a consent authority:

••is, in the exercise of discretionary powers, to take into consideration the relevant considerations, to weigh them one against the other, and to determine what in the light of those considerations, should be done. Ordinarily, it would not be right for such a body to conclude that the effect of the relevant considerations is that one thing should be done and yet, without more, to do another. The grant of a discretion is the grant of the authority to do what the authority sees as the discretionary considerations to warrant being done.•

534 The third reason GRL advanced for approving the Project was that the GHG emissions of the Project will occur regardless of whether the Project was

Released under DES Disclosure Log RTI Act 2009

approved or not, because of market substitution and carbon leakage. On market substitution, Dr Fisher suggested that having regard to the limited substitutes for coking coal in steel making and the strong projected demand for coking coal as large countries such as India industrialise and intensify their steel use, "if demand is not met from Australian coal mines, investment will flow to other large coal producers and mines will be developed in countries such as India and Indonesia" (Fisher report, [67]). There will therefore be at least the same amount of GHG emissions, merely coming from those other mines rather than from the Project.

535 On carbon leakage, Dr Fisher argued that GHG emissions could actually increase if coal mining were to be moved from Australia to other countries. Dr Fisher said that Australian coal mines operate to some of the highest environmental standards in the world and regulations ensure a strict recognition and accounting of GHG emissions, but this is not the case in all countries where coal mining occurs (Fisher report, [65]). This situation is sometimes referred to as "carbon leakage" where, as a result of more stringent climate policies or more stringent application of climate policies in a country, businesses move their production from that country to other countries with less ambitious climate policies or less ambitious application of climate policies, which can lead to a rise in global GHG emissions.

536 I reject this third reason. On carbon leakage, GRL has failed to substantiate, in the evidence before the Court, that this risk of carbon leakage will actually occur if approval for the Rocky Hill Coal Project were not to be granted. Although there was some disagreement between the experts on coal demand, Mr Buckley and Mr Manley, they did agree that there were other coking coal mines, both existing and approved, in Australia that could meet current and likely future demand for coking coal, including coking coal with the properties of the coal from the Project. This would mean that the demand for coking coal would be met by Australian coking coal of the highest quality in the world from Australian coal mines operating to the highest environmental standards in the world. There is, therefore, unlikely to be a moving of coal mining abroad or carbon leakage.

".

545 There is also a logical flaw in the market substitution assumption. If a development will cause an environmental impact that is found to be unacceptable, the environmental impact does not become acceptable because a hypothetical and uncertain alternative development might also cause the same unacceptable environmental impact. The environmental impact remains unacceptable regardless of where it is caused. The potential for a hypothetical but uncertain alternative development to cause the same unacceptable environmental impact is not a reason to approve a definite development that will certainly cause the unacceptable environmental impacts. In this case, the potential that if the Project were not to be approved and therefore not cause the unacceptable GHG emissions and climate change impacts, some other coal mine would do so, is not a reason for approving the Project and its unacceptable GHG emissions and climate change impacts.

From: Sarah Barker [mailto:Sarah.Barker@minterellison.com]
Sent: Friday, 1 February 2019 3:19 PM
To: ROODENRYS Georgine <Georgine.Roodenrys@des.qld.gov.au>
Cc: Antra Hood <Antra.Hood@minterellison.com>

sch4p4(7)(1)(c) Business/commercial/professional/financial affairs

Published on DES Disclosure Log RTI Act 2009

Pages 4 through 8 redacted for the following reasons:
- -
sch4p4(7)(1)(c) Business/commercial/professional/financial affairs

Published on DES Disclosure Log
RTI Act 2009

Team members

Team lead

Sarah Barker
SPECIAL COUNSEL, MINTER ELLISON
B.COM (ACC & FIN), LLB (HONS), M.ENV (HONS)

Phone +61 3 8608 2928
Email sarah.barker@minterellison.com

Sarah Barker is a Special Counsel at MinterEllison and a director of one of Australia's largest superannuation funds, the Victorian state government's $26 billion Emergency Services & State Super. She has two decades' experience as a commercial and regulatory lawyer, and is regarded as one of the world's foremost experts on climate change risk assessment, strategy and liability.

Sarah's leadership in the field of climate change-related risk and liability is internationally recognised, and has been called upon by governments and institutions from the **Bank of England** to the **OECD** and **United Nations PRI**. In 2017, she was commissioned by the **European Union** as the legal risk partner in a global consortium advising on *Financial System Risks Arising from the Energy Transition*, which involved advising the European Commission on climate-related risk exposures for both government and private-sector entities.

She sits on the Technical Working Group of the London-based **Climate Disclosure Standards Board**, teaches as part of the **Cambridge University's** Institute for Sustainability Leadership (convened by **EY**), and is an academic visitor at the Smith School of Enterprise and the Environment at **Oxford University**. She was previously appointed by Standards Australia as the Australian representative on the international Expert Committee of **ISO14097, the International Standards Organisation's draft *Standard for Investment, Financing and Climate Change***.

In Australia, Sarah works extensively with Federal, State and local government on climate-related risks and liability exposures (including the **Commonwealth Attorney-General's Office, Victorian, Tasmanian, Queensland and South Australian state government departments** variously across Premier & Cabinet, environment, water, energy, housing, emergency services, public works and infrastructure portfolios, and local government agencies across Victoria, New South Wales and South Australia). She is well known within the Queensland government, having previously conducted a number of climate risk governance workshops on behalf of the Department of Environment & Science. She was the instructing solicitor on a brief to **Mr Noel Hutley SC** that is widely cited as the authoritative exposition on directors' duties with regard to climate change risk in Australia (including by the **Australian Prudential Regulation Authority** and **Australian Securities & Investments Commission**).

Sarah brings an overtly practical, governance-focused perspective to her advice from her own experience as a director on the board of government- and private-sector boards. In addition to her role as a non-executive director of **Emergency Services & State Super**, she sits on the board of the **Responsible Investment Association Australasia**, and acted as the Chair of the Audit Committee of the former Victorian Commissioner for Environmental Sustainability, Kate Auty. She has been actively involved as an examiner, lecturer and course materials author for the **Australian Institute of Company Directors** for more than a decade, and regularly facilitates the Institute's public sector workshops.

Sarah works extensively across the policy, investment, academic and scientific communities – including with **CSIRO** and the **Bureau of Meteorology**. She is known for her ability to communicate complex legal and economic concepts in a pragmatic way, to both lawyers and non-lawyers.

Recent experience

Recent matters include advising:

- the **European Commission** on climate-related litigation risk exposures for public and private-sector entities;
- the **Bank of England Prudential Regulation Authority** on climate-related litigation risk exposures and potential implications for the insurance industry;
- a **State government** on climate-related liability exposures of board members of statutory authorities, including those on the boards of critical infrastructure utilities, and preparing due diligence guidance materials;
- two additional **State governments** on assessment of its climate-related risks, and assistance in developing a climate risk management framework;

Published on DES Disclosure Log
RTI Act 2009

- the **Department of Environment, Land, Water & Planning (Vic)** on the drafting of Schedule 1 to the *Climate Change Act 2017* (Vic). Advice centred on practical Levels to embed (and extend) the legislative mandate to consider climate change-related issues in public-sector decision making, and stakeholder engagement;
- Commonwealth and numerous State government inter-departmental committees on climate change on economic transition and litigation risks (and opportunities) associated with climate change;
- the **City of Adelaide** Councillors and executive leadership teams on financial and liability risks (and opportunities) associated with climate change;
- **AMP Capital** on the re-drafting and implementation of its Responsible Investment Policy;
- **ANZ Bank** and **ANZ Wealth** on issues relating to climate-related financial disclosures, including governance, strategy, risk assessment and metrics/targets under the G20 Financial Stability Board's Taskforce on Climate-Related Financial Disclosures (TCFD); and
- **Cbus**, and its subsidiary property investment manager, **Cbus Property**, on corporate governance issues, including board and executive training, and governance policy restructure.

Antra Hood

PARTNER, MINTER ELLISON

LLM, LLB, BA (HONS)

Phone +61 7 3119 6241

Email antra.hood@minterellison.com

Antra Hood advises both public and private sector clients on a wide range of planning, environmental and infrastructure transactions. Antra has worked with clients on major projects and property developments, and advised on some of Queensland's most strategically significant transactions and developments. Her extensive development and transactions experience spans the development of large residential estates and infrastructure, the sale of significant State assets, acquisitions and disposals, structured titling advice, complex urban redevelopment including transit-oriented development and infrastructure projects, planning advice and approvals, legislative changes and environmental compliance.

Antra regularly advises the Queensland government on environment, planning, property and infrastructure matters, including approvals strategies, conditioning, and policy matters such as offsets and ports planning. In 2016 – 2017 Antra was appointed as a planning expert to the Queensland government's Koala Expert Panel.

Antra is the current Chair of the Property Council's Planning and Infrastructure Committee, has been recognized as one of Australia's top lawyers in the respected Australian Corporate Lawyers Association's Legal Department Benchmarking Report and is considered as 'very highly regarded' by Asia Pacific Legal 500. Antra is also ranked as 'Recommended' in Doyle's Guide to the Australian Legal Profession and has been ranked since 2015 in Best Lawyers.

Relevant experience

Recent matters include:

- **Governments of Queensland (Brisbane), New South Wales (Newcastle), Western Australia (Fremantle), the Northern Territory (Darwin) and Victoria (Melbourne)**: Advised on environment, planning and property issues associated with port divestments by long term leases, including, most recently, complex contamination, infrastructure and dredging issues associated with the $9.729bn sale of the Port of Melbourne by long term lease.
- **Queensland Coordinator-General**: Advised on planning, environment, resumption and tenure issues arising from the multi-user infrastructure corridors developed for the LNG projects in the Callide Infrastructure Corridor, the Gladstone State Development Area, and the Stanwell to Gladstone Infrastructure Corridor.
- **Queensland Coordinator-General**: Advising (lead planning partner, co-lead commercial partner) on tenure, planning and administrative law issues related to the development of the Galilee Basin Rail project, including the declaration of the Galilee Basin State Development Area, establishment of the development scheme, development of tenure and compensation documents for the Galilee Basin Rail Project and a related infrastructure facility of significance declaration.

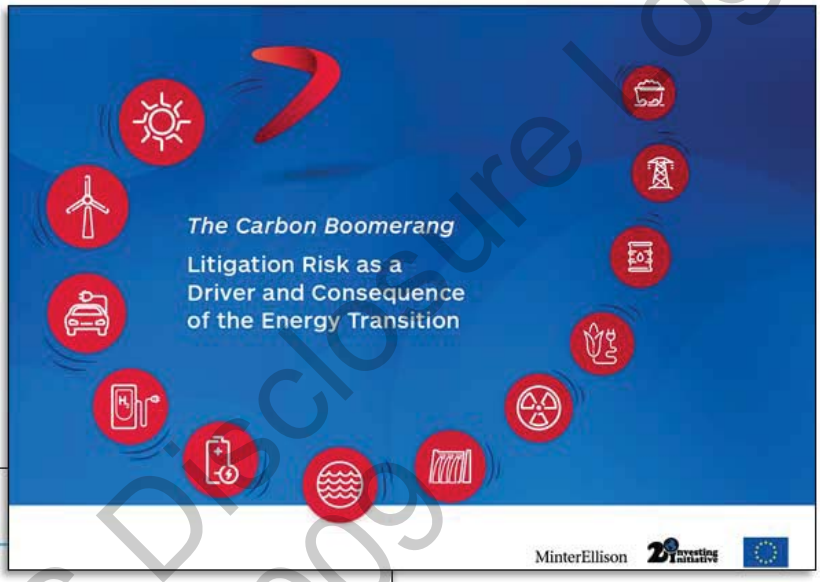
Published on DES Disclosure Log RTI Act 2009

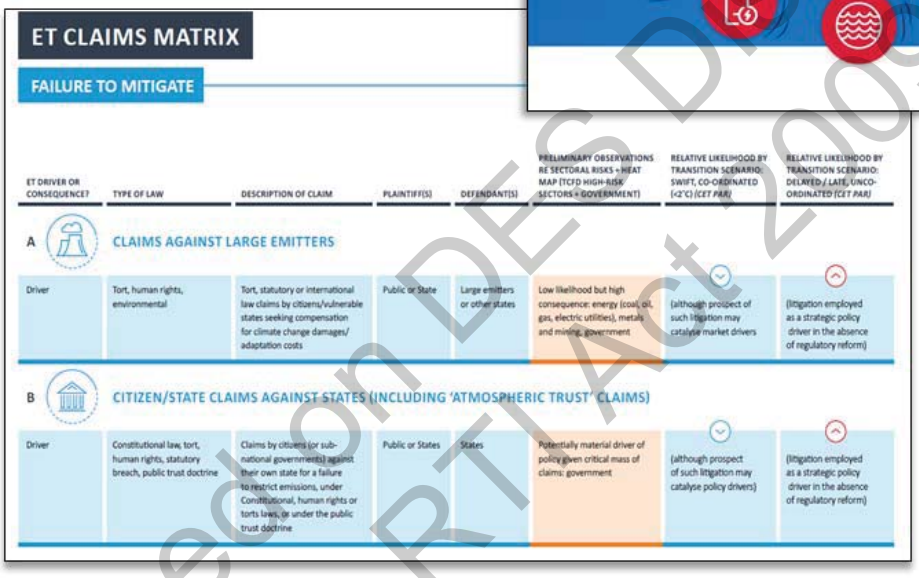
- **Queensland Treasury**: Advised in relation to contamination and concurrent lease issues for the successful 2010 sale of the Port of Brisbane, and QR National on complex property and contamination issues for the successful 2010 IPO, including negotiating the land leases; advised on planning, environment and resumption issues related to the proposed sale of Queensland electricity networks in 2014.
- **Queensland Treasury and the Department of Transport and Main Roads:** Advised on environmental and planning regulatory issues relating to three of Queensland's Market Led Proposals, including testing approvals schedules, confirming approvals pathways, and advising on complex matters related to environmental nuisance.
- **North Queensland Bulk Ports:** lead environmental partner on tenure, planning and environmental issues related to the expansion of coal terminal facilities at Abbot Point and Dudgeon Point, including providing advice on planning and environmental approvals, environmental covenants and strategic issues relating to approvals regimes and cumulative impact assessment under Federal and State legislation.
- **Stanwell Corporation:** Advising on environmental matters related to ash dams and development approvals, as well as waste and beneficial reuse issues.
- **Brisbane City Council**: Advising on complex infrastructure charging regime issues, including transitional issues post July 2014 and trunk infrastructure conditions; offsets matters; preparing and negotiating infrastructure agreements; advising on and drafting parts of the Adopted Infrastructure Charges resolution.
- **Sunshine Coast Regional Council**: Advising on its project to procure a new international submarine cable landing on the Sunshine Coast by 2020, intended to stimulate local business, generate new investment and improve telecommunications diversity to Australia's East coast. Antra is providing planning and environment advice in particular for the landing site and approvals pathways.
- **South Bank Corporation**: Advised on complex planning, infrastructure, titling, leasing and freehold and State land tenures issues for a variety of South Bank Corporation's major projects including the Thiess, IMAX, Mazda (SW1), Butterfly House, Arbour on Grey, Boardwalk, Conservatorium of Music, Rydges, Galleria, Griffith University and South Point sites, including a year as General Counsel.
- **Anglo American, Peabody, Cockatoo Coal, Yancoal and Eagle Downs Coal Management: A**dvising in relation to environmental and approvals processes and land tenure issues for coal mine developments and off-lease infrastructure, including conducting due diligences, preparing and reviewing project approvals schedules, advising about Commonwealth approvals processes, advising about changes to environmental authorities, development of off-lease infrastructure such as accommodation villages, electricity and water infrastructure and rail spurs, offsets advice and agreement preparation, and compliance and rehabilitation issues.
- **Greater Flagstone**: Advising all the major developers in Greater Flagstone in relation to the development of a multi-party foundation infrastructure agreement related to transport, water supply and sewerage infrastructure, as well as negotiating individual infrastructure agreements for each developer with Council and the MEDQ.
- **Springfield Land Corporation**: Advising on all major property, planning and environment issues for the Greater Springfield master planned community since 1999 (including over three years as General Counsel), including application of Commonwealth environmental approval requirements, drafting and negotiating infrastructure agreements, resumption matters, negotiating variations to planning instruments, disposal of major strategic sites, structured titling and negotiation of major joint venture arrangements.
- **Royal National Agricultural & Industrial Association of Qld:** Advised on planning and infrastructure issues related to the A$3bn redevelopment of the 22 hectare RNA Showgrounds in Brisbane, including negotiating infrastructure and road closure agreements, and making submissions on legislative reform.

Published on DES Disclosure Log
RTI Act 2009

ANNEXURE B

Example output – extract from *The Carbon Boomerang*





ET CLAIMS MATRIX

FAILURE TO MITIGATE

ET DRIVER OR CONSEQUENCE?	TYPE OF LAW	DESCRIPTION OF CLAIM	PLAINTIFF(S)	DEFENDANT(S)	PRELIMINARY OBSERVATIONS RE SECTORAL RISKS + HEAT MAP (TCFD HIGH-RISK SECTORS + GOVERNMENT)	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: SWIFT, CO-ORDINATED (<2°C) *(CET PAR)*	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: DELAYED / LATE, UNCO-ORDINATED *(CET PAR)*
A	**CLAIMS AGAINST LARGE EMITTERS**						
Driver	Tort, human rights, environmental	Tort, statutory or international law claims by citizens/vulnerable states seeking compensation for climate change damages/ adaptation costs	Public or State	Large emitters or other states	Low likelihood but high consequence: energy (coal, oil, gas, electric utilities), metals and mining, government	(although prospect of such litigation may catalyse market drivers	(litigation employed as a strategic policy driver in the absence of regulatory reform)
B	**CITIZEN/STATE CLAIMS AGAINST STATES (INCLUDING 'ATMOSPHERIC TRUST' CLAIMS)**						
Driver	Constitutional law, tort, human rights, statutory breach, public trust doctrine	Claims by citizens (or sub-national governments) against their own state for a failure to restrict emissions, under Constitutional, human rights or torts laws, or under the public trust doctrine	Public or States	States	Potentially material driver of policy given critical mass of claims: government	(although prospect of such litigation may catalyse policy drivers)	(litigation employed as a strategic policy driver in the absence of regulatory reform)

Published on DES Disclosure Log
RTI Act 2009

Published on DES Disclosure Log
RTI Act 2009

Pages 14 through 30 redacted for the following reasons:
- -
sch4p4(7)(1)(c) Business/commercial/professional/financial affairs

Published on DES Disclosure Log
RTI Act 2009

MOODY'S
INVESTORS SERVICE

SECTOR IN-DEPTH
8 October 2018

Rate this Research

TABLE OF CONTENTS

Climate change presents risks for Australian states 3
Assessing three key climate risk exposures for Australian states 5
Assessing the impact of climate risk for Australian states' credit profiles 8

Contacts

John Manning +61.2.9270.8145
VP-Sr Credit Officer
john.manning@moodys.com

Brian Cahill +61.2.9270.8105
MD-Asia Pac Corp & Infra Fin
brian.cahill@moodys.com

David Rubinoff +44.20.7772.1398
MD-Sub Sovereigns
david.rubinoff@moodys.com

Michael Rowan +1.212.553.4465
MD-Gbl Pub Proj and Infra Fin
michaelj.rowan@moodys.com

CLIENT SERVICES

Americas 1-212-553-1653
Asia Pacific 852-3551-3077
Japan 81-3-5408-4100
EMEA 44-20-7772-5454

Regional & Local Governments – Australia

Evaluating potential impacts from climate change on the Australian states

Summary

Climate change is introducing new vulnerabilities for Australian states and territories (the states) through climate trends and climate hazards. Climate risks are material and the states are developing strategies to mitigate and adapt to them, with estimated capital spending so far appearing manageable. Climatic diversity within each state, combined with longer-term uncertainty on emission pathways, amplifies the complexity of the challenges facing the states. This report discusses how we assess the credit impact of these risks on the states and has no immediate impact on their ratings.

» **Climate change presents risks for Australian states in terms of damage to infrastructure, weakening revenues and higher spending.** Climate challenges include very high temperatures, heightened drought, rising sea temperatures and bush fires, as well as credit challenges emanating from the increased severity of storms and cyclones. States face immediate challenges to manage the financial impact on economic growth through lost revenue, and greater spending on health, infrastructure and providing financial support to affected communities.

» **Diversity in Australian states' economic bases provides a natural mitigant to climate risk.** Most states have diversified economic activities, reducing the probability of any one climate risk materially disrupting economic output and fiscal capacity, and giving them flexibility to invest in climate adaptation and resilience activities. Although climate change is certain to have economic impacts in the future, projections of costs are imprecise. Changes in environmental policy and adaptive mitigation strategies will likely reduce these costs.

» **Extent of climate change exposure varies across the states.** Climatic extremities ranging from wet tropics through to deserts underpin the variability of challenges faced by each state. Disruption to trade and tourism can lower revenue for the most exposed states, while increasing pressure to spend on public health, infrastructure and social services. Climatic diversity, however, also opens up new opportunities for growth where states proactively invest in industry and infrastructure.

» **Robust institutional framework between states and central government facilitates the identification of, planning for, and responses to climate risks.** Structural protections incorporated within various state and Government of Australia (the Commonwealth, Aaa stable) tools underpin the resilience of the states to climate hazards.

Published on DES Disclosure Log RTI Act 2009

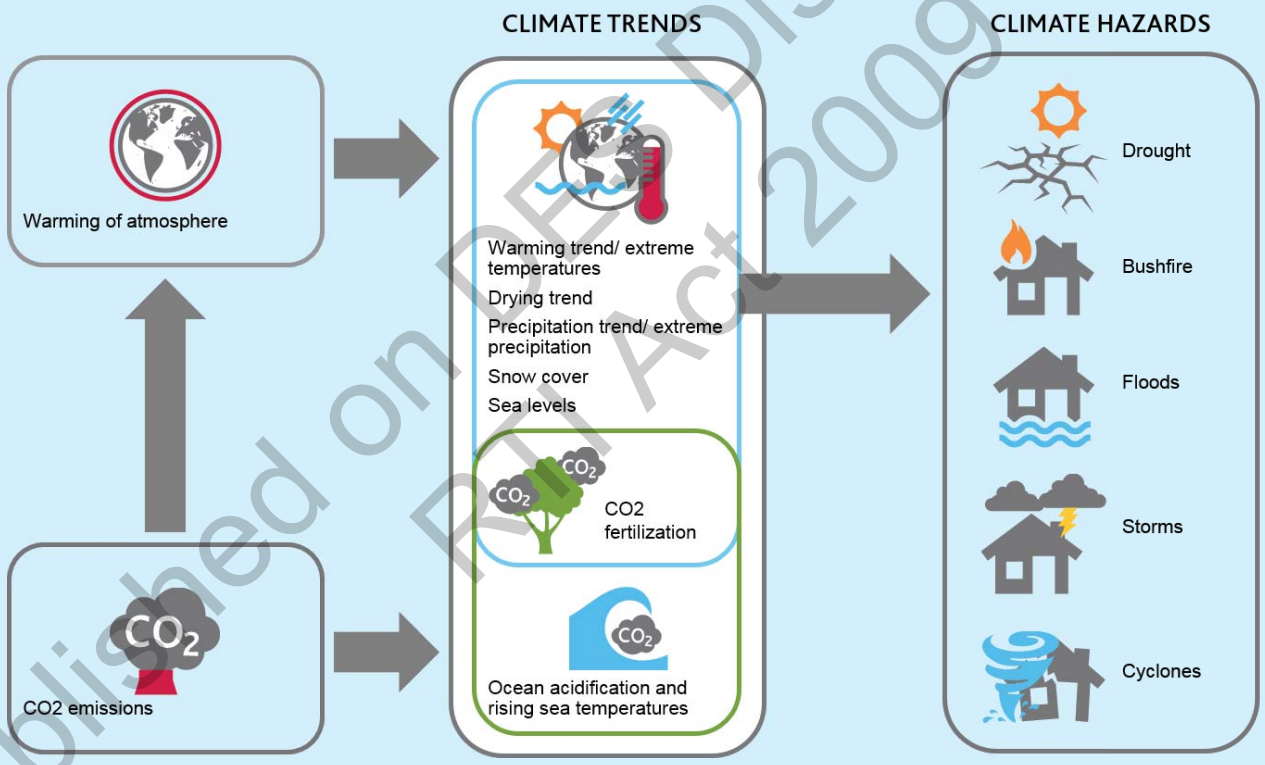
Analysing climate change risks for Australian states and territories

To measure exposures and analyse the impact of climate change, we focus on both the climate change trends and subsequent related hazards that might impact the states.

- **Trends**: This term denotes gradual changes to the climate over multiple decades, with little visible change from one year to the next. It includes incremental increases in average annual temperatures and the potential for lower cold weather extremes. Changes in climate trends have the effect of increasing sea levels and temperatures, creating more extreme rainfall patterns, and producing more heat-driven weather extremes. Given their long lead times, climate trends are unlikely to have a discernable credit impact. However, such trends heighten the probability and frequency of climate hazards and can therefore bring about substantive changes to economic and social systems over the long term.
- **Hazards**: This term refers to extreme weather events such as drought, floods, bushfires, storm events and heatwaves that are expected to increase in intensity over time as a result of changing climate trends. Climate hazards can have significant and one-off credit implications given their potential to disrupt economic activity and cause damage to property and infrastructure. While the overall trend of climate hazards is increasing, the timing and magnitude of individual events are unpredictable.

Exhibit 1

Australian states and territories are exposed to both climate trends and climate hazards



Sources: Intergovernmental Panel on Climate Change, Moody's Investors Service

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

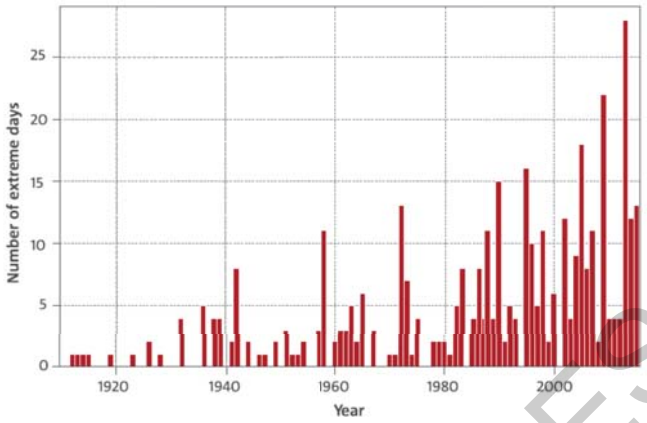
Published on DES Disclosure Log RTI Act 2009

Climate change presents risks for Australian states

Climate change[1] in Australia is most evident in the increased occurrence of record-breaking heat, but is also visible in lower rainfall; warmer, more acidic oceans; and greater bushfire risk (see Exhibits 2-5). According to the Intergovernmental Panel on Climate Change, the rise in carbon dioxide concentration in the atmosphere over the past century means that both atmospheric and ocean temperature warming will continue out to 2050.[2] As a result, adaptive change will be necessary for the states over the next 30 years to (i) mitigate the impact of climate trends and hazards expected to 2050, and (ii) address the uncertainties regarding the rate and degree of climate change in the second half of the 21st century.

Exhibit 2

Frequency of extreme heat events in Australia is increasing and typically occurs over a large area

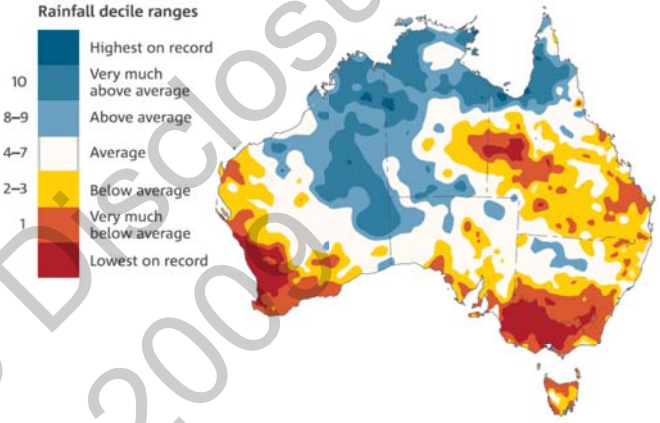


Sources: Bureau of Meteorology (BOM) and Commonwealth Scientific and Industrial Research Organisation (CSIRO) State of the Climate 2016, Moody's Investors Service

Exhibit 3

Rainfall during the April-October southern growing season has dropped 11% since the mid-1990s

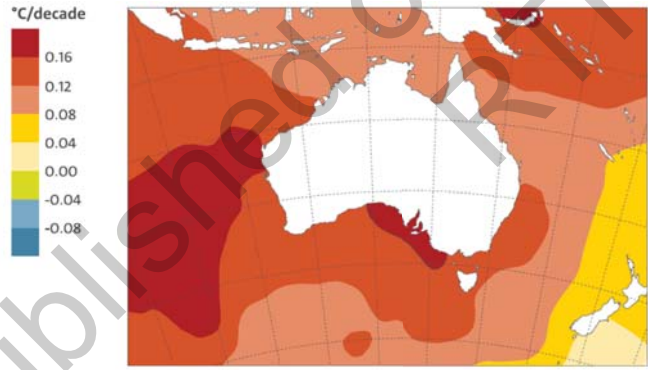
(Rainfall deciles for the last 20 years, 1996-2015)



The decile map shows where rainfall is above average, average or below average for the recent period, in comparison with the entire rainfall record from 1900.
Sources: BOM and CSIRO State of the Climate 2016, Moody's Investors Service

Exhibit 4

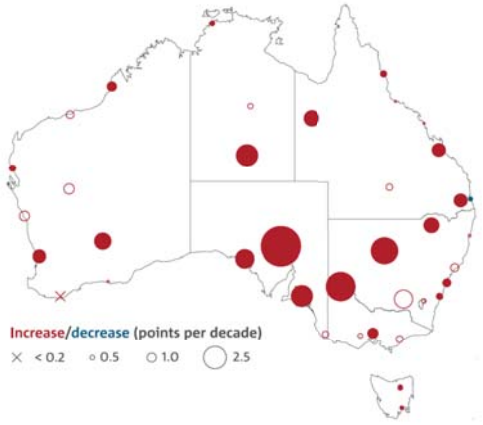
Oceans around Australia have become warmer and their acidity has increased



Trends in sea surface temperature in the Australia region from 1950 to 2015
Sources: BOM and CSIRO State of the Climate 2016, Moody's Investors Service

Exhibit 5

Bushfire risk has increased since the 1970s, particularly in the south and east of Australia



Trends from 1974 to 2015 in annual 90th percentile of daily Forest Fire Danger Index (FFDI) at 38 climate reference locations. Trends are in FFDI points per decade and larger circles represent larger trends. Filled circles represent statistically significant trends.
Sources: BOM and CSIRO State of the Climate 2016, Moody's Investors Service

Published on DES Disclosure Log RTI Act 2009

Australian states and local governments are primarily responsible for preventing, preparing for, and responding to natural disasters. As a result, recognising the correlation between climate change and the increasing frequency or severity of natural disasters has become a prominent factor in state planning for long-term infrastructure requirements.[3] Additionally, it enables preemptive funding initiatives for countermeasures that help communities to cope with the immediate challenges emanating from climate risk, such as the Farm Innovation Fund of New South Wales (Treasury Corporation of NSW, Aaa stable) and the Queensland (Queensland Treasury Corporation, Aa1 stable) Drought and Climate Adaptation Program, to increase drought resilience in key agricultural regions.

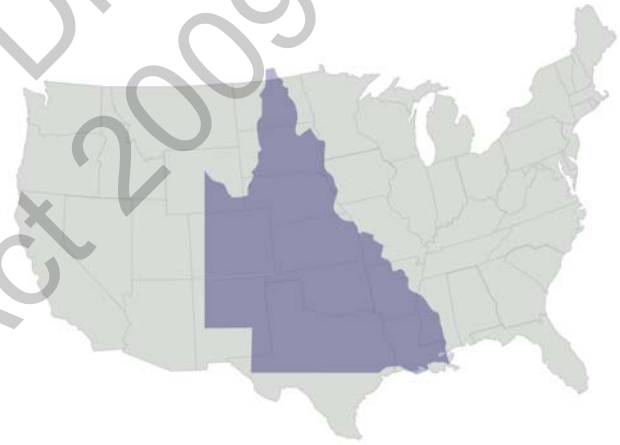
It is important to note that a 2 degree Celsius increase does not simply reflect similar weather patterns at a higher temperature. Rather, the unpredictability and severity of some climate hazards increase, adding to the complexity faced by the states in their planning around climate change risk.

As an island continent, the sheer size of Australia dictates significant climate diversity with contrasting climate hazards, emanating from the same trend, regularly occurring in different states. Additionally, climatic diversity even within a state can be significant, given the large geographic scale (see Exhibits 6 and 7), complicating the task of projecting future physical risks emanating from various climate change scenarios.

Exhibit 6
The large geographic scale of many Australian states ...
(State of Western Australia overlay on Europe)

Source: Moody's Investors Service

Exhibit 7
... means a high degree of climatic diversity within each state
(State of Queensland overlay on the United States)



Source: Moody's Investors Service

We base our analysis on historical trends and climate modeling from Climate Change in Australia.[4] We focus on three key risks which represent useful starting points for our analysis of the Australian states and territories' climate change exposure:

Extreme heat events: The driest inhabited continent on earth,[5] Australia's climate – surface air temperature and surrounding sea surface temperature – has warmed by around 1 degree Celsius since 1910.[6] This is reflected in the increased duration, frequency and intensity of extreme heat events across large parts of Australia. Some projections[7] indicate that the extreme heat events of the summer of 2012-13 will become typical events by 2035, meaning more work to manage drought and bushfire risk.

Published on DES Disclosure Log
RTI Act 2009

» Drought: Rising climate temperatures may be accompanied in some regions by decreased rainfall and dry soil conditions, which will hinder agricultural production and the seasonal replenishment of water reserves.

» Bushfire: Prolonged drought increases bushfire risk and creates longer bushfire seasons. This has particularly occurred in the southern and southeastern states of Australia and, in light of urban expansion, is increasingly affecting city fringes.[8] Heightened extreme heat conditions in the Northern Hemisphere, culminating in longer and more extreme fire events, may prompt the states to increase capital spending on large-scale firefighting infrastructure.

» Public health: Rising climate temperatures may lead to the more regular occurrence of several types of health problems, placing greater fiscal pressure on states which carry primary responsibility for the public hospital system. Key pressure points are temperature-related illness, combined with conditions related to extreme weather, air pollution, water- and food-related diseases, food and water shortages, and population displacement.

Ocean temperatures and sea levels: Ocean temperatures continue to steadily increase globally. Warming in the oceans around Australia has increased ocean acidity and rising sea levels. Globally, approximately one-third of the 20cm rise in average sea levels that has occurred since the late 19th century has been due to ocean warming.[9] The fact that roughly 80% of the Australian population lives near the coast, amplifying its vulnerability to climate hazards such as storm surges and coastal flooding, exacerbates the exposure of states to rising sea levels. Furthermore, as the oceans act as a store of heat, the marine biologies that underpin aquaculture industries and tourism will increasingly die off.

Storm and cyclone activity: On average, Australia experiences 11 tropical cyclones per year, of which four cross over the coastline. Whilst these generally centre on the less populous tropical north, they also bring about rainfall, flooding and strong winds across other regions. These factors have significant economic, environmental and human costs, which are primarily the financial risk of the states. Mostly caused by high ocean temperatures – of at least 27 degrees Celsius – and a cluster of thunderstorms, the severity of cyclones in the Australian tropics is likely to increase as average sea temperatures rise. The greater intensity of storms, particularly in more urbanised areas, and the expansion of cyclone activity into more southern regions of the tropics, would introduce a range of new challenges for states in northern Australia. The natural occurrence of strong La Niña[10] weather patterns, which lead to warmer ocean waters off the Australian northeastern coast, compound the impact of rising sea temperatures and are likely to amplify exposure to cyclones and associated tropical thunderstorms. Managing these risks within the constraints of existing social infrastructure, whilst ensuring building codes and new infrastructure can cope with the long-term implications of climate change, requires the states to clearly articulate and fund their responses to climate change

Assessing three key climate risk exposures for Australian states

While very high temperatures are common across Australia, climate change has resulted in the duration of such episodes increasing, leading to higher risk and severity of drought and bushfires, and rising sea temperatures. This can lead to lower revenue for the states through disruption to trade and tourism, as well as increased pressure to spend on public health, infrastructure and social services.

Natural disasters will rarely have a single countrywide economic impact in Australia given its economic diversification and vast geography. That said, investment in research and information can help government agencies to prepare for the immediate fiscal impact of climate change, whilst planning longer-term investment infrastructure in response to climate change risks on a more localised basis.

Recent research from the Food and Agriculture Organisation of the United Nations (FAO)[11] on fisheries and climate change highlights the effect of rising sea temperatures globally and the rapid increase in ocean temperatures surrounding Australia. This is particularly evident on the east and west coasts of Australia where iconic tourist drawcards, such as the Great Barrier Reef, have seen significant coral bleaching and loss of seagrasses since 2006.

Published on DES Disclosure Log RTI Act 2009

Exhibit 8

Heat map of climate change exposure for selected Australian cities

City	State	Drought	Bushfire	Coastal flooding	# Cyclones (1990-2018)	Marine heatwaves
Sydney	NSW	3	3	0.47	0	0.60
Canberra	ACT	3	3	0.00	0	0.00
Melbourne	VIC	2	2	0.44	0	0.60
Adelaide	SA	2	2	0.45	0	0.70
Perth	WA	4	4	0.46	0	0.60
Darwin	NT	3	3	0.46	6	0.80
Brisbane	QLD	3	3	0.47	7	0.70
Cairns	QLD	2	2	0.48	7	0.60
Alice Springs	NT	3	3	0.00	0	0.00
Hobart	TAS	2	2	0.48	0	0.60
Broome	WA	3	3	0.46	7	0.70

Scale		Drought		Bushfire	Coastal Flooding	Cyclones	Marine Heatwaves
	0	No change	0	No change	0	0	0
	1	Little change -5 to 5%, Slightly warmer < 0.5	1	Little change -5 to 5%, Slightly warmer < 0.5	0.01 - 0.2.0	1	0.1 - 0.4
	2	Little change -5 to 5%, Warmer 0.5 to 1.5C	2	Little change -5 to 5%, Warmer 0.5 to 1.5C	0.21 - 0.50	2	0.5 - 0.6
	3	Little change -5 to 5%, Hotter 1.5 to 3.0C	3	Little change -5 to 5%, Hotter 1.5 to 3.0C	0.51 - 0.70	3	0.7 - 0.8
	4	Drier -15 to -5%, Hotter 1.5 to 3.0C	4	Drier -15 to -5%, Hotter 1.5 to 3.0C	0.71 - 1.0	4	0.9 - 1.0
	5	Much Drier < -15 %, Much Hotter 1.5 to 3.0C	5	Much Drier < -15 %, Much Hotter 1.5 to 3.0C	< 1.1	< 5	< 1.1
Scenario and time period		RCP 6.0 2070		RCP 6.0 2070	RCP 4.5 2030-90	1990 to June 2018	RCP 4.5 2030-90
Tool used		Climate Projections (scenario with highest concensus of models)		Climate Projections (scenario with highest concensus of models)	Marine Explorer (change in sea levels relative to 1986-2005 (m))	Severe tropical cyclones in the state	Marine Explorer (Change between 2030 and 2090 (degrees Celsius)))

Sources: Climate Change in Australia, Bureau of Meteorology, Moody's Investors Service

The tropical oceans to the north of Australia are warming at almost double the global average rate. The FAO highlights that more than 100 Australian range-extending marine species have already started to change their distributions southwards. In addition to marine species migrating southwards, marine heatwaves and other extreme events have a destructive impact on key marine ecosystems such as kelp forests, seagrasses and mangroves (see Exhibit 9).

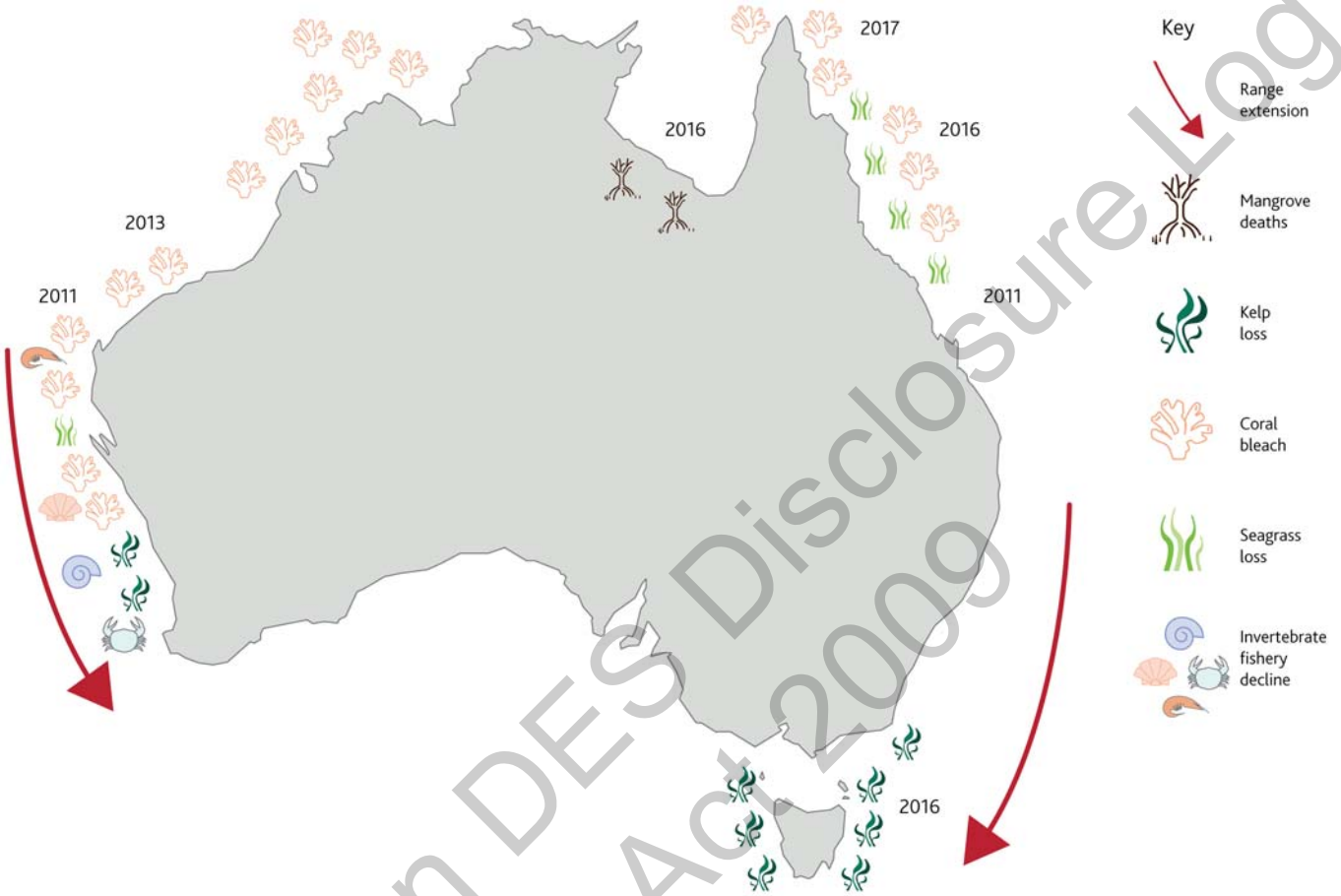
These developments will pose new challenges, while potentially also opening up new opportunities for fisheries up and down the Australian coastline as fish numbers and the structure of marine food chains evolve. Ultimately, this increases the need for states to work with Commonwealth agencies to develop policy to ensure coastal fishing towns and aquaculture businesses remain viable given projections of more variable production from marine ecosystems.

Whilst the physical damage from future climate change-driven events is difficult to predict, Australian states with clear vulnerabilities actively manage their exposure to core infrastructure. In the tropic north, which is most exposed to cyclones, building codes and other state controlled regulations are subject to regular review[12] to ensure adequate protections are built into new infrastructure to deal with evolving climate risks. Whilst existing infrastructure cannot easily be retrospectively converted to meet evolving building codes, new developments in the tropic north are subject to tight cyclone-resilient building standards and a requirement for the electricity supply to be placed underground. However, should climate hazards such as cyclones move further south, long-established infrastructure will likely lag building codes that have evolved.

Published on DES Disclosure Log RTI Act 2009

Exhibit 9

Rising sea temperatures are moving species southwards



Sources: CSIRO, Moody's Investors Service

Investment in rebuilding infrastructure – repairing physical damage post an event or preemptively spending on preventative infrastructure – can be economically positive for the states in the short, medium and longer term, both in terms of the immediate uplift from construction activity, and the economic benefits of greater resilience to climate risks. For example, during tropical cyclone Marcus in March 2018 – the largest cyclone to hit Darwin in 30 years – overall damage to infrastructure was minimised by cyclone-rated building standards and extensive use of underground power distribution networks. This was particularly evident in the more recently developed city of Palmerston[13] which came through the cyclone largely unscathed.

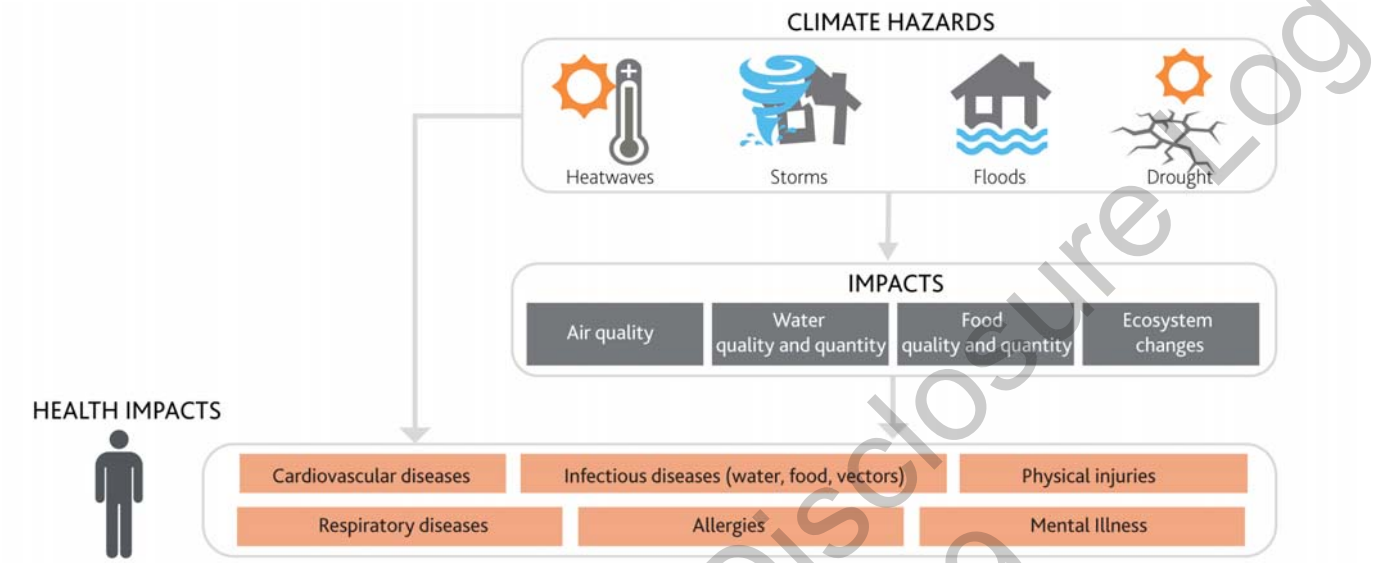
Health is the second-highest budget cost to the states behind wages and salaries, and on average represents almost 30% of recurrent expenditure. In recent years, expanding needs for public health services related to population growth and aging have been key factors in increasing pressure on state budgets.

The impact on health spending from climate change (see Exhibit 10) is likely to further pressure health budgets over time as the direct and indirect heath effects of climate hazards flow through to the broader community.

Published on DES Disclosure Log RTI Act 2009

Exhibit 10

Climate change can directly and indirectly lead to increased capital investment and recurrent health expenditure by the states



Sources: NSW Health, Moody's Investors Service

Assessing the impact of climate risk for Australian states' credit profiles

Economic diversity and fiscal flexibility provide a solid platform to manage resilience to climate risk. Our ratings provide a forward-looking view on factors that can affect credit quality. Proactive policy measures as well as economic fundamentals, financial performance and institutional framework[14] increase resilience to the physical and economic impacts of climate change.

The scope of variables under climate change assumptions makes forecasting physical risks from natural disasters problematic. The states carry primary responsibility for the provision of relief and recovery assistance to natural disaster-affected communities. The physical risks stemming from climate change can therefore increase their immediate term fiscal vulnerability to potential significant costs from increased frequency and/or severity of natural disasters.

Increased severity of storms and cyclones will increase river flooding, impacting both regional and urban communities, and damage infrastructure, as well as hurting tourism and agriculture (see Exhibit 11). States with greater economic diversity are better positioned to manage the physical and economic extremes of climate change.

Beyond the initial physical impact of natural disasters, climate change can introduce a range of direct and indirect impacts on state finances. Smaller states are more economically vulnerable to the effect of climate change on tourism and agriculture, but we consider this to be manageable around current levels.

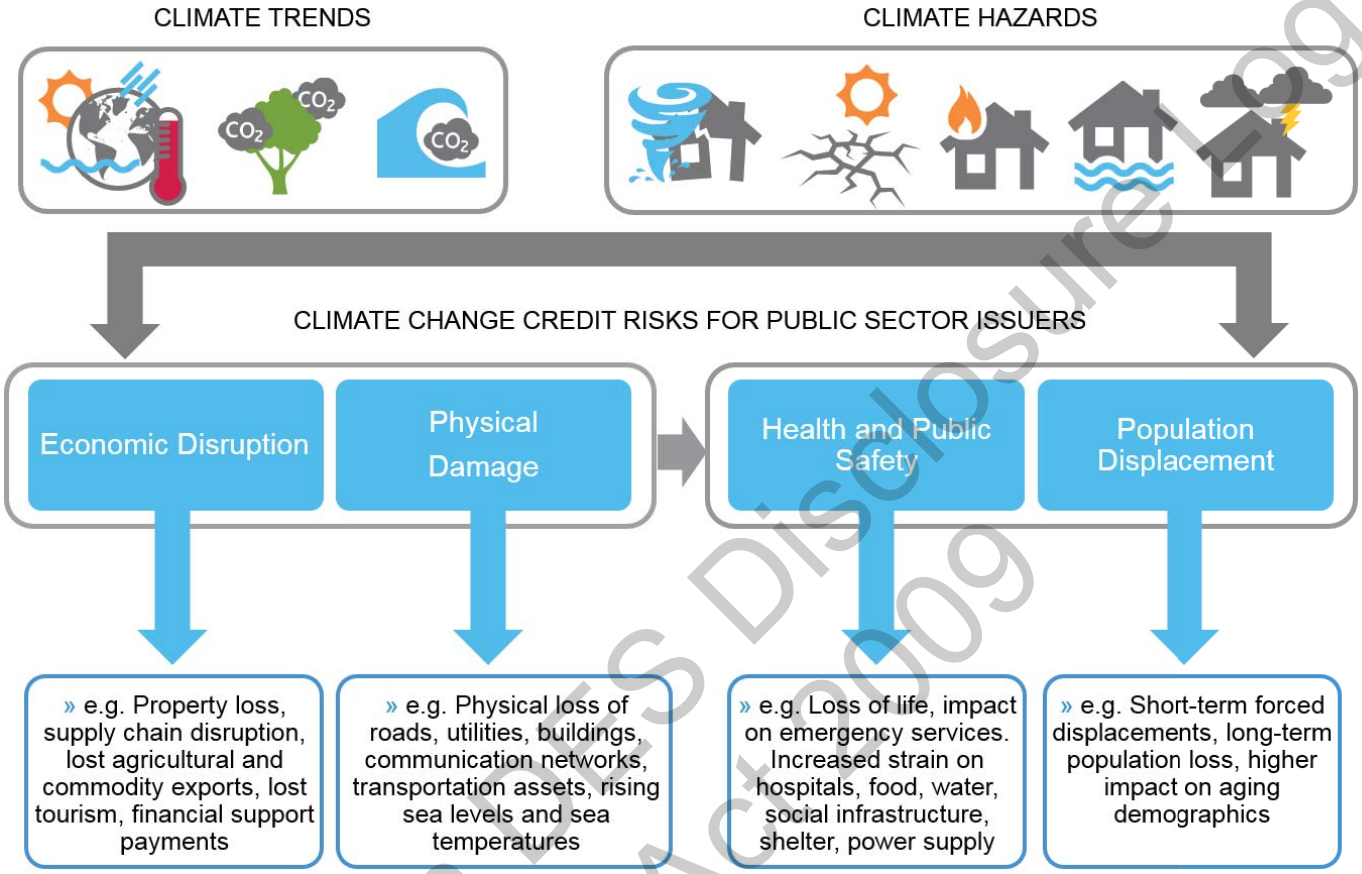
In general, states with smaller, less diversified economies and geographies, lower incomes and fiscal flexibility, and poorer quality of infrastructure are more susceptible to the credit implications of climate change. The Australian states, however, generally have diversified economies, high living standards, good infrastructure, and strong fiscal flexibility with high support from the Aaa-rated Commonwealth (see Exhibit 12). These factors are reflected in the states' credit ratings, which currently range from Aaa to Aa2.

States with larger and more diverse economies have greater capacity to adapt to the economic volatility and fiscal challenges of climate change. In addition, the sectors that could see the biggest impact from climate risks or hazards make up a relatively small portion of national economic output. In fiscal 2017, tourism accounted for a 3.2% share of national gross domestic product (GDP) and in terms of workforce size, provided employment for 4.9% of the Australian workforce. Agriculture, meanwhile, contributed 2.8% of national GDP and employed 2.5% of the workforce.

Published on DES Disclosure Log RTI Act 2009

Exhibit 11

Climate trends and hazards can impact a state's credit strength through a number of different transmission channels



Source: Moody's Investors Service

Exhibit 12

Industry shares of key economic aggregates by state as measured by Gross Value Added (GVA)[15]

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
Agriculture, forestry and fishing	2.0	2.7	3.7	6.5	2.9	10.3	3.4	0.1
Mining	3.2	0.9	9.9	4.0	30.3	4.1	13.5	0.1
Manufacturing	5.8	7.5	6.5	7.1	5.0	6.5	5.7	1.0
Construction	7.6	8.2	8.9	6.6	8.5	5.9	12.9	6.6
Financial and insurance services	12.9	10.6	6.6	8.2	4.6	6.7	2.6	3.4
Professional, scientific and technical services	8.8	8.6	6.5	4.8	5.3	3.0	4.4	11.4
Education and training	4.8	6.0	5.4	6.0	3.9	7.0	5.5	6.2
Healthcare and social assistance	6.4	7.8	7.8	9.9	5.6	13.1	7.3	11.8
Tourism	5.8	5.8	7.5	5.9	4.4	9.9	9.4	5.6

0%	1% - 5%	6% - 10%	11% - 20%	21% - 29%	> 30%

No Exposure — Very High Exposure

Sources: Austrade, Australian Bureau of Statistics, Moody's Investors Service; data as of June 2017

Published on DES Disclosure Log RTI Act 2009

While our scorecards (see Exhibit 13) in our rating methodology for RLGs do not explicitly address climate change as a credit risk factor, our ratings are designed to incorporate a forward-looking view of all factors that can materially affect the credit quality of a given sector or debt issuer. As such, the credit challenges that climate change poses are captured in our analysis of the four key factors, economic fundamentals, institutional framework, financial performance and debt, as well as governance and management, that we evaluate for each Australian state.

Exhibit 13

Our RLG scorecard does not explicitly address climate change but its sub-factors can take account of its impact

Key Rating Factors	Factor Weighting	Rating Sub-Factors	Sub-Factor Weighting	Impact of Climate Risks
1. Economic fundamentals	20%			
		1.1 Economic strength	70%	Climate shocks that disrupt economic activity or damage infrastructure may impact potential GDP growth. Low economic diversification and high concentration in sectors exposed to climate change, and a geographic location in a vulnerable region, will heighten sensitivity.
		Regional GDP per capita as a % of national GDP per capita		
		1.2 Economic volatility	30%	
		Industrial concentration		
2. Institutional framework	20%			
		2.1 Legislative Background	50%	Climate shocks will test institutional capacity to respond. Proactive government policies to anticipate and prepare for climate-related shocks supports institutional capacity to deal with climate change.
		Predictability, stability and responsiveness		
		2.2 Financial Flexibility	50%	Insurance against natural disasters, specific savings funds and formal natural disaster funding recovery arrangements with central government's enhance financial flexibility.
		Fiscal flexibility		
3. Financial performance and debt profile	30%			
		3.1 Operating Margin	12.50%	Unexpected climate shocks can lead to increased spending to finance reconstruction or to meet social needs, weakening issuer's financial performance, debt profiles and liquidity. Issuers with healthy overall financial positions and strong liquidity are better positioned to proactively, and reactively, manage these risks with minimal credit impact.
		Gross operating balance as a % of operating revenues		
		3.2 Interest Burden	13%	
		Interest payments as a % of operating revenues		
		3.3 Liquidity	25%	
		Cash and liquidity management		
		3.4 Debt burden	25%	
		Net direct and indirect debt as a % of operating revenues		
		3.5 Debt structure	25%	
		Short-term direct debt/ total direct debt (%)		
4. Governance and Management	30%			
		4.1 Risk controls and financial management		Long-term climate change trends can create new policy planning demands that require local governments to adapt priorities and reallocate resources. Issuers that are able to prepare and plan for the future are better positioned to manage climate change related challenges.
		Quality of internal controls and planning		
		4.2 Investment and debt management		
		Management policies and practices		
		4.3 Transparency and disclosure		
		Quality of information		

Source: Moody's Investors Service

We also take into account additional factors that are important rating considerations, which can include the impact of climate events such as severe weather events, and we look at efforts undertaken by rated entities to prepare for climate hazards and adapt to climate trends. Our qualitative analysis considers changes that may affect credit quality many years in the future if we view these changes

Published on DES Disclosure Log RTI Act 2009

as being likely to have unmitigated material impacts. Such qualitative considerations may result in ratings that differ from scorecard outcomes.

To date, we have not taken any credit rating action on any Australian state that was driven by climate change impacts. However, as the economic effects of climate change rise over time, climate change impacts will be captured in our methodological scorecard and in the qualitative adjustments we make during the credit rating process. For example, permanent changes in a region's economy caused by the climate would be reflected in the economic strength metrics captured in our scorecard.

While many climate change challenges will take decades to materialize, our fundamental ratings are intended to incorporate relevant credit considerations as far into the future as visibility permits. Our scorecards are not designed to project multiple years into the future to avoid false precision. However, when an emerging risk is highly likely to result in weaker scorecard outcomes in the future, we will engage in discussions with governments about those exposures and evaluate the steps they are taking to prepare for the effects of climate change. Ultimately, we incorporate emerging challenges into each state's rating by making qualitative adjustments.

The institutional framework, as reflected in structural protections within state and Commonwealth tools, increases resilience to both the physical and economic impacts of climate change.

Case Study 1: Planning for extreme heat events in NSW

As of September 2018, 99.4%[16] of the state of NSW was affected by drought, with the winter crop likely to face serious disruption. NSW has extensive programs to assist local communities in preparing for natural disasters. In addition to managing the impacts following climate hazard events such as bushfire, NSW has developed a series of programs to help government agencies and local councils to be better equipped to mitigate the risk of bushfires. These include bushfire risk management plans, community protection plans, asset protection zone guidance, neighbourhood safer places, the Enhanced Bushfire Management Program, and Planning for Bushfire Protection.

Through the NSW Rural Assistance Authority, the state provides financial support to farmers through a variety of mechanisms, including the Drought Assistance Fund systems and management practices that enhance sustainability in primary production.[17] The Farm Innovation Fund of NSW provides low interest loans to help farmers to develop new permanent farm infrastructure[18] to mitigate adverse seasonal conditions through greater drought preparedness.

Decreased rainfall increased the vulnerability to climate change of NSW's (and Australia's) largest city, Sydney.[19] With Sydney's water supply entirely dependent on rainfall, the state announced in 2007 that it would build the Sydney Desalination Plant,[20] as it was deemed strategically necessary to ensure that Sydney would not run out of water. The fiscal flexibility of NSW enabled it to proceed with the construction of the plant from its own resources and subsequently sell an AUD2.3 billion 50-year lease on the plant, backed by a 50-year water supply contract.[21]

Credit implications: Investment in new programs and initiatives in preparation for climate change hazards will not only protect lives, but significantly reduce the social and economic cost to government of natural disasters over the long term. Fiscal flexibility, a diverse economy and a close working relationship with the Commonwealth underpin a state's capacity to plan and invest in solutions for climate change risks.

Case Study 2: State and Commonwealth tools

The initial fiscal impact of natural disasters such as storms and cyclones are borne at the state level and then partially recovered over time from the Commonwealth. Joint agreements between the Commonwealth and the states, the Natural Disaster Relief and Recovery Arrangements (NDRRA) aim to ease the financial burden on states resulting from national disasters.

Reimbursement rates vary based on the type of assistance (including removal of debris, essential housing repairs, restoration or replacement of public assets, e.g. roads, bridges, schools). Delivered through state and territory agencies, when activated, the Commonwealth reimbursement commences at 50% of the assistance available to individuals and communities. This may increase to 75% if certain state expenditure thresholds are breached.

Published on DES Disclosure Log RTI Act 2009

The NDRRA enables the states to provide assistance to affected communities as they look to recover from natural disasters and require certain disaster relief and recovery assistance measures. However, reimbursement for large-scale natural disasters may result in short-term cash implications for the states given reimbursement claims under the NDRRA can only be submitted once the final amount of the claim is known.

Credit implications: We expect that the NDRRA will continue to provide positive, long-term support for the states. It will limit the financial impact of natural disasters that are expected to increase in frequency and severity under various climate change scenarios. States that are vulnerable to large-scale natural disasters will need to maintain robust liquidity profiles to offset potential timing differences pending reimbursement from the Commonwealth under the NDRRA, which in some instances could span multiple years.

Published on DES Disclosure Log
RTI Act 2009

Natural Disaster Relief and Recovery Arrangements (NDRRA)

The states carry primary responsibility for the provision of relief and recovery assistance to communities affected by natural disasters. As such, climate change risks heighten the fiscal vulnerability of states to potential significant costs from increased frequency or severity of natural disasters.

A joint agreement between the Commonwealth and the states, the NDRRA is designed to ease the financial burden on states and territories resulting from national disasters. Reimbursement rates vary based on the type of assistance measure (including removal of debris, essential housing repairs, restoration or replacement of public assets, e.g. roads, bridges, schools). Delivered through state and territory agencies, when activated, the Commonwealth reimbursement commences at 50% of the assistance available to individuals and communities. This may increase to 75% based on certain state expenditure thresholds being breached.

The NDRRA enables the states to provide assistance to affected communities as they look to recover from natural disasters and require certain disaster relief and recovery assistance measures. Reimbursement for larger natural disasters such as Category C and D events require prime ministerial approval. The scale of recovery efforts may result in near-term timing differences whereby the states are unable to seek reimbursement under the NDRRA until the final amounts of the claim are known. Estimated cash payments (see Exhibit 14) illustrate when the Commonwealth expects to reimburse the states for costs incurred in relation to past disasters.

Exhibit 14

Commonwealth NDRRA cash payment estimates based on past disasters

AUD million	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Fiscal 2018	117.1	39	173.5	9.9	6.2	53.4	0	38.1	437.2
Fiscal 2019	14	17.6	234.6	87	0.2	5.6	0	27.4	386.4
Fiscal 2020	0	1.9	404.7	37	0	0	0	2.2	445.8
Fiscal 2021	0	0	5.2	0	0	0	0	0	5.2
Fiscal 2022	0	0	0	0	0	0	0	0	0

Sources: Commonwealth of Australia 2019 Budget papers, Moody's Investors Service

NDRRA assistance is not intended to replace self-help strategies, nor to provide compensation or restore lifestyles to their pre-disaster standard. Current forward estimates in the NDRRA are based on initial estimates for events that have already occurred,[22] based on the best available information and can be subject to change.

Tropical Cyclone Debbie – March/April 2017

In early 2017, affected communities received financial assistance under disaster recovery payments (one off) and disaster recovery allowance (fortnightly payments for up to 13 weeks) where people had been seriously injured, lost their homes or had them damaged, or experienced loss of income as a direct result of Tropical Cyclone Debbie. Following the cyclone, the state received AUD470.0 million in Category B assistance for restoration of essential public assets which was funded on a 75-25 basis by the Commonwealth and the state. Further assistance (grants up to AUD25,000) was provided through the NDRRA via a cost-share community recovery fund (Category C assistance). An additional AUD96.2 million in Category D recovery assistance was jointly funded (cost share on a 50-50 basis) by the Commonwealth and Queensland state governments for the restoration and repair of major public assets. This included, but was not limited to, direct damage from Tropical Cyclone Debbie to foreshores, beach restoration, debris removal from water courses and marina repairs, as well as projects to increase the disaster resilience of infrastructure assets.

Published on DES Disclosure Log RTI Act 2009

Moody's related publications

Credit Opinion

- State of New South Wales (Australia) - Update to credit analysis, 13 September 2018
- State of Victoria (Australia) - Update to credit analysis, 25 June 2018
- State of Queensland (Australia) - Update to credit analysis, 21 August 2018
- State of Western Australia (Australia) - Update to credit analysis, 29 August 2018
- State of Tasmania (Australia) - Update to credit analysis, 3 August 2018
- State of South Australia (Australia) - Update to discussion of key credit factors, 21 September 2018
- Northern Territory (Australia) - Update to credit analysis, 12 July 2018

Sector In-Depth

- Cross-Sector Australia - Population growth drives need for new infrastructure investment, 10 September 2018
- Environmental, Social and Governance (ESG) Global - Moody's approach to assessing ESG in credit analysis, 25 October 2017
- Regional and Local Governments Europe - Climate change will pose increasing credit challenges for cities, 12 December 2017
- Environmental Risks - Sovereigns - Credit profiles of small, agriculture reliant sovereigns most susceptible to climate change risk, 15 May 2018
- Environmental Risks - Evaluating the impact of climate change on US state and local issuers, 28 November 2017
- Steel & Specialty Metals - Global - Carbon transition raises risk for steelmakers but effects will vary widely, 20 March 2018

Issuer In-Depth

- Florida and Texas: Despite climate risk and hurricane damage, Florida and Texas maintain strong credit quality, 8 February 2018

Published on DES Disclosure Log
RTI Act 2009

Endnotes

1 Our central scenario for assessing climate change incorporates a global carbon emissions pathway consistent with the nationally determined contributions (NDCs) that were ratified as part of the Paris Agreement. This scenario results in annual carbon emissions increasing steadily through 2030, at a rate broadly consistent with global warming of a 2.5-3.0 degree Celcius rise in temperature above "pre-industrial levels". This baseline scenario for emissions pathways is referred to as the NDC scenario by the International Energy Agency (IEA).

2 See the 2014 Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, based on atmospheric carbon dioxide levels in the four IPCC Representative Concentration Pathways (RCP) scenarios.

3 See Queensland Climate Adaptation Strategy 2017-2030. The Queensland Government has embedded adaptation actions in its policies and planning to protect critical infrastructure, public assets and services.

4 Climate Change in Australia (CCIA) is a comprehensive website and suite of reports providing information about climate change projections for Australia. It is an Australian Government initiative with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Bureau of Meteorology (BOM). It is funded by the Australian Government Department of the Environment, CSIRO and the BOM.

5 Australia is the driest of any continent on earth other than Antarctica.

6 See CSIRO and BOM State of the Climate 2016

7 See "Defining a new normal for extremes in a warming world", Lewis SC, King AD, and Perkins-Kirkpatrick SE, 2016, Bulletin of the American Meteorology Society

8 Bushfire risk is measured by the McArthur Forest Fire Danger Index (FFDI). The FFDI combines a record of dryness, based on rainfall and evaporation, with meteorological variables for wind speed, temperature and humidity.

9 The remainder has been largely driven by melting land ice and changes in the amount of water stored on the land.

10 El Niño and La Niña have a strong influence on climate variability in Australia and reflect the natural cycle known as the El Niño–Southern Oscillation (ENSO). They are associated with a sustained period (many months) of warming (El Niño) or cooling (La Niña) in sea surface temperatures in the central and eastern tropical Pacific. Warmer Pacific Ocean waters brought to Australia by La Niña events heighten the risk of marine heatwaves.

11 See Impacts of climate change on fisheries and aquaculture Synthesis of current knowledge, adaptation and mitigation options - 2018, technical paper 627

12 See Queensland Climate Adaptation Strategy 2017-2030. The Queensland Government has embedded adaption actions into its policies and planning to facilitate protecting critical infrastructure, public assets and services.

13 A satellite city of Darwin, the development of Palmerston began in the 1980s with building codes developed after the devastation of Cyclone Tracey in 1974.

14 Including structural protections incorporated within various state and Commonwealth tools

15 By excluding payments through the taxation system, GVA is an accurate indicator of economic activity within each state for industry comparison as it works off a value-add principle and is free of the effects of taxes and subsidies on industries which vary over time.

16 Data as of 13 September 2018 based on the Department of Primary Industries' Combined Drought Indicator

17 This includes interest free loans (up to AUD50,000) to fund (i) transport of livestock and transport of fodder and/or water, (ii) water and fodder infrastructure, and (iii) banking of genetic material of livestock.

18 Including interest free loans (up to AUD250,000) to improve farm infrastructure such as grain silos, hay sheds and livestock yards.

19 Sydney's population was 5.1 million as at 2017.

20 Sydney's dam levels dropped to 33.9% in February 2007.

21 The plant is currently in care and maintenance until the dam levels fall below 70%.

22 Current estimates in the Commonwealth's fiscal 2018 budget include estimated payments from the Commonwealth for the bushfires in New South Wales in September 2017 and Tasmania in October 2017. Payments are also being made in relation to a cyclone that impacted Western Australia in January 2018 and severe weather events (including storms and flooding) that impacted Queensland between October 2017 and March 2018, Victoria in November 2017 and the Northern Territory in January 2018.

Published on DES Disclosure Log RTI Act 2009

© 2018 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from $1,500 to approximately $2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

Published on DES Disclosure Log RTI Act 2009

REPORT NUMBER 1131709

Contacts

John Manning +61.2.9270.8145
VP-Sr Credit Officer
john.manning@moodys.com

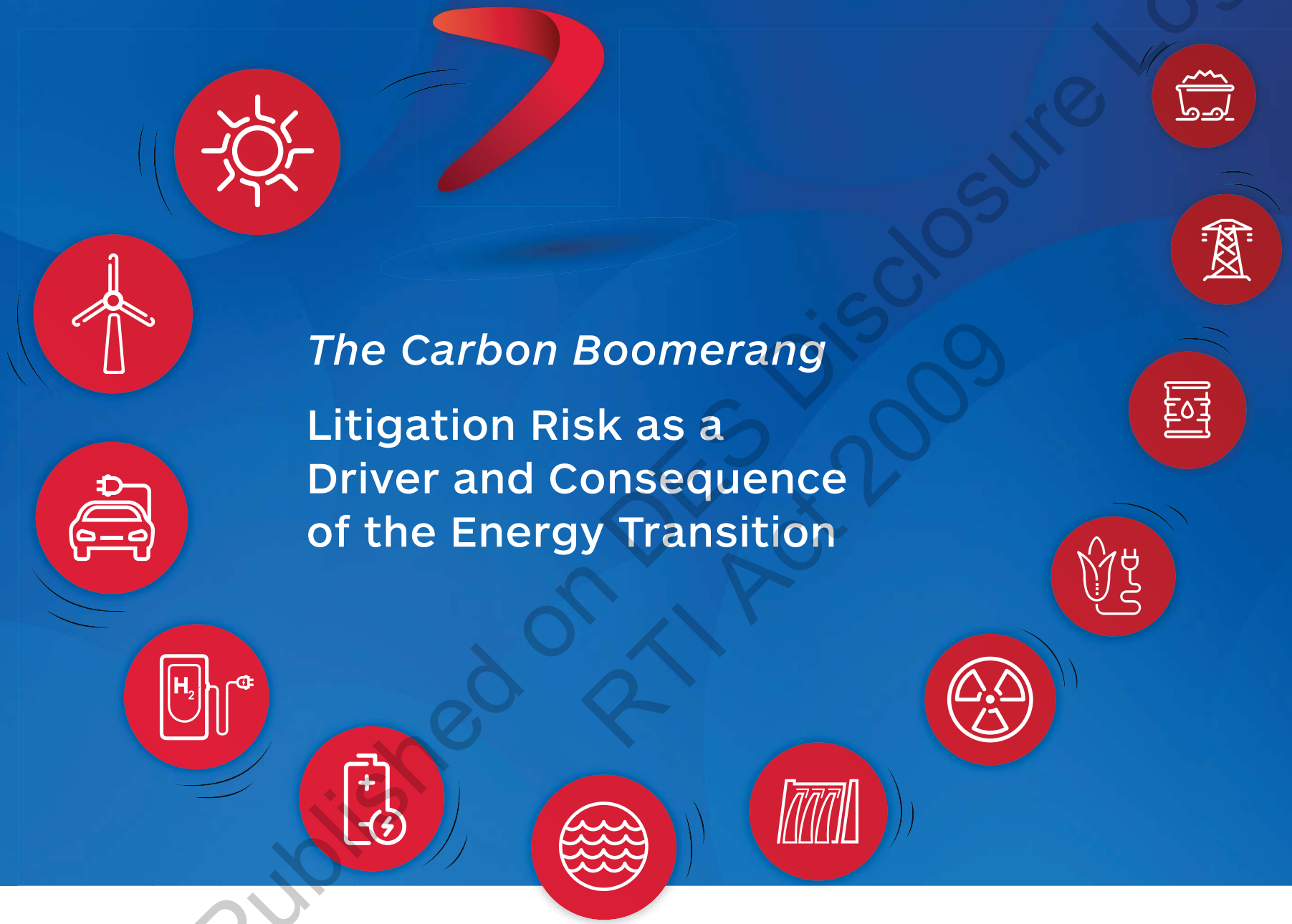
Brian Cahill +61.2.9270.8105
MD-Asia Pac Corp & Infra Fin
brian.cahill@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Published on DES Disclosure Log
RTI Act 2009

MOODY'S INVESTORS SERVICE



Published on DES Disclosure Log
RTI Act 2009

TABLE OF CONTENTS

EXECUTIVE SUMMARY 2

REPORT 13

***The Carbon Boomerang:* Litigation as a Driver & Consequence of the Energy Transition** 14

1. Introduction 14
1.1 Background & scope 14
1.2 Scope: ET vs physical impact litigation risks 16
1.3 A note on jurisdictional boundaries 17
1.4 The nature of financial harms 17
1.5 Litigation risk as a product of regulatory uncertainty 18
1.6 Report structure 18

2. Litigation risk in the ET: *driver* vs. *consequence* 19
2.1 Litigation risk as a *driver* of the energy transition 19
2.2 Litigation risk as a *consequence* of the energy transition 21

3. Overview of material potential claims: parties and primary causes of action 22
3.1 Overview 22
3.2 Misleading disclosure & securities fraud 22
3.3 Analysis of material potential claims – all categories 27

4. Materiality and risk pricing 63
4.1 Materiality – valuation impacts 63
4.2 Materiality – credit ratings 64
4.3 Materiality – legal costs 64
4.4 Climate litigation – perfect storm or pie in the sky? 66

5. Conclusion 67

The Energy Transition Risks & Opportunities (ET Risk) research consortium seeks to provide research and tools to assess the financial risk associated with the energy transition. The project will deliver 3 tools—transition scenarios, asset-level data across 6 energy-relevant sectors, and new credit risk and valuation models to assess transition risk and opportunity.

The Consortium is funded by the European Commission and brings together academic researchers (University of Oxford, think tanks (Carbon Tracker Initiative, Institute for Climate Economics, and 2°Investing Initiative), industry experts (The CO-Firm), and financial institutions (Kepler Cheuvreux, S&P Global).

A summary of the initiative can be found here.

© MinterEllison September 2017

This report contains information of a general and high-level nature. It does not purport to provide, nor should it be relied upon as, investment advice, financial advice or legal advice in respect of any jurisdiction. Specific legal and other professional advice should be obtained on the application of the general information in this report to any particular situation or circumstance, in any relevant jurisdiction. Whilst care has been taken in the preparation of this report, no liability is accepted for any errors or omissions that it may contain, nor for any loss occasioned to any person acting or refraining from acting on the information contained herein. This report may qualify as "Attorney Advertising" requiring notice in some jurisdictions. Prior results do not guarantee a similar outcome.

Published on DES Disclosure Log
RTI Act 2009

The Carbon Boomerang

EXECUTIVE SUMMARY

Published on DEC Disclosure Log
RTI Act 2009

EXECUTIVE SUMMARY

Overview: ET claims taxonomy

Climate change-related litigation risks have the potential to act as both a material driver, and consequence, of the energy transition (or '**ET**'). This Report offers a general taxonomy of litigation risks that may catalyse, and/or result from, the transition.

It proposes eight categories of claim, grouped within three broad classes:

1. **Failure to mitigate** claims seeking to establish liability for emissions and/or associated climate change impacts;

2. **Failure to adapt** (including failure to report or disclose) - claims deriving from commercial failures to risks associated with climate change into account, and/or to accurately disclose related exposures; and

3. **ET-specific regulatory compliance** - claims arising from laws and standards introduced to implement energy transition policies, and related consumer protection law claims.

This taxonomy is summarised in **Table ES-1** overleaf, and further particularised in **Table ES-2**.

The Report analyses the nature of claims within each category, along with an overview of relevant cases. It also provides specific, additional analysis of securities fraud and misleading disclosure laws following the recent release of the Final Recommendations of the G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures ('**TCFD**').

The Report is part of a broader research effort - the ET Risk research consortium - and thus focuses on the intersection of litigation risk and the *energy transition*. It does not, therefore, purport to cover other categories of climate litigation that relate to the *physical impacts* of climate change, unless those claims are themselves a direct and significant driver of ET policy reform.

Companies, their investors and financial services providers should seek to understand each relevant category of claim to enable a diligent assessment of their bearing on risk and value in specific circumstances.

Published on DES Disclosure Log
RTI Act 2009

INTRODUCTION

Scope

A full analysis of the litigation risks arising in the ET requires four tiers of examination. This Report addresses Tier One.

TIER	01	**what forms of claim are likely to arise?**
TIER	02	is litigation likely over mainstream investment horizons?
TIER	03	which sectors are materially exposed?
TIER	04	which corporations within those sectors are materially exposed?

This Report addresses **Tier One** of such analysis, offering a general taxonomy of claims that are likely to arise in the ET, by reference to the policy and/or market variables identified by 2°ii in its ET risk taxonomy. It also offers preliminary observations on the likelihood of litigation over mainstream investment horizons on a sectoral basis, pursuant to Tiers Two and Three. This provides a foundation for further risk assessment under adverse scenarios in development by the ET Risk research consortium (page 3) (Tiers Two and Three), and subsequent application of company- and jurisdictional- risk factors (Tier Four).

The findings of this Report are summarised in **Table ES-2**.

This Report is part of a broader research effort - the ET Risk research consortium - and thus focuses on the intersection of litigation risk and the *energy transition*. It does not, therefore, purport to cover other categories of climate litigation that relate to the *physical impacts* of climate change, unless those claims are themselves a direct and significant driver of ET policy reform.

Published on DES Disclosure Log
RTI Act 2009

TIER 1 WHAT FORMS OF CLAIMS ARE LIKELY TO ARISE?

CLAIMS TAXONOMY OVERVIEW

Table 1. ES-1

1 FAILURE TO MITIGATE

(ie claims seeking to establish liability for emissions that cause the physical impacts of climate change)

A **Citizens/states vs emitters/states (including 'carbon-debt' claims):** claims by citizens/states against large emitters (or other states) seeking compensation for damages caused by, or costs incurred due to, climate change. Causes of action generally include **tort (negligence, nuisance, trespass), international law and human rights law**

B **Citizens/states vs states:** claims by citizens (or sub-national governments) against their own state for a failure to restrict emissions. Causes of action may arise under **constitutional, human rights or tort (negligence) laws,** for **breach of statutory obligation,** or under the **public trust doctrine** (including 'atmospheric trust' claims)

2 FAILURE TO ADAPT

(including failure to report or disclose)

(ie claims deriving from commercial failures to take the physical and economic transition risks associated with climate change into account, and/or to accurately disclose related exposures)

C **Regulatory investigations and claims against corporations (and/or their directors) who fail to accurately manage, report or disclose the risks associated with climate change**. Causes of action may arise under **securities laws (misleading disclosure/ securities fraud)** and/or (in some jurisdictions) **corporate governance laws (directors' statutory and fiduciary duties)**

D **Investor/beneficiary claims against corporations/trustees (and/or their directors) who fail to accurately manage, report or disclose the risks associated with climate change** to their business. Claims may include **'stock-drop claims'** under **securities laws (misleading disclosure/securities fraud)** and/or **derivative actions against directors/fund trustees for breach of fiduciary/statutory duty**

E **Corporation/investor claims against professional advisors** (eg accountants, consultants, investment brokers, asset managers or credit ratings agencies) for negligent service provision in failing to adequately account for energy transition risks. Causes of action may include **misrepresentation, tort (negligence) and breach of contract**

F **Contractual disputes:** litigation between counterparties seeking to avoid or repudiate contractual obligations under evolving ET market norms, and insured vs insurer disputes over the scope of policy indemnities. Claims are likely to turn on **contract law**

3 ET-SPECIFIC REGULATORY COMPLIANCE

(ie claims relating to compliance with emissions-related laws and standards introduced to implement energy transition policies, and/or related misrepresentations to consumers)

G **Regulatory claims for a breach of emissions- (or adaptation-) related regulations introduced to give effect to ET policies.** The relevant causes of action include breaches of **transition-related statutes or regulations,** and/or **consumer protection / consumer fraud** laws. Claims in this category may also give rise to secondary litigation exposures under corporate and securities laws (discussed under C and D above)

H **Anti-regulatory litigation (emitters as plaintiffs):** companies materially impacted by national and supra-national governments' ET regulations (or related trade associations, sub-national governments or other interest groups) may challenge their validity, bringing claims under **international trade, administrative** or **constitutional laws.**

Published on DEC Disclosure Log RTI Act 2009

Litigation as a strategic tool in the ET

The incentive for claimants to deploy litigation as a *strategic* tool in the ET cannot be underestimated: as a mechanism to raise the profile of a particular issue, as a procedural mechanism to obtain the defendant's internal documents or information, to impact on a corporation's social licence to operate and/or to apply pressure on governments to introduce relevant regulation.

This may mean that claimants will pursue actions that are credible, but not necessarily strong. Claimants may also take a 'lowest common denominator' approach: targeting claim filings in those jurisdictions that they perceive to have the most permissive legal frameworks, and using the outcomes from those cases to drive settlements in countries where judgment is more difficult to secure. Political, social and reputational impacts may bring significant settlement pressures to bear even where legal liability is contested.

To some extent, litigation risks may be *inversely related* to the strength of regulatory controls in the ET. This is because the absence of strong regulatory policy drivers in a given jurisdiction can compound litigation risks, as plaintiffs look to alternative avenues of legal pressure to protect their interests.

Likelihood of litigation within mainstream investment horizons under various ET scenarios

A key output of the ET Risk research program is the identification of alternative transition scenarios. That work stream remains in progress. In the interim, however, high-level preliminary observations may be made of the nature and magnitude of litigation risks across the spectrum of potential transition scenarios.

As a general proposition, all the categories of litigation risk identified have the potential to become material drivers and/or consequences of the energy transition, under any transition scenario. However, the nature of claims may skew more heavily towards particular categories depending on the timing of the transition, and the manner in which the transition occurs (all else being equal).

For example, at one transition extreme - a co-ordinated, uniform and swift transition to a global low-carbon energy paradigm (ie. consistent with the agreed Paris Agreement target of keeping global warming to well below 2˚C) - may result in an increase in litigation against corporations (and their directors and advisors) who fail to adequately manage the foreseeable financial risks associated with that transition (claim categories (D) and (E)), as well as contractual disputes (category (F)), and 'anti-regulatory' litigation as emitters resort to the courts in 'last-ditch' efforts to block transition-related legislation (category (H)). Conversely, a swift transition may reduce the incidence of 'strategic' claims against emitting states and companies (ie. where plaintiffs turn to litigation as a mechanism to drive policy- and market-based reform), limiting the consequential role of claims categories (A) and (B).

At the other extreme, a slower, delayed energy transition may be characterised by a greater volume of litigation against governments, emitters and corporations within mainstream investment horizons, as stakeholders turn to litigation as a strategic transition driver in the face of perceived policy and market failures, and to pursue damages for greater levels of climate-related harms (claim categories (A), (B), (C), (D)). Conversely, in that scenario emitters may not perceive the same need to bring 'anti-regulatory' claims against government entities, limiting the role of claims under category (h) as a consequence of the energy transition, within mainstream investment horizons.

These directions are indicated, at a high-level, in **Table ES-2**.

Published on DES Disclosure Log
RTI Act 2009

Materiality & valuation

As shown in **Table ES-2** overleaf, climate litigation risks can be material for potential defendants in a number of ways. First, and most obviously, regulatory and private claims have a direct impact on earnings (in the form of legal expenses, penalties and damages, as well as market / reputational impacts) and liabilities (litigation reserves and contingencies). Thus, residual exposure uncertainties should factor into discount rates, and as a 'key driver' in ratings metrics or outlooks. In addition, regulatory scrutiny can also cause significant reputational damage, loss of political/social capital, market exclusions and restriction of insurances, and provide a platform for subsequent private damages settlements. Finally, as recently experienced by the pharmaceutical and banking industries in a non-ET context, emerging claims patterns can drive industry-wide strategic pivots as regulators tighten rules and disclosure requirements.

The pricing of litigation risk in the energy transition is inherently complex. It involves a high proportion of what may be considered tail risks and large losses, and complicated by dynamic regulatory exposures, aggressive litigation environments, a paucity of reliable data and pervasive uncertainty in risk accumulation and aggregation. It will require the specific and significant application of judgment in its input to valuation and underwriting problems. And engagement with the business being valued or underwritten will be critical to providing fit for purpose technical analysis and commercially actionable insights.

Accordingly, it is difficult to prospectively quantify the financial risks associated with litigation in any specific sector, or for any specific company, in an overview Report such as this. However, it is possible to offer observations on those sectors and industries for which such claims are not only foreseeable but, all else being equal, more likely to be material in scope and impact. Where possible, this Report does so by reference to industry categories adopted by the G20 Financial Stability Board's Taskforce on Climate-Related Financial Disclosures **(TCFD)** (June 2017).

Published on DES Disclosure Log
RTI Act 2009

ET CLAIMS MATRIX

FAILURE TO MITIGATE

TABLE 2. ES-2

ET DRIVER OR CONSEQUENCE?	TYPE OF LAW	DESCRIPTION OF CLAIM	PLAINTIFF(S)	DEFENDANT(S)	PRELIMINARY OBSERVATIONS RE SECTORAL RISKS + HEAT MAP (TCFD HIGH-RISK SECTORS + GOVERNMENT)	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: SWIFT, CO-ORDINATED (<2˚C) *(CET PAR)*	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: DELAYED / LATE, UNCO-ORDINATED *(CET PAR)*
A	**CLAIMS AGAINST LARGE EMITTERS**						
Driver	Tort, human rights, environmental	Tort, statutory or international law claims by citizens/vulnerable states seeking compensation for climate change damages/ adaptation costs	Public or State	Large emitters or other states	Low likelihood but high consequence: energy (coal, oil, gas, electric utilities), metals and mining, government	(although prospect of such litigation may catalyse market drivers	(litigation employed as a strategic policy driver in the absence of regulatory reform)
B	**CITIZEN/STATE CLAIMS AGAINST STATES (INCLUDING 'ATMOSPHERIC TRUST' CLAIMS)**						
Driver	Constitutional law, tort, human rights, statutory breach, public trust doctrine	Claims by citizens (or sub-national governments) against their own state for a failure to restrict emissions, under Constitutional, human rights or torts laws, or under the public trust doctrine	Public or States	States	Potentially material driver of policy given critical mass of claims: government	(although prospect of such litigation may catalyse policy drivers)	(litigation employed as a strategic policy driver in the absence of regulatory reform)

Published on DES Disclosure Log RTI Act 2009

ET DRIVER OR CONSEQUENCE?	TYPE OF LAW	DESCRIPTION OF CLAIM	PLAINTIFF(S)	DEFENDANT(S)	PRELIMINARY OBSERVATIONS RE SECTORAL RISKS + HEAT MAP (TCFD HIGH-RISK SECTORS + GOVERNMENT)	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: SWIFT, CO-ORDINATED (<2˚C) *(CET PAR)*	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: DELAYED / LATE, UNCO-ORDINATED *(CET PAR)*
C **REGULATORY INVESTIGATIONS AND CLAIMS (CORPORATIONS/SECURITIES)**							
Both	Corporations, securities and consumer protection statutes (breach of duty, misleading disclosure (securities fraud/ consumer fraud))	Claims by regulators against corporations, fund trustees and/ or their directors for failures to adapt to or accurately disclose ET risks	Financial/ consumer regulators	Companies, fund trustees, directors	Energy (oil and gas coal, electric utilities), transport (trucking, automotive), materials & building (mining & metals, construction materials, real estate), financial services (banks, asset owners, asset managers, insurers), agriculture & forestry products (agriculture, beverages)	(as consequence of the ET)	(as driver of the ET)
D **INVESTOR CLAIMS (CORPORATIONS/SECURITIES)**							
Both	Corporations and securities statutes, fiduciary law (breach of duty/negligence, misleading disclosure (securities fraud/consumer fraud))	Shareholder class and derivative actions against corporations, fund trustees and/or their directors for failures to adapt to or accurately disclose ET risks (including 'stock drop' claims)	Shareholders, beneficiaries	Companies, fund trustees, directors	Energy (oil and gas coal, electric utilities), transport (trucking, automotive), materials and building (metals & mining, construction materials, real estate), financial services (banks, asset owners, asset managers, insurers), agriculture & forestry products (agriculture, beverages)	(as consequence of the ET)	(as driver of the ET)

Published on DES Disclosure Log
RTI Act 2009

FAILURE TO ADAPT (CONT)

TABLE 2. ES-2

ET DRIVER OR CONSEQUENCE?	TYPE OF LAW	DESCRIPTION OF CLAIM	PLAINTIFF(S)	DEFENDANT(S)	PRELIMINARY OBSERVATIONS RE SECTORAL RISKS + HEAT MAP (TCFD HIGH-RISK SECTORS + GOVERNMENT)	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: SWIFT, CO-ORDINATED (<2˚C) *(CET PAR)*	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: DELAYED / LATE, UNCO-ORDINATED *(CET PAR)*
E **FINANCIAL SERVICES**							
Both	Tort (negligence, nuisance), contract	Claims against professional advisors (eg accountants, auditors, consultants, funds originators, investment brokers, asset managers or credit ratings agencies etc) for negligent service provision in failing to adequately account for ET risk	Companies, investors	Financial services advisory firms (including accountants and auditors)	Financial services, insurance	(as consequence of the ET)	(as driver of the ET)
F **CONTRACTUAL DISPUTES**							
Consequence	Contract	Litigation between counterparties seeking to avoid or repudiate contractual obligations under evolving ET market norms, and insured vs insurer disputes over the scope of policy indemnities	Companies	Companies	Potentially material for individual companies: energy, materials & building (all), financial services, insurance		

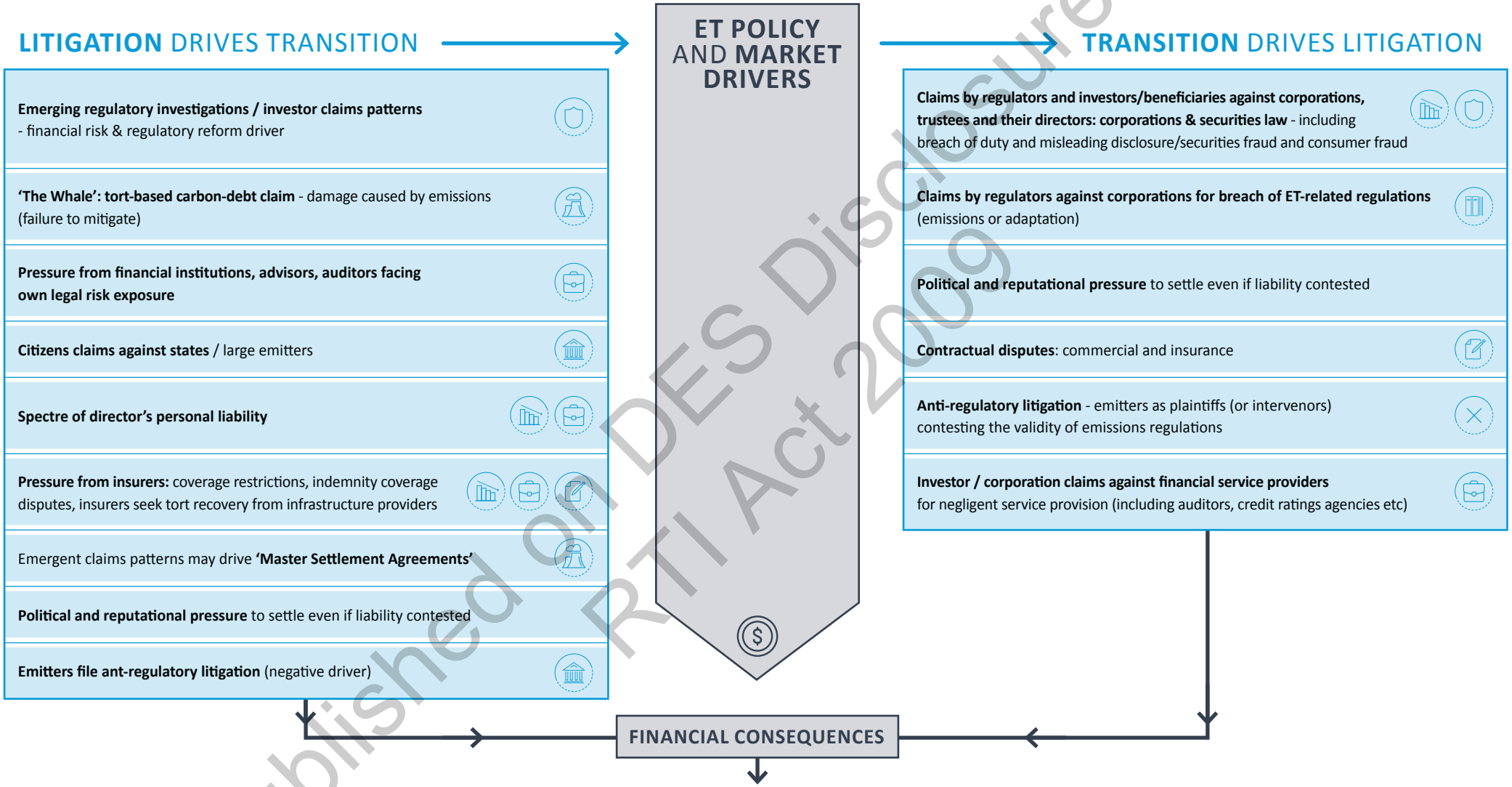
Published on DES Disclosure Log
RTI Act 2009

ET DRIVER OR CONSEQUENCE?	TYPE OF LAW	DESCRIPTION OF CLAIM	PLAINTIFF(S)	DEFENDANT(S)	PRELIMINARY OBSERVATIONS RE SECTORAL RISKS + HEAT MAP (TCFD HIGH-RISK SECTORS + GOVERNMENT)	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: SWIFT, CO-ORDINATED (<2˚C) *(CET PAR)*	RELATIVE LIKELIHOOD BY TRANSITION SCENARIO: DELAYED / LATE, UNCO-ORDINATED *(CET PAR)*
G **REGULATORY AND CONSUMER PROTECTION CLAIMS – BREACH OF ET REGULATIONS AND/OR CONSUMER FRAUD**							
Consequence	Emissions restriction and adaptation statutes Consumer protection / consumer fraud laws	Claims against companies for breach of ET emissions/ adaptation regulations Related claims under consumer protection laws where corporations misrepresent the characteristics, price, utility or performance of their goods and services in the energy transition	Environment and energy regulators Consumer protection regulators Consumers	Companies/ government agencies	Energy (coal, oil and gas, electric utilities), transport (all), materials & building (mining & metals, construction materials, real estate, chemicals, manufacturing) government, agriculture	↑	↓
H **ANTI-REGULATION LITIGATION**							
Driver (negative), Consequence	Emissions restriction and adaptation statutes, international trade, administrative law, constitutional law	Companies (and economically-dependent states) materially impacted by ET regulations may challenge their validity under international trade, administrative or constitutional laws	Large emitters	Climate/ energy policy makers (government)	Energy, automotive, materials & building (mining & metals, construction materials), government	↑	↑ ↓ (although may as a 'negative catalyst' that prevents policy drivers to swift transition)

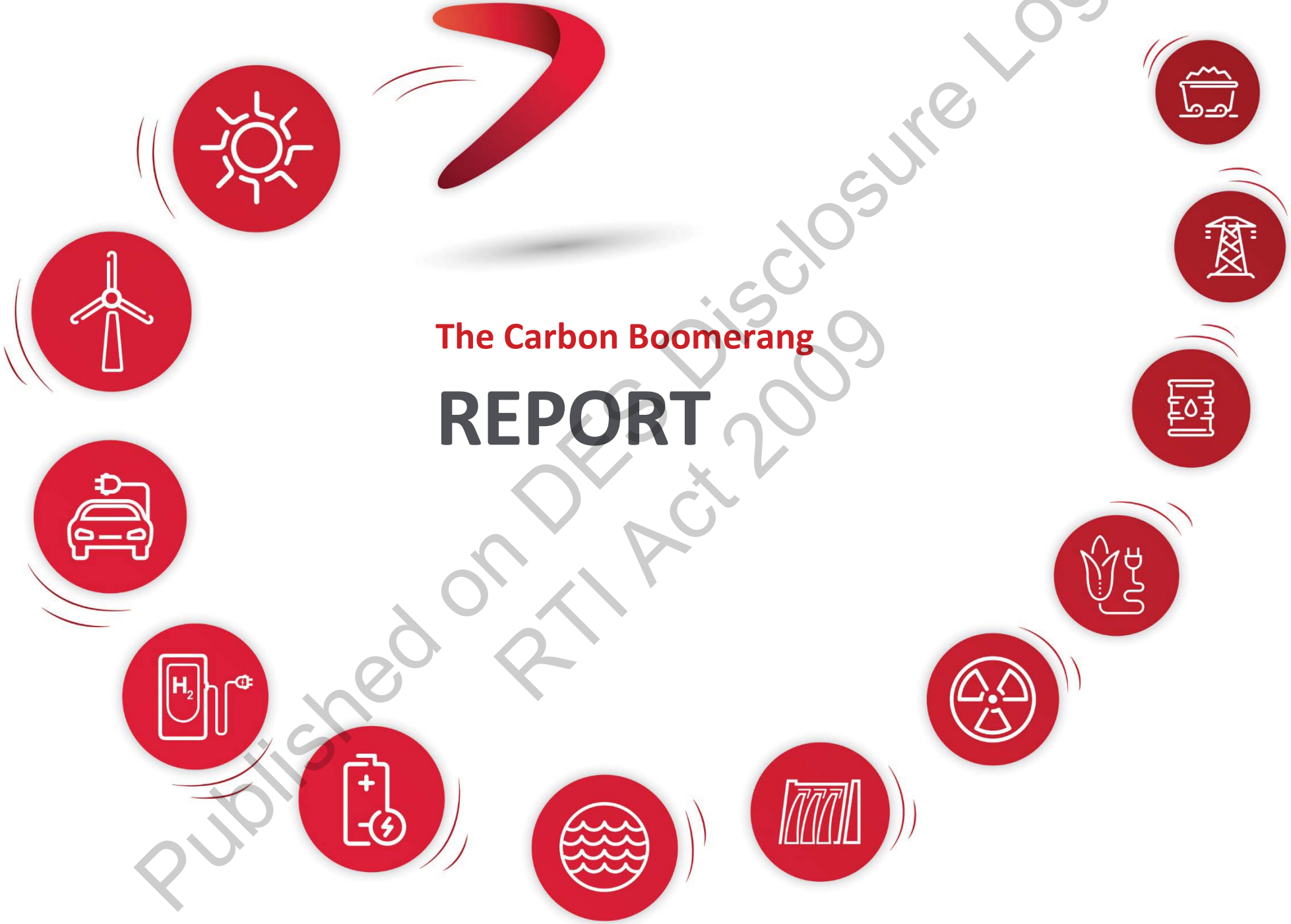
Published on DES Disclosure Log
RTI Act 2009

THE LITIGATION BOOMERANG: DRIVER AND CONSEQUENCE OF THE ET

FIGURE 1. ES-1



Published on DES Disclosure Log
RTI Act 2009



The Carbon Boomerang

REPORT

Published on DES Disclosure Log
RTI Act 2009

The Carbon Boomerang: Litigation as a Driver & Consequence of the Energy Transition

1. Introduction

1.1 Background & scope

Litigation risks manifest as both a material *driver* of the energy transition (**ET**), and as a *consequence* of it.

A full analysis of the litigation risks arising in the ET requires four tiers of examination:

Tier One
- what forms of claim are likely to arise?

Tier Two
- is litigation likely over mainstream investment horizons?

Tier Three
- which sectors are materially exposed?

Tier Four
- which corporations within those sectors are materially exposed?

This Report focuses on **Tier One** of such analysis, offering a general taxonomy of claims that may be a driving factor in, or consequence of, the energy transition, by reference to the policy and/or market variables identified by 2°ii in its ET risk taxonomy. It also offers preliminary observations on the likelihood and potential materiality of litigation over mainstream investment horizons on a sectoral basis, pursuant to Tiers Two and Three. This provides a foundation for further risk assessment under adverse scenarios in development by the ET Risk research consortium (Tiers Two and Three), and subsequent application of company - and jurisdictional - risk factors (Tier Four).

This Report is part of a broader research effort—the ET Risk research consortium – and thus focuses on the intersection of litigation risk and the *energy transition*. It does not, therefore, purport to consider the direct financial implications of emissions pricing or control regulations (beyond litigation exposures for a failure to comply with such regulations), nor cover other categories of climate litigation that relate exclusively to the *physical impacts* of climate change, unless those claims are themselves a direct and significant driver of ET policy reform. These distinctions are explored further in **Section 1.2** below.

This Report considers litigation risks associated with the ET within three broad categories, as illustrated in **Figure R1** below:

- ***Failure to mitigate*** – claims seeking to establish liability for emissions that cause the physical impacts of climate change (and the costs attributable to those impacts);
- ***Failure to adapt (including failure to report or disclose)*** – claims deriving from commercial failures to take the physical and economic transition risks associated with climate change into account, and/or to accurately disclose related exposures; and
- ***ET-specific regulatory compliance*** – claims relating to emissions-related laws and standards introduced to implement energy transition policies, and related consumer protection law claims.

Published on DES Disclosure Log
RTI Act 2009

Figure R1: Overview of potential claims in the ET

1. Failure to mitigate

A

Citizens/states vs emitters/states – 'carbon-debt' claims: tort or statutory claims by citizens/states against large emitters (or other states) seeking compensation for damages caused by climate change.

B

Citizens vs states: claims by citizens against their own state for a failure to restrict emissions, under Constitutional, human rights or tort laws, or under the public trust doctrine (including 'atmospheric trust' claims).

2. Failure to adapt (including failures to report/disclose)

C

Regulatory investigations and claims – corporations/securities laws: against corporations (and/or their directors) who fail to accurately manage, report or disclose the risks associated with climate change to their business, under securities (misleading disclosure/securities fraud) and/or (in some jurisdictions) corporate governance (directors' statutory and fiduciary duties) laws.

D

Investor/beneficiary claims against corporations/trustees (and/or their directors) who fail to accurately manage, report or disclose the risks associated with climate change to their business, including 'stock-drop claims' under securities laws (misleading disclosure/securities fraud) and/or breach of fiduciary/statutory duty claims against directors/fund trustees.

E

Investor claims against professional advisors (e.g. accountants, consultants, investment brokers, asset managers or credit ratings agencies) for negligent service provision in failing to adequately account for energy transition risks.

F

Contractual disputes: litigation between counterparties seeking to avoid or repudiate contractual obligations under evolving ET market norms, and insured vs insurer disputes over the scope of policy indemnities.

3. Breach of ET-specific regulation

G

Regulatory investigations and claims – breach of emissions- (or adaptation-) related regulations introduced to give effect to ET policies. This may give rise to secondary litigation exposures under corporate and securities laws.

H

Anti-regulatory litigation (emitters as plaintiffs): companies materially impacted by national and supra-national governments' ET regulations (or related trade associations or interest groups) may challenge their validity under international trade, administrative or constitutional laws.

Published on DES Disclosure Log
RTI Act 2009

1.2 Scope: ET vs physical impact litigation risks

In proposing this taxonomy, it is acknowledged that relevant claims rarely fall neatly and solely into a discrete category. Moreover, many claims categories may not strictly arise due to the *financial or market dynamics* in the energy transition, but rather the *physical impacts* of climate change (even though the scope, scale and speed of the physical impacts (and thus the litigation risks they present) are themselves substantially dependent on the ET)). Claims that may fall into the latter category relevantly include those arising from failures to mitigate emissions, *viz* 'carbon debt' and/or adaptation cost claims by citizens against large emitters (or other states), and citizen claims against their states for a failure to implement policies consistent with restricting emissions. However, it is recognised that these forms of claim are also a significant driver of the energy transition, as they provide a direct incentive for states to implement strong ET policies. They *are* therefore included in this Report's substantive discussion.

Other forms of litigation that may present material risks to particular corporations (or government agencies) during the ET, but that primarily result from the *physical* impacts of climate change, bear noting, but are *not* otherwise discussed in this Report.[1] Categories of claim excluded from scope include:

(a) **claims by neighbours or other third parties against corporations, infrastructure owners or government agencies** where damage is caused by the corporation/owner/agency's failure to adapt their plant/infrastructure to the physical impacts of climate change under tort (negligence, nuisance) and Constitutional laws (including 'uncompensated takings' claims);[2]

(b) **client claims for professional negligence against built/natural environment professionals such as planners, architects, engineers, developers** et cetera, where real assets are not designed or built to be resilient to foreseeable the physical impacts of climate change over a foreseeable range of climate futures; and

(c) **claims alleging improper exercise of an administrative discretion** (*cf. obligation)* – ie claims that an administrative decision failed to take into account (or to give proper weight to) the physical impacts of climate change where this is a factor relevant to the exercise of the discretion. This notably includes permit disputes under **planning and environment laws**, designations of **threatened or endangered species**, and determinations of **refugee status**.[3]

[1] For a comprehensive database of climate change litigation in US and non-US jurisdictions, including physical risk cases beyond the scope of this report, see Sabin Center (Columbia University) & Arnold & Porter Kaye Scholer LLP Climate Change Litigation Database, <http://climatecasechart.com/>.

[2] These types of claim are already emerging in practice. See for example *Illinois Farmers Insurance Co. et al. v. Metropolitan Water Reclamation District of Greater Chicago et al.* 1:14-cv-03251 (2014) (in which Illinois Farmers Insurance (a subsidiary of global insurance giant Zurich) issued multiple class action subrogation claims against Chicago-area municipalities in relation to business and residential policy holder payouts made in the wake of Super Storm Sandy. The claims essentially alleged negligent failure by the municipalities to prevent flood-related damage by upgrading their stormwater and sewerage networks, despite their knowledge that climate change would cause more frequent and intense rainfall. The case was later withdrawn); *CIF, Inc. v ExxonMobil* 1:16-cv-11950-MLW (2016) (in which a private damages claim was filed in the District Court of Massachusetts by community group Conservation Law Foundation, Inc alleging that ExxonMobil has failed to prevent toxic pollutant discharges from storage facilities at its Everett Terminal due to its failure to take climate change impacts into account in its stormwater pollution prevention plan, spill prevention, control and countermeasures plan and facility response plan). Although the plaintiffs did not expressly raise climate change in their claims, parallels may also be drawn to cases seeking damages for storm surge losses following Hurricane Katrina: *In re Katrina Canal Breaches Litig.,* 696 F.3d, cert. denied sub. nom., *Lattimore v U.S.* S. Ct. 2855 (2013) the Fifth Circuit Court of Appeals held that sovereign immunity applied to protect the Army Corps of Engineers against a claim of negligent construction and maintenance of the Mississippi River Gulf Outlet shipping channel, and *St Bernard Parish Government v United States* 121 Fed. Cl. 687 (2015), the Federal Court of Claims held that the Army Corps of Engineers' management of the Mississippi River Gulf Outlet effectuated a temporary uncompensated taking of the plaintiff's storm-damaged property, in violation of the US Constitution (a cause of action for which sovereign immunity was not available). The Army Corps has appealed this decision. See generally recent discussion of 'physical damage' claims in United Nations Environment Programme (UNEP) and Columbia Law School Sabin Center for Climate Change Law, *The Status of Climate Change Litigation – A Global Review*, May 2017 <http://wedocs.unep.org/handle/20.500.11822/20767>.

[3] For recent overviews of litigation arising from the physical impacts of climate change in various jurisdictions, see for example Boom, Keely, Julie-Anne Richards and Stephen Leonard, *Climate justice: The international momentum towards climate litigation*, Climate Justice Program, May 2016, <http://climatejustice.org.au/wp-content/uploads/2017/05/Report-Climate-Justice-2016.pdf>; Lin, Joeline 'Climate Change and the Courts' (2012) 32 *Legal Studies* 35, 41*ff*; Peel, Jacqueline and Hari M Osofsky, 'Sue to Adapt?' (2015) 99:6 *Minneota Law Review* 2177; Peel, Jacqueline and Hari M Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (Cambridge University Press, 2015); Jefferies, Cameron 'Filling the Gaps in Canada's Climate Change Strategy: "All Litigation, All the Time..."?, (2015) 38 *Fordham International Law Journal* 1371; Bank of England Prudential Regulation Authority, *The Impact of Climate Change on the UK Insurance Sector*, Climate Change Adaptation Report, London, September 2015, Chapter 5, http://www.bankofengland.co.uk/pra/Documents/supervision/activities/pradefra0915.pdf; UNEP and Columbia Law School Sabin Center for Climate Change Law, above n2.

Published on DES Disclosure Log RTI Act 2009

1.3 A note on jurisdictional boundaries

- A company's litigation risk exposures may extend beyond the jurisdictions in which they are incorporated. Depending on the relevant circumstances, both investor institutions and investee corporations may be subject to claims by shareholders, stakeholders or third parties in other jurisdictions in which they transact. Accordingly, in order to provide a broad overview of the nature of the risks faced in this context, this report takes a thematic approach to legal risks, augmented by statutory and case-law examples drawn from multiple jurisdictions. It is not intended as a survey of all climate-related litigation risks under all relevant laws. Rather, it provides commentary on a number of the most significant litigation risks that may have the most material impact as a driver, or consequence, of the energy transition.

1.4 The nature of financial harms

The material financial impacts of litigation on a company may extend far beyond the 'headline penalty'. They may include, for example:

- Fines and penalties
- Compensation and damages
- Legal costs
- Remediation costs
- Management time, cost and resources (forensics and investigations, dealing with regulators and lawyers)
- Reputational damage
- Inability to attract and retain premium talent: impact on staff morale and stigma amongst external recruits (particularly in younger people)
- Valuation, finance availability and credit rating effects
- Insurance costs, coverage limitations and exclusions
- Contractual defaults
- Tender process exclusions.

Perhaps most significantly, litigation can have a far broader impact than the direct financial impost on the claimant(s) and defendant(s): as a ***driver of regulatory reform and/or on corporate strategy and governance within the relevant industry.*** Claimants may also seek to deploy litigation as a *strategic* tool, recognising the value of even of 'ostensibly unsuccessful' litigation[4] as a mechanism to raise the profile of a particular issue, as a procedural mechanism to obtain the defendant's internal documents or information, to impact on a corporation's social licence to operate, to raise potential defendants' costs, and/or to apply pressure on governments to introduce relevant regulation.[5] And a single successful claim may have significant, broader impacts as a driver and/or consequence of the energy transition. In the words of one commentator in relation to shareholder claims for climate-related damages:

> [A] single decision favouring plaintiffs … would create drastic and rapid changes in the industry's conception of liability.[6]

One function of the nascent stage of many (although not all) these forms of litigation in a climate change (and, more specifically, ET)-context is that there may be few decided case examples in each field whose facts specifically relate to failures in climate risk management. Accordingly, this Report makes use of cases from other sectors where there are evident analogies to claims that may be brought in the ET. Such analogies may also assist as 'lead indicators' in the assessment of the materiality of litigation risks in a particular sector or under given transition or physical risk assumptions.

[4] Preston, Justice Brian J., 'The Influence of Climate Change Litigation on Governments and the Private Sector' (2011) 2 *Climate Law* 485.

[5] For an overview of the early literature on the potential for, and centrality of, litigation as an element of regulatory reform in relation to climate change see for example Barker, Sarah, *'Directors Duties in the Anthropocene: Liability for Corporate Harm for Inaction on Climate Change*, December 2013 < http://responsible-investmentbanking.com/wp-content/uploads/2014/11/Directors-Duties-in-the-Anthropocene-December-2013.pdf >.

[6] Cosman, Brian, 'Green Derivatives: Extorting Reductions in Greenhouse Gas Emissions via Shareholder Derivative Suits' (2008) 40 *Arizona State Law Journal* 743, 761.

Published on DES Disclosure Log
RTI Act 2009

1.5 Litigation risk as a product of regulatory uncertainty

It bears note that many of the litigation risks associated with the ET are not dependent on developments in emissions regulation or controls. Rather, they turn on economic / market factors, and/or enliven existing, broad commercial laws in the ET context. Accordingly, whilst the vagaries of ET policy or regulation under any given state's political administration may be important to the speed and scale of the ET itself, they are less determinative of the degree of litigation exposure in that transition. In fact, the absence of strong regulatory policy drivers in a given jurisdiction can actually compound litigation risks, as plaintiffs look to alterative avenues of legal pressure to advance or protect their interests.

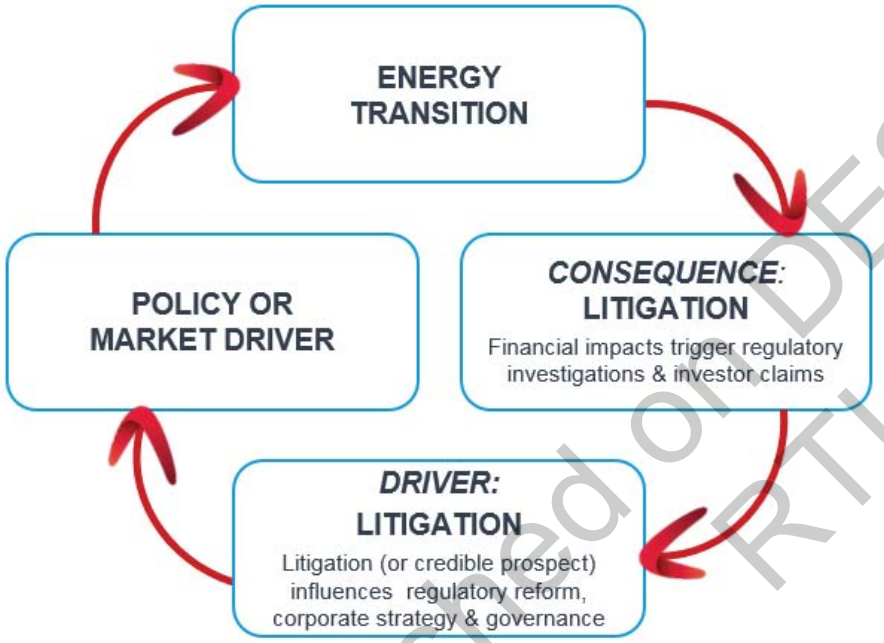
1.6 Report structure

This Report analyses litigation risks in the ET within four sections: Litigation risk in the ET: driver and consequence, Parties & Claims, Materiality & Pricing Litigation Risks, and High Risk Areas & Adverse Scenarios. In practice, the subject matter in each of these chapter both builds on, and feeds, each other section:

Published on DES Disclosure Log
RTI Act 2009

2. Litigation risk in the ET: *driver* vs. *consequence*

Litigation risk factors are likely to act as both a *driver* of the energy transition, as a significant spur to market conduct and policy reform, and as a *consequence* of it – particularly where corporations who are not strategically positioned for the transition suffer loss. Of course, this distinction somewhat circular, as the credible prospect of litigation also acts as a driver of corporate and policy action. However, the division is a useful tool to conceptualise how litigation risks are likely to manifest.



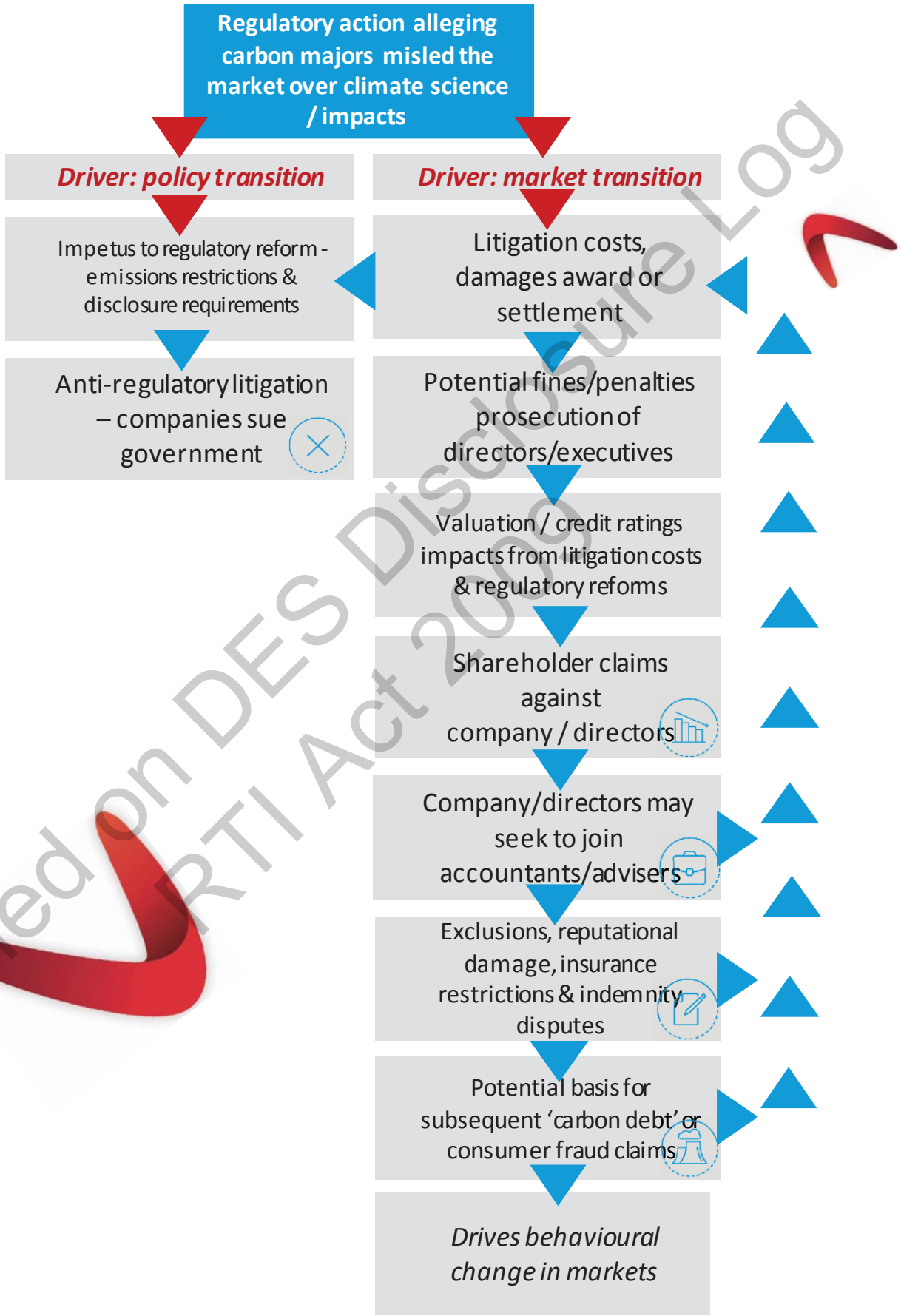
2.1 Litigation risk as a *driver* of the energy transition

Litigation may be a significant driver of other market conduct and policy reform factors inherent in the energy transition. From a **policy** perspective, it is likely to act as a powerful spur to **regulatory reform** (in terms of both emissions restrictions and disclosure requirements). From a **market** perspective, the **credible prospect** of significant **corporate (and board) liability exposure**, and associated financial, insurance and reputational consequences, is likely to put significant pressure on corporations to adjust their disclosures, governance and strategy.

Specific forms of litigation that may become material drivers of the ET are illustrated in **Figure R2**, below. The causes of action relevant to these claims are analysed in further detail in **Section 3**.

Published on DES Disclosure Log
RTI Act 2009

Figure R2: Litigation as a *driver* of the ET – example pathway: regulatory action



Published on DES Disclosure Log
RTI Act 2009

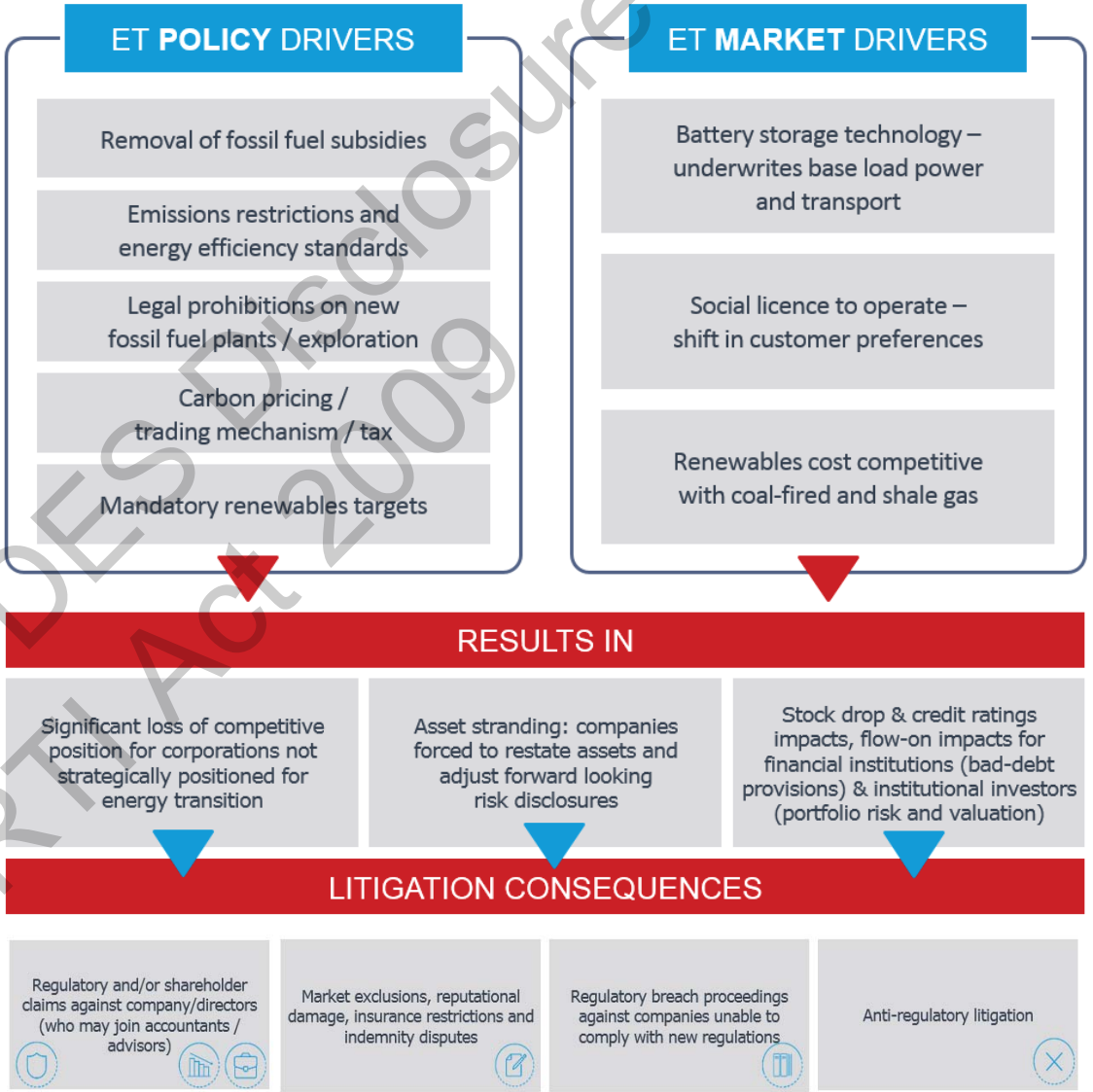
2.2 Litigation risk as a *consequence* of the energy transition

As the energy transition develops, policy (in the form of regulatory reform) and market drivers (economic impacts and associated disclosure requirements) are also likely to present material litigation risk exposures to corporations, asset owners and their insurers. Such litigation risks may arise from either (or both) claims by private parties who have suffered loss or damage due to a market participant's failure to manage or disclose energy transition risks, and investigations/proceedings by government or regulatory bodies. The claims, or the credible prospect of them, may have material impacts on financial risk/return factors at all levels of the investment supply chain, from valuation to credit ratings and insurances – and thus circle back as a driver of the energy transition.

Investors commonly 'chase their losses' where the value of their investment is materially impacted. Where the energy transition provokes a drop in a corporation's share price or negative outlook on credit assessments, investors may pursue damages claims against the corporation or its directors on the basis of misleading disclosure, negligence or breach of duty. Such 'consequential' litigation can compound, or add to, the material financial impacts on a company, and enliven associated risk/return impacts such as the cost or availability (and profitability) of insurance.

These potential consequences are illustrated in an example set out in **Figure R3**, right. The relevant causes of action are analysed in **Section 3**.

Figure R3: Litigation risk as a *consequence* of the ET



Published on DES Disclosure Log RTI Act 2009

3. Overview of material potential claims: parties and primary causes of action

3.1 Overview

This section examines the nature of claims that may drive, or be driven by, the ET by reference to the parties who may be involved in such litigation. Observations on the potential materiality of such claims are offered by way of analogy to existing cases, along with preliminary observations on sectors most likely to be impacted (all else being equal). Where case examples are yet to emerge in an energy transition context, analogous claims have been used as proxy 'lead indicators' to illustrate how the relevant cause of action has been applied in response to other market events or stimuli.

Whilst the different forms of claim have been separated for the sake of explanation and illustration, it is noted that multiple claims commonly emanate from a single event trigger: occurring in clusters under different causes of action, brought by different plaintiffs, and occasioning varied forms of loss.

As a precursor to the analysis of claims in **Section 3.3**, more detailed analysis and discussion is devoted to **misleading disclosure and securities fraud** in **Section 3.2** below. This additional emphasis is given for a number of reasons. First, the Bank of England Prudential Regulation Authority has explicitly warned that claims alleging misleading disclosure are likely to be amongst the 'quickest to evolve' in the energy transition.[7] Secondly, this warning is increasingly borne out, with a number of significant regulatory investigations and private claims of this kind already evident in the ET. Thirdly, benchmarks for the 'true and fair' disclosure of material financial risks associated with climate change, and their impact on corporate performance and prospects, are currently subject of intense focus with the release of the Final Recommendations of the G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures in June 2017. Finally, such claims are likely to have material valuation and risk rating implications for individual corporations and sectors, and are thus likely to be of particular interest to financial analysts.

3.2 Misleading disclosure & securities fraud

Capital markets cannot operate efficiently unless they are fully informed. Corporate disclosures form the basis of assessments about a company, and the risks and opportunities it faces, by investors and beneficiaries, financial sector stakeholders such as creditors and insurers, marketplace stakeholders such as customers and suppliers, and policy-makers. Accordingly, it is a universal cornerstone of commercial law that corporations publish information that presents a true and fair view of their overall financial position. In order to be meaningful and decision-useful for external users, bare quantitative reports on assets, liabilities, profits and losses should be accompanied by additional information regarding material trends, business strategies and prospects that enables a fair assessment of the business's competitive strategy, and its viability in the context of prevailing and anticipated market conditions. This applies not only in their periodic reports, but in offer documents (such as prospectuses, fundraising and takeover documents), investor briefings and statements made under continuous disclosure obligations.

Each jurisdiction has laws that prescribe the nature of information that must be disclosed (both quantitative and qualitative), and prohibit disclosures that are misleading or deceptive. Such prohibitions variously attract civil or criminal (eg securities fraud) penalties.

Misleading disclosure laws apply not only to statements made in relation to listed equities, but in respect of derivative and fixed-income instruments in both primary and secondary markets.

Forward-looking risk disclosures often appear in directors' narrative 'management discussion and analysis' reports.[8] In some jurisdictions (such as Germany, the UK, US and Canada), there is specific provision for risk reports in the management report section of annual reports.[9]

[7] Bank of England Prudential Regulation Authority, *The Impact of Climate Change on the UK Insurance Sector*, September 2015, 59.

[8] Michael Dobler, Kaouthar Lajili, and Daniel Ze´ghal, 'Attributes of Corporate Risk Disclosure: An International Investigation in the Manufacturing Sector', (2010) 10(2) *Journal of International Accounting Research*, 1.

[9] Dobler, above n8, 2.

Published on DES Disclosure Log
RTI Act 2009

Misleading disclosure – general principles

A misleading disclosure, or securities fraud, claim will typically arise where a group of investors allege that they have suffered loss through the purchase of shares (or other instrument) at a price that was artificially-inflated (or maintained) by the effect of misleading disclosure(s) (or failures to disclose/omission(s)) regarding the company's financial position, strategies or prospects. The loss usually crystallises when the misrepresentative character of the disclosure is revealed or corrected, such that the value of the investment is materially reduced (or its risk materially increased). Claimants may generally seek to recover the value of their investment at the time it was purchased (a 'no transaction' claim) or the difference between the price paid and the true value *but for* the misrepresentation. Jurisdictions with the most permissive securities class action regimes include the United States, Australia, the Netherlands, Japan and Canada. Claims in these jurisdictions are on an upwards trajectory in both number and quantum of damages – contributed to, in part, by the emergence of professional litigation funders as underwriters of claimant risk.

Misleading disclosure provisions are also commonly enforced by securities regulators (such as the French Autorité des marches financiers, the German Financial Supervisory Authority, US Securities & Investments Commission, the Australian Securities & Investments Commission, China Securities Regulatory Commission and sub-national regulators such as the New York Attorney-General). This regulatory enforcement overly adds a significant level of litigation risk. First, regulators are typically considered to be well-resourced litigants, and commonly have statutory powers to compel information disclosure and production even in a preliminary investigation phase. Secondly, regulator's enforcement activities are not necessarily constrained by the need to prove causation, reliance and loss – factors commonly cited as significant barriers to private litigants claiming damages under similar causes of action (see for example ***NYAG Peabody Coal*** case study, below).

Although jurisdictional specificities prevail, in general terms the following factors may be relevant to a determination whether a particular disclosure is misleading or deceptive:

- **Silence or omission** may be misleading – the absence of commentary in relation to a material risk may be misleading, where such omission creates the erroneous impression that the risk is not material. This is sometimes referred to as the failure to disclose "material adverse facts".
- **Selective disclosure** (ie of only favourable factors) may be misleading.
- **Statements which are literally true** may be presented in a misleading manner.
- The **users** of such disclosures are **not** necessarily obliged to have made their **own inquiries**, nor imputed with 'expert' or specialist knowledge.
- **It is not always necessary to demonstrate knowledge, intent or recklessness**. For example, while these *are* elements of a securities fraud claim under section 10(b) of the federal *Securities Exchange Act of 1934* in the United States, they are not preconditions of liability under many State 'blue-sky laws' (such as, for example, the New York *Martin Act*). In yet other jurisdictions, the absence or presence of these elements may determine whether liability exposure is civil or criminal in nature.
- It may also be misleading to **repeat a misleading statement made by a third party** where the representor knows, or ought to know, that the statement is misleading.
- Statements framed as being of **opinion** rather than fact may also be misleading where the maker either does not genuinely hold that view, and/or it has not been reached on the basis of a robust process of deliberation.
- **'Forward-looking statements' (or the absence of such statements) are subject to special rules.** In recognition of the inherent tension between future uncertainties and informed analysis / relevant disclosure, specific rules relating to forward-looking statements apply under the disclosure laws in many jurisdictions. Although these rules differ by jurisdiction, under some regulatory frameworks a forward-looking statement may be misleading where the representor does not have reasonable grounds to support their prediction, as at the time it was made, or have failed to adequately disclose associated limitations or uncertainties that materially

Published on DES Disclosure Log RTI Act 2009

impact on its achievement. And there may be an obligation to update or correct the forward-looking statement if the passage of time indeed proves it to be inaccurate. In other jurisdictions, intent or recklessness is required to establish liability in respect of forward looking statements.

- For example, in the United States, a 'safe harbour' from federal securities fraud liability applies to liability under section 10(b) of the *Securities Exchange Act* statements that are identified as forward-looking and are '*accompanied by meaningful cautionary statements identifying important factors that could cause actual results to differ*'. To enliven the safe harbour, Courts require such statements to be meaningful and specific: relevant, current and considered, rather than boilerplate, and fit for purpose for the particular disclosure (eg earnings guidance vs transaction announcement) (see for example *In re Harman*).[10] And cautions must be tailored to the predictions being made:[11]
- **Generalisations, or boilerplate language, may be misleading as to the extent of relevant risks.** General disclaimers may not neutralise the impact of a specific misleading disclosure of either current or forward-looking matters.

Application of principles in an energy transition context

As a financial risk/return issue, climate change is particularly notable for the fact that historical exposures are not representative of current and forward-looking risks. This gives rise to litigation risk exposures not only to companies and their directors in their disclosures to market, but to institutional investors in their disclosures to beneficiaries, and professional advisors in the provision of services to investors.

Areas of particular relevance in the context of climate risk disclosures include:

- **quantitative** – asset valuations and revaluations, bad debt provisioning, growth forecasts, methodologies and assumptions; and
- **qualitative** – notes to the financial statements, risk reporting (sources, assessment, management), forward-looking disclosures, which fail to adequately account for (or disclose) the material financial risks associated with the energy transition.

Disclosures that are *unlikely* to provide a true and fair view of a company's risk exposure in the energy transition are summarised in **Figure R4**, below (along with relevant case examples, which are in turn discussed further in **Section 3.3** below). Such 'high-risk' disclosures include:

- inconsistency between internal assessments of the potential impacts of climate-related risks, and market disclosures;
- omitting to disclose material climate-related financial risks to corporate performance and prospects;
- asset over-valuation and liability under-valuation (ie. where financial statements fail to account for ET risks that materially impact on recognition or impairment principles);
- non-specific, boilerplate risk disclosures that fail to convey the materiality of climate-related risks on the achievement of stated objectives; similarly
- misrepresentation of expected market conditions (eg potential impact of climate change on demand growth assessments);
- material understatement of climate-related risk exposures, or material overstatement of the company's management of those risks (or capacity to do so);
- risk disclosure based on historical data or performance, or outdated climate risk methodologies or assumptions;
- material overstatement of corporate compliance with regulatory standards (eg emissions performance requirements);

[10] *In Re: Harman International Industries, Inc. Securities Litig.,* (No. 14-7017) (D.C. Cir. June 23, 2015). The United States Supreme Court declined to consider Harman's petition for review, without comment, on 29 February 2016.

[11] See for example European Securities and Markets Authority (ESMA), *ESMA urges companies to improve quality of disclosures in financial statements*, Press Release, 27 October 2015.

Published on DES Disclosure Log
RTI Act 2009

- material differences in risk representations made in mandatory reports (eg. financial statements and annual report filings) vs those in voluntary disclosures (eg. 'sustainability reports' and questionnaire responses (eg. to CDP)); and
- disclosures based on analysis that employs inappropriate or immaterial climate risk metrics, parameters or assumptions.

It is likely that the rules applicable to forward-looking disclosures will assume particular importance in forthcoming reporting seasons given the focus of the Final Recommendations of the G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures (**TCFD**) on assessment and disclosure of forward-looking risks (June 2017). The Recommendations emphasise the importance of scenario planning and stress-testing as mechanisms to enable analysis (and fair representation) of the potential impacts of climate change on corporate performance and prospects. The application of these principles will require specific analysis in each corporate and jurisdictional context far beyond the confines of this overview Report. However, as a general proposition, corporations will need to take care to ensure that their use (or failure to use) these risk management tools is accurately represented, and that reports do not present only favourable scenario outcomes as justification of optimistic management outlook assessments.

Further, whilst 'voluntary', the TCFD Recommendations (or other climate risk disclosure frameworks such as those published by the Climate Disclosure Standards Board, or under Article 173 of the French Energy and Ecology Transition Law (which are mandatory for French pension funds, insurers and asset managers))[12] may increasingly be seen as benchmark for assessment of 'true and fair' transition-risk disclosure (and adequate underlying analysis).[13]

In short, even where climate risk disclosure standards remain 'voluntary ', with widespread adoption they may become the proxy for that information which is necessary to present a true and fair view of corporate performance, risk and prospects, and inform the content of directors' duties of due care and diligence in discharging their obligations to the firm.[14]

A note on the overlap between misleading disclosure and consumer protection law

It is noted that **consumer protection and/or fraud** claims (generally, where corporations engage in unfair business practices that misrepresent the characteristics, utility or performance of their goods or services to consumers) that may arise in the energy transition can often raise similar issues of legal principle as those for misleading disclosure in a securities law context. Consumer fraud claims are subject of further discussion under **Section 3.3** below, as a sub-set of a failure to comply with ET-related performance regulations (claim category **(G)**).

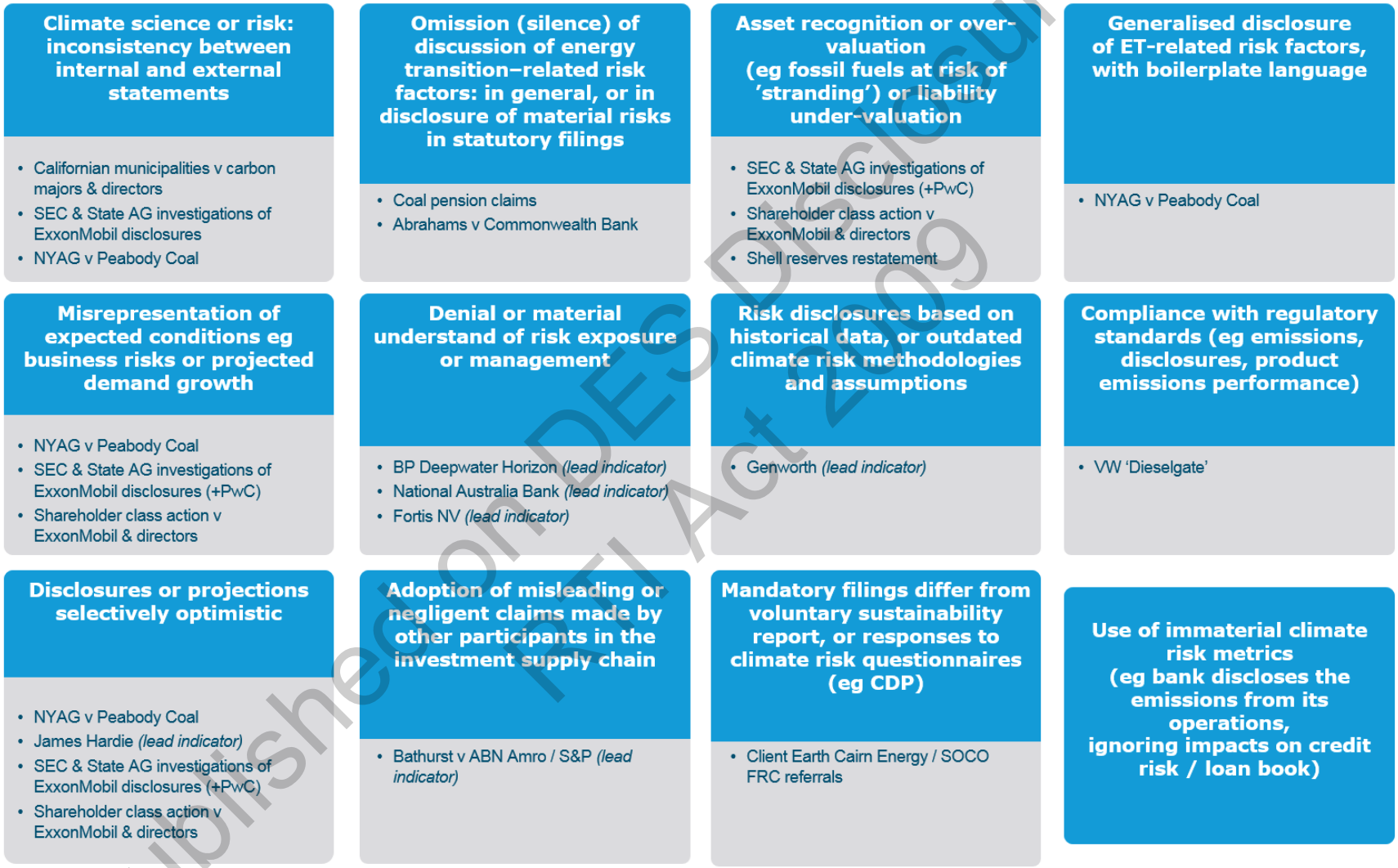
[12] For a summary of prevailing disclosure tools and standards, see 2dii, *Investor Climate Disclosure: Stitching Together Best Practices*, May 2016.

[13] See for example Forum Pour L'Investissement Responsable, *Article 173-VI: Understanding the French Regulation on Investor Climate Reporting*, FIR Handbook No.1, October 2016 <http://www.frenchsif.org/isr-esg/wp-content/uploads/Understanding_article173-French_SIF_Handbook.pdf>.

[14] See for example a recent speech to the Insurance Council of Australia by Australian Prudential Regulation Authority Board Member Geoff Summerhayes. Mr Summerhayes announced the Authority's view that stress-testing and scenario planning against a range of plausible futures should be seen as 'the new normal' for its regulated entities (including banks, insurance companies, asset managers and pension funds). The (then draft) Recommendations of the TCFD were cited in support of the Authority's view. See Summerhayes, Geoff, *Australia's New Horizon: Climate Change Challenges and Prudential Risk*, speech by the Australian Prudential Regulation Authority at the Annual Conference of the Insurance Council of Australia, 24 February 2017, <http://www.apra.gov.au/Speeches/Documents/ICA%20Speech%20Geoff%20Summerhayes%2017%20February%202017.pdf>.

Published on DES Disclosure Log
RTI Act 2009
RTI 18-381
File A
Page 73 of 123

Figure R4: forms of disclosure that may be misleading or deceptive and ET-relevant case examples



Published on DES Disclosure Log
FOI Act 2009

3.3 Analysis of material potential claims – all categories

This section analyses claims in categories **(A) – (H)** (as summarised in **Table ES-1** above, reproduced below) in further detail. Discussion of elements including the nature of each claim and its potential valuation impacts is followed by leading case examples arising both in a climate change context, and as a result of other market drivers (as 'lead indicators').

CLAIMS TAXONOMY OVERVIEW — **Table 1. ES-1**

1	**FAILURE TO MITIGATE** (ie claims seeking to establish liability for emissions that cause the physical impacts of climate change)	A	**Citizens/states vs emitters/states (including 'carbon-debt' claims):** claims by citizens/states against large emitters (or other states) seeking compensation for damages caused by, or costs incurred due to, climate change. Causes of action generally include **tort (negligence, nuisance, trespass), international law and human rights law)**
		B	**Citizens/states vs states:** claims by citizens (or sub-national governments) against their own state for a failure to restrict emissions. Causes of action may arise under **constitutional, human rights or tort (negligence) laws,** for **breach of statutory obligation,** or under the **public trust doctrine** (including 'atmospheric trust' claims)
2	**FAILURE TO ADAPT** (including failure to report or disclose) (ie claims deriving from commercial failures to take the physical and economic transition risks associated with climate change into account, and/or to accurately disclose related exposures)	C	**Regulatory investigations and claims against corporations (and/or their directors)** who fail to accurately manage, report or disclose the risks associated with climate change. Causes of action may arise under securities laws (misleading disclosure/ securities fraud) and/or (in some jurisdictions) corporate governance laws (directors' statutory and fiduciary duties)
		D	**Investor/beneficiary claims against corporations/trustees (and/or their directors)** who fail to accurately manage, report or disclose the risks associated with climate change to their business. Claims may include 'stock-drop claims' under securities laws (misleading disclosure/securities fraud) and/or derivative actions against directors/fund trustees for breach of fiduciary/ statutory duty
		E	**Corporation/investor claims against professional advisors** (eg accountants, consultants, investment brokers, asset managers or credit ratings agencies) for negligent service provision in failing to adequately account for energy transition risks. Causes of action may include **misrepresentation, tort (negligence) and breach of contract**
		F	**Contractual disputes:** litigation between counterparties seeking to avoid or repudiate contractual obligations under evolving ET market norms, and insured vs insurer disputes over the scope of policy indemnities. Claims are likely to turn on **contract law**
3	**ET-SPECIFIC REGULATORY COMPLIANCE** (ie claims relating to compliance with emissions-related laws and standards introduced to implement energy transition policies, and/or related misrepresentations to consumers)	G	**Regulatory claims for a breach of emissions- (or adaptation-) related regulations** introduced to give effect to ET policies. The relevant causes of action include breaches of **transition-related statutes or regulations,** and/or **consumer protection / consumer fraud** laws. Claims in this category may also give rise to secondary litigation exposures under corporate and securities laws (discussed under C and D above)
		H	**Anti-regulatory litigation (emitters as plaintiffs):** companies materially impacted by national and supra-national governments' ET regulations (or related trade associations, sub-national governments or other interest groups) may challenge their validity, bringing claims under **international trade, administrative** or **constitutional laws.**

Published on DES Disclosure Log
RTI Act 2009

A

Citizen / state vs company (emitter) / state

Tort (negligence, nuisance, trespass), international law, human rights violations

*As discussed in **Section 1.2** above, whilst this category of claim primarily relates to the physical impacts of climate change, the prospect of such litigation is likely to be a material driver of market responses to the ET. It has therefore been included as a litigation risk relevant to the ET.*

Nature of claim(s)

- **Collective tort claims** by individual citizens or states seeking damages for losses caused by physical impacts of climate change from major emitters (including costs of adaptation).
- Tort law is set out under statute in some jurisdictions (such as France and Germany),[15] and primarily under judge-made law in others (such as the UK, with some statutory gloss such as under the *Occupiers' Liability Act 1957*). In many jurisdictions only civil negligence claims may be brought, although in others (such as France) they may also be brought criminally.[16]
- **Public nuisance** may be alleged where there is substantial, unreasonable interference with a public right. **Private nuisance** occurs where the defendant has unreasonable interfered with the use or enjoyment of private property, or a right connected with that property.
- Potential claimants may include the AOSIS – the Alliance of Small Island States – a coalition of 48 low-lying island and coastal nations against carbon majors, seeking damages based on the company's proportionate contribution to anthropogenic CO2-e emissions.
- Potential defendants include the 90 'carbon majors' identified by Heede (2014).
- In general terms, a cause of action in **negligence** will be established where:
  - the defendant owes a duty of care to the plaintiff;
  - the defendant fails to take reasonable precautions against a reasonably foreseeable risk of injury to the plaintiff;
  - that failure caused the plaintiff's loss; and
  - the defendant did not voluntarily assume the relevant risk.
- Concurrent claims may be filed in multiple jurisdictions against multiple large emitters.

[15] French *Code Civil* Article 1382-1386; German *BGB* §§823-53.

[16] Victims of crime in France may be able to claim compensation as a *partie civile* in criminal proceedings – see Article 2 of the Code of Civil Procedure.

[17] Heede, Richard, 'Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010', (2014) *Climatic Change* 122(1-2), pp229-241.

Published on DES Disclosure Log
RTI Act 2009

A

Citizen / state vs company (emitter) / state

Tort (negligence, nuisance, trespass), international law, human rights violations

Continued

Comment

- Tort-based claims against major emitters have been widely (although not universally) considered unlikely to stand in Anglo-American jurisdictions following *Kivalina v ExxonMobil* (2009) (although discussion of the potential application of such causes of action in relation to property rights impacted by climate change has continued in cases such as *American Electric Power Co. v Connecticut*[18] (public nuisance) and *Macquarie Generation v Hodgson* (private nuisance)).[19] Claimants have faced significant barriers to standing and justiciability. Beyond this, duty and causation have been considered near 'insurmountable' evidentiary hurdles due to the disconnect between the global nature of emissions and their collective, cumulative effect, versus the localised nature of their impacts. However, the potential for tort-based damages claims against large emitters is subject of renewed focus, with the filing of three 'tobacco-style' claims by Californian municipalities against 37 'carbon majors' and their directors on 17 July 2017 (see *Imperial Beach, Country of Marin* and *County of San Mateo* claims, below).
- The laws and judicial systems developing countries may be more amenable to a tort liability finding than those of developed jurisdictions. The Environmental Law Alliance (2014) suggests that Brazil, Ecuador, Mexico, Colombia and India and Kenya as potentially attractive jurisdictional alternatives. This is on the basis that their legislation permits direct enforcement of fundamental human rights (including to a healthy environment) against private entities (Brazil, Columbia, Kenya), and/or they take a progressive, dynamic approach to legal development (India). It is not clear, however, whether such rights would ultimately extend to 'carbon debt' damages awards. In one current example (discussed further below), the Philippines Commission on Human Rights is conducting an independent investigation into the responsibilities of the carbon majors (Gazprom, Exxon, Glencore etc) for human rights violations or threats of violations resulting from the impacts of climate change. Whilst the Commission is not empowered to settle legal disputes, its conclusions on the application of relevant legal principles and any factual determinations on the causal impact of the activities of the carbon majors could be used to underpin future causes of action.

[18] 206 F Supp 2d 265 (SDNY, 2005).

[19] [2011] NSWCA 424.

Published on DES Disclosure Log
RTI Act 2009

A

Citizen / state vs company (emitter) / state

Tort (negligence, nuisance, trespass), international law, human rights violations

Continued

Comment *(continued)*

- Even where a damages award is made in a developing country, enforcement remains an issue – particularly if the defendant company has no assets in the jurisdiction. The plaintiff would then need to seek enforcement in another jurisdiction – in which the company as domiciled, listed or had assets (depending on relevant laws). For example, in 2011 an Ecuadorian Court awarded US$9.5 billion in damages in an environmental pollution claim (not directly relating to climate change) against Chevron. Chevron has no remaining assets in Ecuador, and the plaintiffs have been seeking to have the judgment enforced in other jurisdictions, including Canada, the US, Brazil and Argentina. Although enforcement is by no means assured (and has in fact recently been denied in Canada and the US), significant litigation costs may be incurred (for example, Chevron $400 million/year at the height of its defense) and material provisions for contingent liabilities raised. In other examples, UK courts have recently exercised jurisdiction over a Nigerian subsidiary of a UK-based parent company,[20] and a claim by Zambian nationals against a UK-listed company in respect of its African subsidiary's copper mining operations.[21]

ET: Driver or consequence?

- Market driver (legal costs, damages – esp if Master Settlement Agreement), policy driver (international agreement on losses).

Valuation impacts – financial materiality?

- There is no 'standard' for calculation of either the loss and damage incurred by developing nations or their citizens from the physical impacts of climate change, nor the costs of adaptation. One methodology may be for injured States to apply the company's proportionate contribution to anthropogenic CO2-e emissions to the countries' estimated adaptation costs over a particular period (eg 50 years). For example, the UNEP 2014-2016 *Adaptation Finance Gap Reports* estimates that total costs of adaptation by developing countries (of approximately $100 billion per annum now) may reach $300 billion per year to 2030 and $500 billion per year by 2050. An NPV calculation assuming $100b per annum for the next 10 years, $200b per annum for the following 10, $300b per annum for the 10 after that, and $500 billion per annum for the final 20 in the period, with a 3% discount rate, produces an estimate of adaptation costs of $6.6 trillion (NPV).

[20] *Bodo Community & Ors v Shell Development Company of Nigeria (Bodo Community v Shell Petroleum Development Co of Nigeria Ltd* [2014] EWHC 1973 (TCC),

[21] *Lungowe v Vedanta* [2016] EWHC 975 (TCC).

Published on DES Disclosure Log RTI Act 2009

A

Citizen / state vs company (emitter) / state

Tort (negligence, nuisance, trespass), international law, human rights violations

Continued

Valuation impacts – financial materiality?

(continued)

- Plaintiffs may conceivably seek damages for a carbon major's proportionate share of anthropogenic emissions (based, for example, on Heede et al's 2014 emissions contributions calculations. A 'proportionate responsibility' methodology was proposed in the *Lliuya v RWE* claim in Germany (below) and has been used as the basis for identifying defendants in the Philippines human rights-based case (above) and the Californian municipalities' tort-based claims (above and below).
- Particularly where concurrent claims are filed in multiple jurisdictions, the scale of litigation costs, combined with the risk and uncertainty associated with their exposures, may incline emitters to enter into a 'Master Settlement Agreement' with the governments of developing nations, even if their liability remains vigorously contested.

CLAIMS CATEGORY A: CONCLUSION

Not highly likely (although *cf.* Californian municipality claims against 37 carbon majors (July 2017)), but high consequence for carbon majors. These forms of claim may be strategically deployed by plaintiffs to raise the profile of climate risk issues, and to cause the targeted defendant corporations to incur significant legal costs, even where their claim does not appear to be strong. High-risk sectors: energy (oil & gas, coal, electric utilities), metals and mining.

Published on DES Disclosure Log
RTI Act 2009

Claim Category A: CASE EXAMPLES

Tort – negligence and nuisance

Native Village of Kivalina v. ExxonMobil Corp., et al, 663 F.Supp. 2d 863 (ND Cal 20 September 2009); 696 F.3d 849 (9th Cir. 2012)

Claim

A village of native Alaskan Inupiats sought US$400 million in damages from ExxonMobil (and 23 other major fossil fuel emitters) to pay for the relocation of their village necessitated by the loss of ancestral lands to sea level rise caused by climate change.

Outcome

The claim was held not to be justiciable under the political question doctrine (District Court, 2009) and under federal law displacement principles (Court of Appeal in the Ninth Circuit, 2012). The Court also made (obiter) comments regarding the difficulty such claims would have to satisfy the requirements to establish a duty of care, and causation of the claimed loss: '*[T]he harm from global warming involves a series of events disconnected from the discharge itself. In a global warming scenario, emitted greenhouse gases combine with other gases in the atmosphere which in turn results in the planet retaining heat, which in turn causes the ice caps to melt and the oceans to rise, which in turn causes the Arctic sea to rise'.*

American Electric Power Co., Inc. et al v. Connecticut, 206 F Supp 2d 265 (SDNY, 2005); 564 U.S. (2011)

Claim

Several US States claimed that the combined emissions of the defendant companies (which approximated 10% of total US carbon emissions) created a public nuisance, due to the contribution of those emissions to climate change.

Outcome

Upon appeal, the US Supreme Court held that the common law nuisance claim was displaced by the authority of the Environmental Protection Agency to regulate emissions under federal clean air statutes. However, the Supreme Court declined to find whether the federal regulatory authority would also displace tort-based claims brought under *State* law.

Published on DES Disclosure Log RTI Act 2009

Country of Marin et al v Chevron, ExxonMobil, BP, Shell, Citigo Petroleum, ConocoPhillips, Peabody Energy, Arch Coal, Total, Eni, Rio Tinto, Statoil, Anadarko Petroleum, Occidental Petroleum, Repsol, Marathon Oil, Hess Corporation, Devon Energy, Encana Corp, Apache Corp and Does 1-100 Case No. CIV1702586 (Cal. Super. Ct., filed 17 July 2017)

County of San Mateo et al v Chevron et al Case No. 17CIV03222 (Cal. Super. Ct., filed 17 July 2017)

Imperial Beach et al v Chevron at al Case No. C17-01227 (Cal. Super. Ct., filed 17 July 2017)

Claim

Three Californian municipalities filed separate claims against 37 large fossil fuel corporations and their directors (with an alleged collective responsibility for more than 1/5 of global carbon emissions between 1965 and 2015). The complaints allege that the defendants:

- had internal knowledge of the link between fossil fuel emissions and climate change as early as 1965; but, to the contrary of that knowledge:
- actively worked to foment public uncertainty about climate science, publicly downplayed the nature and severity of climate change impacts, and obstructed emissions regulations; and
- were, collectively, directly responsible for 20.3% of global greenhouse gas emissions between 1965 and 2015 and therefore also for a significant proportion of committed climate impacts (including sea level rise in the plaintiff municipalities).

The claims allege that the defendants' production, promotion and marketing of their fossil fuel products despite their internal knowledge of associated climate-related hazards, and their active efforts to obfuscate or conceal those hazards by championing of anti-regulation and anti-science campaigns, gives rise to causes of action including negligence, public nuisance, private nuisance, trespass, failure to warn and defective products, under Californian state law.

Tobacco Master Settlement Agreement (1998)

Outcome

The complaints were filed shortly before the publication of this Report, on 17 July 2017, and the proceedings remain on foot. The plaintiff municipalities are seeking remedies that include compensatory damages (for the cost of assessing climate impacts and adaptive civil works), punitive damages and an account of profits.

The complaints do not yet seek to quantify damages sought. However, in its press release announcing the complaint filing, San Mateo county reported that it had already spent US$40 million on assessing climate-related risks within the municipality, and that county properties threatened by rising sea levels have been assessed at over US$39 billion (including freeway infrastructure, San Francisco International Airport and other real estate).

Published on DES Disclosure Log
RTI Act 2009

Human rights

Greenpeace et al v Chevron, ExxonMobil, BP, Royal Dutch Shell, Conoco Phillips, Peabody Energy and Total, Petition Requesting Investigation of the Responsibility of the Carbon Majors for Human Rights Violations or Threats of Violations Resulting from the Impacts of Climate Change, Commission on Human Rights of the Philippines, Case No.: CHR-NI-2016-0001

Claim

In December 2015 a petition was filed by Greenpeace and the Philippine Reconstruction Movement requesting that the Philippines Human Rights Commission investigate 'the human rights implications of climate change and ocean acidification and the resulting rights violations in the Philippines and whether the investor-owned Carbon Majors have breached their responsibilities to respect the rights on the Filipino people'. The petition requests that the Commission make findings of fact in respect of the contribution to climate change of the named 'Carbon Majors' (by reference to the oft-cited analysis of Heede (2014)), and that the Philippines Government implement an effective accountability mechanism that can be accessed by climate change victims.

Outcome

The corporate respondents filed a consolidated response to the petition in February 2017. The Commission's investigation remains on foot as at 30 June 2017. See <http://198.23.173.74/chr/climate-justice/>

Lliuya v RWE AG, Case No. 2 O 285/15 Essen Regional Court

Claim

In December 2015 a Peruvian farmer commenced action in the Regional Essen Court in Germany against energy giant RWE under paragraph 1004 of the German Civil Code, seeking damages of €20,000 as RWE's proportionate contribution to the farmer's costs of adapting his valley in Hauraz, Peru to climate change (which is threatened from inundation by a rising glacial lake). The damages sum claimed was based on the costs of the engineering project x 0.47% (being RWE's alleged share of global emissions from 1751-2010).

Outcome

In late 2016 the Court dismissed Lliuya's claim on the basis that Court did not find any "linear causal chain" linking RWE's emissions and the damages alleged. The Court was also unconvinced about the identity of the community association that Lliuya had identified. An appeal in this matter has been set down for November 2017.

Published on DES Disclosure Log
RTI Act 2009

'Master Settlement' agreements

Tobacco Master Settlement Agreement (1998)

Claim

In 1998 the American tobacco industry agreed to a 'Master Settlement Agreement' to resolve litigation brought by a number of US States seeking damages for public health expenses associated with smoking. Following a settlement of US$40 billion with Texas, Minnesota and Mississippi, the other States agreed to drop all claims in exchange for tobacco industry payments totalling US$206 billion over 25 years.

Outcome

Section 1 of the MSA makes clear the parties' settlement rationale to 'avoid further expense, delay, inconvenience, burden and uncertainty of continued litigation (including appeals from any verdicts)'.

Published on DES Disclosure Log
RTI Act 2009

B

Citizen/state v state

Constitutional law, human rights, tort (negligence), statutory breach, public trust

*As discussed in **section 1.2** above, whilst this category of claim primarily relates to the physical impacts of climate change, the prospect of such litigation is likely to be a material driver of ET policy. It has therefore been included as a litigation risk relevant to the ET.*

Nature of claim(s)

- Citizens (and sub-national governments) may take action against their governments in domestic courts alleging breach of their duty of care to their citizens and/or the environment. Claims are variously founded under **Constitutional law, tort, human rights and/or the public trust doctrine** (ie a duty of the sovereign to act as trustee of natural resources in their jurisdiction for the benefit of current and future generations). Claims of this nature are sometimes referred to as 'Atmospheric Trust' litigation.[22]

Comment

- Plaintiffs ordinarily seek declaratory orders rather than 'carbon debt' damages. For a discussion of the precedent value of these claims between jurisdictions, see Boom et al (2016), above n3, pp27-41.

International law and human rights

- The United Nations Committee on Economic, Social and Cultural Rights has stated that, in its view, climate change interferes with international human rights obligations. In a recent example, it issued a statement on Australia's implementation of obligations under the International Covenant on Economic, Social and Cultural Rights that referenced that State's (a) ongoing policy support for new coal mines and coal-fired power stations, and (b) failure to implement policies consistent with emissions reduction obligations under the Kyoto Protocol and Paris Agreement commitments, as 'principal subjects of concern'.[23]
- There is also the potential for vulnerable States to seek injunctive relief and/ or compensation from high-emitting States for transboundary harm caused by anthropogenic greenhouse gas emissions, based on the international law principles of transboundary harm and State Responsibility. From a political perspective this avenue is considered less likely. Article 8 of the Paris Agreement provides for the UNFCCC's Warsaw International Mechanism for Loss & Damage and expressly '*recognize[s] the importance of …addressing loss and damage associated with the adverse effects of climate change*'. However, paragraph 51 of the Decision specifically provides that Article 8: '*does not involve or provide a basis for any liability or compensation*'.[24]

[22] See generally discussion in Tuhus-Dubrow, Rebecca 'Climate Change on Trial' (2015) 62:4 *Dissent* 152; Kassandra Castillo, 'Climate Change & The Public Trust Doctrine: An Analysis of Atmospheric Trust Litigation' (2015) 6 *San Diego Journal of Climate & Energy Law* 221); Boom et al (2016), above n3.

[23] United Nations Economic and Social Council, Committee on Economic, Social and Cultural Rights, *Concluding observations on the fifth periodic report of Australia*, E/C.12/AUS/CO/5, 7 July 2017.

[24] See also Boom et al (2016), above n3, p13: 'There is a widespread reluctance among states to pursue interstate claims for environmental liability of other states'.

Published on DES Disclosure Log
RTI Act 2009

B

Citizen / state vs company

Constitutional law, human rights, tort (negligence), statutory breach, public trust

Continued

Constitutional law, tort, public trust

- Constitutional claims in this category often allege a breach citizens' rights to life and/or a healthy environment. A 2012 report concluded that nearly 100 nations have some form of legal recognition of their citizens' rights to same.[25] Such claims often overlap with tort-based causes of action alleging that the government has failed to discharge its 'duty of care' to its citizens and/or the environment (see *Urgenda* and *Juliana v United States*, below). The *Juliana* case also stands for the proposition that the public trust doctrine compels sovereign action to restrict greenhouse gas emissions. The doctrine has also been raised in cases in the Ukraine, the Philippines and Pakistan.[26]

Domestic law – statutory obligations

- Citizen groups (and sub-national governmental entities) may also bring actions against their governments for a failure to comply with legal obligations in relation to the regulation of greenhouse gas emissions (as distinct to challenges for a failure to adequately account for climate change in the exercise of administrative *discretions*). In a recent example, a coalition of US States and cities have commenced proceedings in the District Court of Northern California against the Federal Department of Energy. The claim asserts that the Department's failure to publish final energy efficiency standards for five categories of appliances and industrial equipment (including portable air conditioners, air compressors and industrial refrigerators and boilers) violates the Department's (non-discretionary) obligations under the *Energy Policy and Conservation Act* (amongst other laws). Relief sought includes an order compelling the Department to promulgate new standards for immediate publication. A similar claim has been concurrently filed by a coalition of non-government organisations.[27]

[25] Boyd, David R., The Right to a Healthy Environment: Revitalizing Canada's Constitution, UBC Press, W. Wesley Pue general ed., 2012.

[26] See further discussion in UNEP and Columbia University Sabin Center for Climate Change Law, above n2, pp23-24.

[27] *California v. Perry*, No. 4:17-cv-03406 (N.D. Cal., filed June 13, 2017); *Natural Resources Defense Council v. Perry*, No. 3:17-cv-03404 (N.D. Cal., filed June 13, 2017).

Published on DES Disclosure Log
RTI Act 2009

B

Citizen / state vs company

Constitutional law, human rights, tort (negligence), statutory breach, public trust

Continued

Valuation impacts – financial materiality?

Litigation defence costs are unlikely to be material in the context of a nation state's budget. However, claims are likely to put significant pressure on the relevant government to introduce policy & regulatory reform consistent with the energy transition. If a critical mass of claims are launched in multiple jurisdictions this may bring broader pressure to bear even if a claim is not replicable under the laws of given jurisdiction. In this regard, it is notable that Our Children's Trust, a US-based NGO that has supported a number of recent Constitutional law and public trust claims against US State entities (including the *Juliana* case, below), reports that it is currently working with parties in 11 other jurisdictions to determine if the claims are replicable under other laws.

ET driver and consequence

- Driver of ET (policy): pressure on the relevant government to introduce policy & regulatory reform consistent with the energy transition.
- This form of litigation may be deployed strategically by 'climate activists' who do not otherwise have standing to bring (or face evidentiary hurdles in establishing) a claim against a corporate emitter. The rise of such activism may in fact drive (or otherwise support or underwrite) regulatory investigations, or litigation by claimants who do have valid standing.

CLAIMS CATEGORY B: CONCLUSION

Potential material driver of ET where critical mass of claims (policy – regulatory reform driver). Again, such claims may be strategically deployed by plaintiffs even where they are not confident of securing a successful outcome, to raise the profile of the issue and risk to laggard governments. High-risk sector: government.

Published on DES Disclosure Log
RTI Act 2009

Claim Category B: CASE EXAMPLES

Constitutional law / tort

Urgenda Foundation v Kingdom of the Netherlands [2015] HAZA C/09/00456689

Claim

Dutch NGO Urgenda claimed that the Dutch Government was in breach of its constitutional duty of care to its citizens by negligently failing to implement emissions controls consistent with the Netherlands' proportionate contribution the <2°C warming limit.

Outcome

In June 2015 The Hague District Court found in favour of Urgenda, and ordered the Dutch government to increase its greenhouse gas emissions mitigation commitment from 17% to 25% below 1990 levels by 2020. The Government is appealing the decision.

Juliana et al v the United States of America, Barak Obama et al (2015) 6:15-cv-01517-TC

Claim

The plaintiffs allege that the US government has violated their constitutional rights to life, liberty and property, and their right to essential public trust resources, by permitting, encouraging, and otherwise enabling continued exploitation, production, and combustion of fossil fuels. The plaintiffs are seeking an order requiring President Obama to immediately implement a national plan to decrease atmospheric concentrations of CO_2^{-e} to 350 ppm by the year 2100.

Outcome

Three fossil fuel industry trade associations (the American Fuel and Petrochemical Manufacturers (representing Exxon Mobil, BP, Shell, Koch Industries and other US-based refiners and petrochemical manufacturers), the American Petroleum Institute (representing 625 oil and natural gas companies), and the National Association of Manufacturers) were granted leave to appear as intervening defendants in the case in January 2016. The District Court of Oregon denied the defendants' and intervenors' motions to dismiss on 8 April 2016 and on 10 November 2016. The claim is expected to go to trial in 2017.

Published on DES Disclosure Log RTI Act 2009

Other leading recent citizen/state vs state cases:

- ***Kain v Massachusetts Department of Environmental Protection*** (2016) (US) (compliance with statutory obligation)
- ***Foster v Washington Department of Ecology*** (US) (2015) (Constitutional law, public trust doctrine, compliance with statutory obligations)
- ***Ali v Pakistan*** (filed April 2016, judgment pending) (Pakistan) (Constitutional law, human rights, public trust doctrine)
- ***Klimaatzaak v Belgium*** (filed 2015) (Belgium) (human rights, tort (negligence))
- ***Leghari v Pakistan*** (2015) (government's failure to carry out articulated statutory adaptation policy contravened Constitutional rights of citizens to life, human dignity and prosperity)
- ***Thomson v Minister for Climate Change Issues*** (filed November 2015, judgement pending) (New Zealand) (compliance with statutory obligations)
- ***Union of Swiss Senior Women for Climate Protection v. Swiss Federal Council [Verein KlimaSeniorinnen Schweiz v. Bundesrat]*** (filed 2016) (Switzerland) (international law, Constitutional law, human rights)
- ***Greenpeace Nordic Association v Norway Ministry of Petroleum and Energy*** (filed 2016) (Norway) (international law, Constitutional law, human rights)
- ***PUSH Sweden, Nature & Youth Sweden et al v Government of Sweden*** (filed 2017) (Sweden) (international law, Constitutional law, human rights, tort)
- ***Client Earth (No.2) v. Secretary of State for the Environment, Food and Rural Affairs*** (UK) (2016) (compliance with statutory obligations)
- ***California v. Perry*** (filed 2017) (US) (compliance with statutory obligations)
- ***Natural Resources Defense Council v. Perry*** (filed 2017) (US) (compliance with statutory obligations)

Published on DES Disclosure Log
RTI Act 2009

C

Regulator vs company and / or its directors

Misleading or deceptive conduct, securities fraud, breach of duty

Nature of claim(s)

Misleading disclosure

- Many market regulators (such as the US Securities & Exchange Commission, and French Autorité des marches financiers, Belgian Banking, Finance and Insurance Commission and Dutch Autoriteit Financiële Markten, the Australian Securities & Investments Commission and sub-national regulators such as the New York Attorney-General) have the power to investigate and/or prosecute companies, funds and/or their directors for misleading disclosure or securities fraud (as discussed in **Section 3.2** above).
- Misleading conduct / securities fraud may include market deception in relation to climate science (*ExxonMobil State AG investigations*), a failure to restate assets in response to market or policy developments (including stranded assets) (*Shell*; *ExxonMobil SEC/NYAG investigation and shareholder class action*), inadequate disclosure of material financial risks to the business associated with climate change (*FRC (UK) investigations of Cairn Energy and SOCO, ExxonMobil SEC/NYAG investigation and shareholder class action*), insufficient cautionary statements accompanying forward-looking disclosures (including the use of generalised, 'boilerplate' language) (*In re Harman*), cheating on emissions compliance standards (*VW*), and failing to adequately reserve for future losses or contingencies (*Genworth*, *James Hardie*).[28]
- In other jurisdictions, legislation has been introduced that in fact *mandates* forms of disclosure (and, by implication, the analysis that sits behind such disclosures) in relation to climate-related financial risks. This notably includes disclosure requirements applicable to insurers, asset managers and pension funds from 1 January 2016 under Article 173-VI of the French Energy & Ecology Transition Law. Article 173 explicitly contemplates disclosure of risks arising from the transition to the low-carbon economy, and consideration of how respondents' policies and targets align with national energy and ecological targets.

Breach of duty

- In some jurisdictions (including, notably, Australia), regulators also have statutory enforcement powers in relation to directors' statutory and fiduciary duties. Such duties commonly relate to **trust/loyalty** (including duties to act honestly, in good faith and in the best interests of the corporation, and to avoid conflicts of interest), and **competence** (including duties to act with prudence and/or due care, skill and diligence, and to avoid the fettering of their discretions).

[28] For a detailed discussion of the misleading disclosure investigations on foot against ExxonMobil, see Poon, Ashley, 'An Examination of New York's Martin Act as a Tool to Combat Climate Change', (2017) *Boston College Environmental Affairs Law Review*, 44(1), 115.

Published on DES Disclosure Log RTI Act 2009

C

Regulator vs company and / or its directors

Misleading or deceptive conduct, securities fraud, breach of duty

Continued

Breach of duty *(continued)*

A number of recent opinions by senior corporate barristers in jurisdictions including the United Kingdom[29] and Australia[30] have expressed the view that a directorial failure to proactively govern for issues associated with climate change is likely to breach the duty of due care and diligence. The Australian Prudential Regulation Authority has subsequently concurred with this view (see note14 above).

Comment

Regulators generally have significant statutory information gathering powers, and the power to seek declaratory or relief – which importantly does not require them to demonstrate loss or damage, or causation. In addition to any headline penalty and legal costs, regulatory investigations can cause significant reputational damage and loss of political capital, a spur to stricter regulatory controls on both corporate conduct and disclosure, and market exclusions (exemplified by the US government's 2-year suspension of BP from federal contracts (including oil exploration licences) following the 2010 *Deepwater Horizon* rig explosion and oil spill in the Gulf of Mexico).

Historically, the inherent uncertainty in the scope, distribution and timing of the future impacts of climate change have led many corporations to disclose relevant risks via broad, high level or boilerplate language. Such disclosures are rarely decision-useful for investors, and are increasingly recognised as potentially presenting a misleading picture of a company's financial position. In addition, regulators such as the New York Attorney-General (*Peabody Coal*) have begun to recognise that compliance with 'universal' corporate reporting laws necessitates disclosure of material climate change-related risks in a manner that is both specific to the performance indicator on which they may impact, and that account for uncertainty via stress-testing across the range of plausible climate futures. Globally, such demands are increasingly reinforced by voluntary corporate reporting guidance issued by organisations such as the Climate Disclosure Standards Board, the US-based Sustainability Accounting Standards Board and, significantly, the Final Recommendations of the G20 TCFD (June 2017). The TCFD Recommendations are widely recognised as setting a benchmark for the 'true and fair' disclosure (and underlying analysis) of material financial risks associated with climate change and their impact on corporate performance and prospects.

Published on DES Disclosure Log RTI Act 2009

[29] Mr Keith Bryant QC and James Rickard, *The Legal Duties of Pension Fund Trustees in Relation to Climate Change*, Abridged Joint Opinion for ClientEarth, April 2017 <Opinion from Keith Bryant QC and James Rickards on the legal duties of pension fund trustees in relation to climate change>.

[30] Mr Noel Hutley SC and Mr Sebastian Hartford-Davis of Counsel, *Climate Change and Directors Duties*, Memorandum of Opinion to MinterEllison for the Centre for Policy Development and Future Business Council, 7 October 2016 < https://cpd.org.au/wp-content/uploads/2016/10/Legal-Opinion-on-Climate-Change-and-Directors-Duties.pdf>.

C

Regulator vs company and / or its directors

Misleading or deceptive conduct, securities fraud, breach of duty

Continued

They place specific emphasis on forward-looking risk disclosure, and the use of scenario-planning and stress-testing as risk management tools in the face of uncertainty. Going forwards, regulators (and, in the event of litigation in relation to corporate disclosure, the courts) may increasingly apply the TCFD Recommendations as an influential compliance proxy for corporate reporting of climate-related impacts and risks under general misleading disclosure provisions, and as an influential benchmark that informs the content of directors' duties of due care and diligence in relation to climate change-related issues.

ET: driver & consequence

- **Driver and consequence** of ET **market drivers**: legal costs, penalties, damages and directors' personal exposures drive evolution of corporate governance and strategy; corrective disclosures, stock drop, credit ratings impacts, reputational damage, market exclusions, insurance restrictions, secondary shareholder claims
- **Driver and consequence** of ET **policy drivers**: regulatory reform – heightened disclosure requirements and emissions controls. Action by a regulator in a developed market economy is likely to be highly influential across jurisdictions.

Valuation impacts – financial materiality?

- Whilst the value of a misleading statement may not be material to a corporation of itself, it commonly triggers a 'disproportionate' stock drop and ratings impact, and secondary litigation by shareholders for misleading disclosure, breach of directors' duties and/or negligence (outlined in **(F)**, below). Whilst the financial impacts of any such claim are inherently case-specific, they are often material, and often under-insured (or, in the case of a securities fraud finding, uninsurable). For example, in the United States an analysis of 2015 research produced by COSO and Cornerstone suggests that stock prices decline on average by 17% on the two days following disclosure of an alleged fraud (prior to the GFC), and news of an SEC or Department of Justice investigation resulted in an average 7% abnormal stock price decline. Legal costs average 3-5% of economic damages, or roughly 1% of NPV.
- Regulatory scrutiny can cause significant reputational damage, loss of political/social capital, market exclusions and restriction of insurances, and provide a platform for subsequent private damages settlements. And, as recently experienced by the pharmaceutical and banking industries, emerging claims patterns can drive industry-wide strategic pivots as regulators tighten rules and disclosure requirements.
- The impact of claims patterns may also be material for insurers if financial lines policies have not priced in these risks

Published on DES Disclosure Log RTI Act 2009

C

Regulator vs company and / or its directors

Misleading or deceptive conduct, securities fraud, breach of duty

Continued

CLAIMS CATEGORY C: CONCLUSION

Likely significant material driver of ET, and as a consequence of the policy and market drivers. High-risk sectors: energy (oil and gas, coal, electric utilities), transportation (automotive), materials & building (metals and mining, chemicals, construction materials), agriculture & forest products (beverages, agriculture),financial services (banks, asset owners, asset managers, insurance).

Published on DES Disclosure Log
RTI Act 2009

Claim Category C:
CASE EXAMPLES

Constitutional law / tort

ExxonMobil and PriceWaterhouseCoopers
– SEC and NYAG securities fraud investigation

Claim

In September 2016, it emerged that the US Securities and Exchange Commission, along with the New York Attorney-General, is investigating whether Exxon and its auditors (PwC) have committed securities fraud by filing misleading annual reports. The investigation concerns whether (amongst other claims) Exxon's representations to consumers and investors about the impact of climate change to business performance and prospects are misleading or deceptive.

Outcome

Exxon has reportedly produced over one million documents pursuant to the subpoena issued by the NYAG. On 14 October 2016, the AG moved to compel production by PwC after Exxon asserted that it would not permit PwC to provide certain documents on the basis of "accountant-client privilege". On 26 October 2016, the Supreme Court of the State of New York ordered Exxon and PwC to comply with the subpoena on the basis that no such privilege exists under the relevant Texan law. Investigations are on-going.

ExxonMobil
– Attorneys-General Investigations

Claim

Over the course of 2016, more than a dozen US State Attorneys-General announced investigations into whether Exxon misled the market (and other stakeholders) by publicly promoting climate science scepticism and uncertainty, whilst privately acknowledging its legitimacy and potential impacts. On 15 June 2016, Exxon sought an injunction barring the enforcement of the civil investigation by the Massachusetts Attorney General, claiming that she lacked jurisdiction to investigate, her demand was unreasonable, and politically motivated. Exxon later also joined the New York Attorney General to the proceeding. A Massachusetts court denied Exxon's application on 11 January 2017.

Outcome

Investigations are on-going. Exxon has not disclosed the costs of its compliance with, or challenges to, these investigations.

Published on DES Disclosure Log
RTI Act 2009

Misleading disclosure, breach of duty

NYAG v Peabody Coal (In the Matter of Investigation by Eric T Schneiderman, Attorney General of the State of New York of Peabody Energy Corporation, Respondent, Assurance 15-242))

Claim

On 9 November 2015 the New York Attorney announced that it had determined that Peabody had contravened State misleading disclosure laws (Article 23-A, Section 352 *et seq*. of the New York General Business Law (the '*Martin Act*') and Section 63(12) of the New York Executive Law) by filing annual reports that mis-represented the potential impact of energy transition policy and emissions regulations on its business, and selectively disclosing only favourable International Energy Agency energy and fuel-mix projections from a range of growth scenarios.

Outcome

The Attorney-General's investigation was settled pursuant to an 'Assurance of Discontinuance', in which Peabody Energy did not admit or deny the allegations of breach.

ASIC v Centro directors **(*ASIC v Healey & Ors* [2011] FCA 717); subsequent shareholder class action against Centro, its directors and auditors PwC**

Claim

In 2011 the Federal Court of Australia upheld the Australian Securities and Investment Commission's claim that the board, CEO and CFO of Centro Ltd (a retail investment trust listed on the Australian Stock Exchange) had breached their duty of due care and diligence under section 180 of the Australian *Corporations Act 2001* by approving misleading financial accounts. The relevant misstatements included the mis-classification of AU$3 billion of current liabilities (short-term interest bearing debts) as non-current, and the omission in the notes to the accounts of a post-balance date guarantee worth AU$500 million. More than 6000 institutional and retail shareholders subsequently launched two class actions against Centro and its directors seeking damages for economic losses caused by the misleading accounts. Centro joined its external auditors (who had given an unqualified audit opinion to the misleading accounts), PwC.

Outcome

The class action settled for a then Australian record AU$200 million, $67 million of which was borne by PWC (who made certain admissions of negligence in its handling of the relevant accounts), $95 million by Centro companies and $38 million by their D&O and professional indemnity insurers. Both class actions were funded by litigation funders, with IMF recouping AU$60 million of the $150 million paid to its claimants (against which it booked a pre-tax profit of $41.8 million).

Published on DES Disclosure Log
RTI Act 2009

D

Investor vs company &/or directors

Misleading or deceptive conduct, securities fraud, breach of statutory or fiduciary duty

Nature of claim(s)

Misleading disclosure

As per (C) Regulator vs Company/Directors, above.

Breach of duty

- Shareholders may also bring proceedings against the directors and officers of their corporation (as a 'shareholders' derivative' action, standing in the shoes of the company) alleging a breach of their statutory and fiduciary duties to the company. Such duties commonly relate to **trust/loyalty** (including duties to act honestly, in good faith and in the best interests of the corporation, and to avoid conflicts of interest), and **competence** (including duties to act with prudence and/or due care, skill and diligence, and to avoid the fettering of their discretions).
- The duty to exercise 'due care and diligence' is substantively mirrored in the tort of negligence in many jurisdictions
- Such causes of action are commonly pleaded in 'stock drop' damages claims, in conjunction with a claim for misleading or deceptive conduct, although it is not always necessary to establish deceptive conduct in order to establish a breach of duty.

Comment

Misleading disclosure

- Investors who have suffered loss following a 'corrective disclosure' that prompts asset devaluation or default commonly seek to recover those losses from the corporation and/or its directors. In the ET context, this is a material litigation risk not only for emitters themselves, but for the financial services sector, where there is contagion into its bad debt provisions and financial lines insurance liabilities (*NAB*).
- In some jurisdictions, shareholders may also file a claim seeking only declaratory or injunctive relief (rather than damages) as a mechanism to increase investee standards of climate risk analysis and disclosure (*Abrahams v CBA*, below).

Breach of duty, negligence

- Historically, governance action on climate change has been considered in the context of the scope of directors' obligations to prioritise their corporation's (or beneficiaries') 'best interests', and the extent to which those interests may include 'non-financial' concerns. Within this, climate change has largely been framed as an 'ethical' or 'environmental' issue, whose impact on financial risk/return is largely immaterial. That historical framing is increasingly redundant in the ET, with climate-related policy and market shifts having squarely financial consequences.

Published on DFS Disclosure Log
RTI Act 2009

D

Investor vs company &/or directors

Misleading or deceptive conduct, securities fraud, breach of statutory or fiduciary duty

Breach of duty, negligence (continued)

- The legal issue then becomes whether, in governing risk and strategy in pursuit of the best (financial) interests of their corporation, directors have acted *competently* under the terms of their statutory and fiduciary duties of prudence, due care, skill and diligence when considering the risks and opportunities associated with climate change. A critical point of tension lies in the courts' general reluctance to 'second-guess' the merits of a substantive business judgment made by directors (a principle that is enshrined in a 'business judgment rule' presumption / defence in many jurisdictions), versus the duty's inherent requirement that directors apply a robust process of informed reasoning in making their decisions. In the contemporary ET context, courts may be reluctant to find that a failure to consider the financial impacts of climate change on a corporation or fund's strategy or risk, due to honest ignorance, wilful blindness or personal ideology, satisfies a directors' duty of due care and diligence.[31]
- The directors of institutional investors / pension fund trustees may also be exposed to a breach of duties claim where the impacts of climate change on portfolio risk and strategy have not been adequately considered (*Coal Pension Cases*).
- As outlined in **(C)** above, a number of recent opinions by senior corporate barristers and regulators have expressed the view that a directorial failure to proactively govern for issues associated with climate change is likely to breach the duty of due care and diligence. Going forwards, the G20 TCFD Recommendations (whilst 'voluntary') may become an influential benchmark that informs the content of directors' duties of due care and diligence, and standards of disclosure, in relation to climate change-related issues.
- The three main 'collective action-friendly' jurisdictions include the United States, Australia and The Netherlands. The collective settlement mechanism in The Netherlands, in particular, has emerged as a prominent forum for international shareholders to gain redress against EU-domiciled countries, with recent collective settlements against *Shell* (restatement of 20% reserves as 'probable' rather than proven) (2009) (above), *Converium* and its parent Zurich Re (both Swiss companies) (2012) and *Fortis NV* (2016).
- With a steady increase in the size of securities settlements in 'class-friendly' jurisdictions, and the recent proliferation of professional litigation funders underwriting claimant risks, the prospect of litigation under commercial laws may become a strong driver of corporations' strategic transition to a low-carbon norm.

[31] See Barker, above n5; and Barker, Sarah, Mark Baker-Jones, Emma Fagan and Emilie Barton , 'Climate Change and the Fiduciary Duties of Pension Fund Trustees – lessons from the Australian Law', *Journal of Sustainable Finance & Investment* (2016), vol 6(3), 211-244

Published on DFS Disclosure Log
RTI Act 2009

D

Investor vs company &/or directors

Misleading or deceptive conduct, securities fraud, breach of statutory or fiduciary duty

Breach of duty, negligence (continued)

- This prospect has prompted Swiss Re to predict: '[C]limate change-related liability will develop more quickly than asbestos-related claims…[the pressure from these actions] could become a significant issue.'[32]

ET: driver & consequence

- **Consequence** of the crystallisation of other ET market and policy drivers:
- **Market**: legal costs, penalties, damages and directors' personal exposures drive evolution of corporate governance and strategy; corrective disclosures, stock drop, credit ratings impacts, reputational damage, market exclusions, insurance restrictions, secondary shareholder claims.
- **Policy:** regulatory reform – heightened disclosure requirements and emissions controls leading to more detailed and corrective disclosures.
- Claims are highly influential between jurisdictions.

Valuation impacts – financial materiality?

- Both a 'corrective disclosure' by a corporation, and the announcement of a claim by investors, may have a material impact on corporate valuation and risk ratings. Litigation costs may materially impact on earnings, require provisions for contingent liabilities to be raised, and warrant specific disclosure in the notes to financial reports, with uncertainty and tail risks often factoring into corporate credit ratings issued by agencies such as Fitch, Moody's and S&P (as was the case in *Fortis*, below). Significant claims patterns have even been known to *bankrupt* listed corporate defendants. This was in fact the case in 1982 when the world's largest manufacturer of asbestos building products, Fortune 200 company Manville Corporation, filed for Chapter 11 bankruptcy protection and reorganisation under the weight of thousands of individual asbestosis damages claims (see discussion in **Section 4**, below). Commentators noted that the bankruptcy petition was filed as a strategic refuge from '*potentially massive but speculative tort liability*' by a company that was otherwise '*apparently healthy*'.[33]
- The impact of claims patterns may also be material for insurers – particularly if these risks have not been adequately priced into financial lines policies.

[32] Swiss Re, The Globalisation of Collective Redress, Zurich, 2009.

[33] The Manville Bankruptcy: Treating Mass Tort Claims in Chapter 11 Proceedings, *Harvard Law Review*, 96(5), March 1983, 1121.

Published on DES Disclosure Log
RTI Act 2009

D

Investor vs company &/or directors

Misleading or deceptive conduct, securities fraud, breach of statutory or fiduciary duty

CLAIMS CATEGORY D: CONCLUSION

Likely significant material driver of ET, and as a consequence of the policy and market drivers. High-risk sectors: energy (oil and gas, coal, electric utilities), transport (automotive), materials & building (metals and mining, construction materials), agriculture & forest products (beverages, agriculture), financial services (banks, asset owners, asset managers, insurance).

Published on DES Disclosure Log
RTI Act 2009

Claim Category D:
CASE EXAMPLES

Coal Pensions Cases – eg *Arch Coal*,(2015) (***Roe v Arch Coal Inc et al***, Case: 4:15-cv-00910-NAB) and ***Peabody Coal*** (***Lynn v Peabody Energy Corporation et al***, Case: 4:15-cv-00916-AGF)

Claim

In June 2015, employee beneficiaries of the employee pension plans of the world's two largest publicly-traded coal companies, Peabody Energy and Arch Coal, filed complaints against the trustee directors of the plans (amongst other defendants – including the trustee of the Arch Coal plan, Mercer Fiduciary Trust Plan). The claims, which do not actually use the terms 'climate change' or 'global warming', allege that the fiduciaries breached their duty of competence under the *Employee Retirement Income Security Act of 1974* (ERISA) - the duty of 'prudence' (amongst other duties) - by failing to consider financial risks that may be driven (at least in part) by climate change. Those risks are alleged to include a decline in the US coal industry, attributed to factors including increased competitiveness of renewable energy technologies, clean energy policies and more stringent emissions regulations.

Outcome

The case against the Peabody Energy defendants was dismissed on 30 March 2017, and against the Arch Coal defendants in August 2017. However, at the date of writing proceedings remained on foot against the pension fund trustees of at least 3 other coal- and/or oil-company pension plans including:

- ***Attia v. ExxonMobil et al*** , Case No. 4:16-cv-03484 (US District Court (Southern District of Texas)), filed 23 November 2016;
- ***Myers v. Seventy Seven Energy Inc et al*** Case No. CIV-17-200-D (US District Court (Western District of Oklahoma)), filed 24 February 2017; and
- ***Scholl et al v. Chesapeake Energy Corp et al*** Case No. CIV-17-279-R (US District Court (Western District of Oklahoma)), filed 14 March 2017.

Ramirez v Exxon Mobil Corporation (2016) Case No. 3:16-cv-3111

Claim

On 7 November 2016, a securities fraud class action was filed against Exxon and a number of its directors on behalf of all purchasers of Exxon common stock between 19 February 2016 and 27 October 2016. The plaintiffs are claiming damages for loss caused by Exxon having allegedly operated as a fraud or deceit on the purchasers by misrepresenting the value of Exxon's business and prospects, which artificially inflated the price of Exxon's stock. The plaintiffs allege that Exxon's statements were materially false and misleading in that they failed to disclose that: a) Exxon's own internal reports recognised the environmental risks caused by global warming and climate change; b) given the risks associated with climate change, Exxon would not be able to extract the existing hydrocarbon reserves it had claimed to have and a material portion of its reserves were stranded and should have been written down; and c) Exxon had employed an inaccurate "price on carbon" in evaluating the value of certain of its future oil and gas prospects in order to keep the value of its reserves materially overstated. The plaintiffs refer to the price downturn of Exxon common stock following news disclosures in August and September 2016 concerning the US federal regulators' scrutiny of Exxon's reserve accounting related to climate change and its refusal to write down its reserves in the face of declining oil prices. The plaintiffs also refer to Exxon's announcement on 28 October 2016 that it might be forced to write down nearly 20 per cent of its oil and gas assets and the subsequent common stock value loss that erased billions of dollars in market capitalisation.

Outcome

The case is ongoing.

Published on DES Disclosure Log
RTI Act 2009

Abrahams v Commonwealth Bank of Australia (2017) VID 879/2017, Federal Court of Australia

Claim

On 8 August 2017, public interest law firm Environmental Justice Australia filed a claim on behalf shareholder Guy Abrahams against the Commonwealth Bank Australia (**CBA**). The claim alleges that, by failing to disclose the risks associated with climate change that may impact on lending and investment activities, strategies and prospects, the CBA 2016 Annual Report failed to present a true and fair view of its position and prospects. Specifically, the claim alleges that CBA has contravened:

(a) sections 292(1)(b), 295 and 297 of the *Corporations Act* (requirement that financial reports present a present a true and fair view of financial position and performance), and

(b) sections 298(1) and (1AA) (requirement that the Directors' Report disclose all information that shareholders would reasonably require in order to make an informed assessment of its operations, financial position, business strategies and prospects).

The relief sought includes only declarations and injunctions, rather than damages.

Outcome

CBA is yet to file its defence in this matter.

Examples arising from other market triggers – lead indicators

Genworth Insurance (2016) Case No. 3:14-cv-00682, U.S. District Court for the Eastern District of Virginia

Claim

The plaintiffs alleged that the defendant, a provider of long-term-care (LTC) insurance, fraudulently failed to disclose to investors that the average length of its LTC claims had increased from 2.2 to 2.9 years and further failed to incorporate the resultant increased costs into its GAAP accounting, leading to a grossly inflated balance sheet and inadequate loan loss reserves. Genworth's share price declined 14% following disclosure that it was reviewing its long-term-care business, and 40% following a subsequent announcement that it needed to increase reserves for its long-term-care business by $531 million. Collectively, these price declines represented a loss of several billion dollars in market value.

Outcome

The Parties announced a settlement for $219 million in March 2016.

Published on DES Disclosure Log
RTI Act 2009

E

Investor / company vs professional service provider

Misleading or deceptive conduct, negligence, breach of contract

Nature of claim

Investors who have suffered economic loss due to negligent service provision by an investment advisor (such as an accountant, consultant, investment broker, asset manager or credit ratings agency) may have grounds to bring an action against that advisor for negligence, misleading or deceptive conduct, or for breach of an implied contractual term that services would be rendered with professional due care, skill and diligence. In the energy transition, examples may include where an investor suffers loss due to:

- over-valuation or inaccurate risk rating due to the advisor's application of methodologies or assumptions that do not adequately account for energy transition risks;
- contractual misrepresentation: over-statement of the advisor's capacity or systems in relation to management of climate-related risks.

Aggrieved investors may also seek to join the external auditors who have provided unqualified audit statements on misleading or deceptive reports.

Comment

- A finding of breach by one participant in the investment supply chain does not necessarily absolve others in that chain from liability. Both investor and investee defendants commonly join their advisors to claims made against them for misleading disclosure (or negligence, discussed further below). Professional advisors are commonly joined to class actions. In fact, analysis of the largest 10 securities class actions in the United States in 2015 shows that financial institutions and/or accountants were joined as co-defendants in *half* of these cases.[34] In fact, in the 10 largest securities class actions in history, there is only *one* case where financial institutions and/or accountants were *not* joined as co-defendants.[35]
- Importantly, an investor may not need a direct contractual relationship with a financial services provider in order to bring a damages claim in *negligence*. In some common law jurisdictions the Courts have been willing to find that credit ratings agencies and investment banks owe a duty of care to third-party investors to exercise reasonable care in providing their ratings / product issuing services. This is essentially because the ratings agencies and issuers know (and in fact intend, as an essential corollary of their business plans) that third-party investors will look to the rating when assessing the creditworthiness of a particular investment (*ABN Amro & S&P v Bathurst City Council & Ors* (2014), below).

[34] NERA, p.30.

[35] NERA, p.31.

Published on DES Disclosure Log
RTI Act 2009

E

Investor / company vs professional service provider

Misleading or deceptive conduct, negligence, breach of contract

Comment *(continued)*

- The strategic benefit to plaintiffs of suing 'deep-pocketed' financial institutions has increased in some jurisdictions, where such defendants can often be held wholly liable for the loss (with it then up to the financial institution to seek recovery based on proportionate liability from other parties).[36]

ET: driver & consequence

- **Driver and consequence** of ET **market drivers**: legal costs, penalties, damages and directors' personal exposures drive evolution of corporate governance and strategy; corrective disclosures, stock drop, credit ratings impacts, reputational damage, market exclusions, insurance restrictions, secondary shareholder claims
- **Driver and consequence** of ET **policy drivers**: regulatory reform – heightened disclosure requirements and emissions controls

Valuation impacts – financial materiality?

- The impact of claims patterns against professional service providers may be material for insurers if financial lines policies have not priced in this risk.

Example(s)

- Asset managers, advisors and credit ratings agencies – *ABN Amro and S&P v Bathurst* (below)
- Accountants/auditors: SEC/NYAG investigations of ExxonMobil - PwC (above); KPMG – Xerox (below); Centro – PwC (above)

CLAIMS CATEGORY E: CONCLUSION

Likely significant material driver of ET, and as a consequence of the policy and market drivers. High-risk sectors: financial services, accounting/auditing, credit ratings agencies.

[36] For example, in *Selig v Wealthsure Pty Ltd* [2015] HCA 18 the High Court of Australia held that proportionate liability provisions of the *Corporations Act* 2001 do not extend to claims for misleading or deceptive conduct under sections 1041E-F.

Published on DES Disclosure Log
RTI Act 2009

Claim Category E: CASE EXAMPLES

Examples arising from other market triggers - lead indicators

SEC v Xerox and KPMG (*Securities and Exchange Commission v. Xerox Corporation*, Civil Action No. 02-CV-2780 (DLC) (S.D.N.Y.) (April 11, 2002)))

Claim

In April 2002 the US SEC prosecuted Xerox for securities fraud for adopting accounting practices intended to distort operating performance results to meet or exceed market expectations. These actions, most of which violated Generally Accepted Accounting Principles, accelerated the company's recognition of equipment revenue by over $3 billion and increased its pre-tax earnings by approximately $1.5 billion.

Outcome

Xerox agreed to settle the SEC's complaint under orders restating its financials for the years 1997 to 2000 and payment of what was then an unprecedented $10 million civil penalty. On 5 June 2003, the also SEC charged six former senior executives of Xerox, including its former CEO and CFO, with securities fraud and aiding and abetting Xerox's violations of the reporting, books and records and internal control provisions of the federal securities laws. The 6 defendants agreed to settle the action (without admission of liability) with over $22 million in penalties, disgorgement and interest. 4 of the officers were also subject of management banning orders (including one permanent banning order).

In January 2003, the SEC also prosecuted Xerox's auditors, KPMG (and a number of KPMG partners), for in connection with the securities fraud. In 2005, the parties consented to an order that KPMG (without admission) caused and wilfully aided and abetted Xerox's violations of the anti-fraud, reporting, recordkeeping and internal controls provisions of the federal securities laws, and violated its obligations to disclose to Xerox illegal acts that came to its attention during the Xerox audits. KPMG agreed to pay disgorgement of $9,800,000 (representing its audit fees for the 1997-2000 Xerox audits), interest of $2,675,000, and a $10,000,000 civil penalty, for a total payment of $22.475 million.

ABN Amro and S&P v Bathurst et al (2014) 224 FCR 1

Claim

S&P gave its highest 'AAA' rating to constant proportion debt obligation ('Rembrandt') notes issued by investment bank ABN Amro. The notes were in fact collateralised by sub-prime securities, and investors suffered significant losses on default during the GFC.

Outcome

In 2014 the Full Federal Court of Australia awarded $25 million in compensation to a number of local governments who had invested in the notes (via a third party intermediary). The court found that the AAA rating was negligent and misleading for reasons which included that the rating adopted (a) a flawed base case volatility parameter of 15%, and (b) overly favourable assumptions including in relation to roll-down benefits and starting spreads. The Court also found that, despite the absence of a contractual relationship, both the credit ratings agency and issuing investment bank owed (and in that case had breached) a duty of care to investors as they knew (and in fact intended) that investors would rely on their opinion as to the creditworthiness of the notes in making investment decisions. Following that judgment, in February 2015 S&P's parent company, McGraw Hill, settled claims made by the US Department of Justice, 19 US States and the District of Columbia that it had committed securities fraud by knowingly issuing inflated credit ratings for collateralised mortgage-backed securities in the lead up to the GFC (without admission of liability) for USD1.5 billion. It also agreed to pay Calpers USD125m.

Published on DES Disclosure Log RTI Act 2009

F

Company vs company

Breach, avoidance or repudiation of contract

Nature of claim

Contracts (or agreements, conventions) allocate rights and obligations to private parties as between themselves, within the boundaries of other statutory and judge-made laws.[37] In some jurisdictions the laws relating to contractual obligations have both general and special parts, the latter applying to regulate specific kinds of transaction.[38]

In the context of the energy transition, litigation for breach of contract may arise in relation to:

- the avoidance or repudiation of contractual obligations by one party where the evolving market conditions render performance commercially onerous;
- investor claims against professional advisors for a failure to adequately account for energy transition risk impacts (including asset managers, consultants, credit ratings agencies and auditors) (as outlined in **(E)** above); and
- scope of indemnity under contracts of commercial insurance.

The potential for contract litigation arising from the *physical* impacts of climate change (including, for example, grounds of *force majeure* or *cas fortuity,*[39] frustration of the contract's commercial purpose, or consequential losses occasioned by business interruption) is also significant (albeit beyond the scope of this Report). Material exposures are likely to lie in the critical infrastructure (electricity, oil, gas, transport, water), logistics, manufacturing and insurance sectors.

Comment

- Courts are generally reluctant to void or terminate a contract due to the crystallisation of circumstances that make performance more onerous, or significantly more difficult (or impossible) for one party, where such circumstances are not abnormal and/or should have been reasonably foreseen by the defaulting party. However, there may be mechanisms in a contract that may give a party latitude to restrict the scope of the required performance when market conditions evolve in the energy transition, or to assert continued performance under those conditions would exceed it the limits of its 'reasonable endeavours'

Insurance indemnity claims

- Historically, the insurance industry's attention to risks associated with climate change have focused on property casualty underwriting (ie physical impacts). However, the energy transition may also present significant contractual issues, and litigation over the scope of indemnity obligations between the insurer and insured under financial insurance lines, such as commercial, D&O and PI. Significant disputes may arise in the context of the insured's disclosure obligations, notification of occurrences and exclusions.

[37] See for example the French *Code Civil*, German *Bürgerliches Gesetzbuch* (BGB).

[38] See for example German law, Raymond Youngs, *English, French and German Comparative Law*, 3e, (Routledge 2014), 544.

[39] See for example French *Code Civil* Article 1147-1148.

Published on DES Disclosure Log
RTI Act 2009

F

Company vs company

Breach, avoidance or repudiation of contract

Insurance indemnity claims *(continued)*

- In particular, it is not clear whether claims against a corporation or its directors for economic loss occasioned by its failure to manage the *policy and market risks associated with the energy transition*, in the ordinary course of business, would comprise an indemnified 'occurrence' under the terms of a standard commercial policy.
- An indicator of the potential for insurance contract litigation in the context of the energy transition, and the scale of contractual issues that it may prompt, may be found in the insurance industry's recent experience in responding to the (formerly novel) issue of 'cyber attack'.

ET: driver & consequence

- Consequence of ET

Valuation impacts – financial materiality?

- Case-by-case

Example(s)

- 'Reasonable endeavours' where market conditions change (lead indicator) - ***Woodside Energy Ltd v Electricity Generation Corporation*** [2014] HCA 7
- Insurance indemnity disputes – climate damages – ***AES Corporation v Steadfast Insurance Company* (2012)** (below)
- Insurance indemnity disputes – cyber attack (lead indicator) - ***Travelers Indemnity Co. of Connecticut v. P.F. Chang's China Bistro, Inc.***, No. 3:14-cv-01458-VLB (D. Conn. filed Oct. 2, 2014).

CLAIMS CATEGORY F: CONCLUSION

Potentially material financial impact for individual companies, and for insurers where a swathe of litigation over the scope of indemnities emerges. High-risk sectors: insurance, sectors with long-dated contracts including energy, metals and mining, agriculture.

Published on DES Disclosure Log
PTI Act 2009

AES Corporation v Steadfast Insurance Company Case No. No. 100764 (Va. Apr. 20, 2012).

Claim

This case concerned whether, in defending the ***Kivalina*** case (see above), utility company AES was entitled to be indemnified under its commercial general liability policy, issued by Steadfast.

Outcome

The Supreme Court of Virginia held that Steadfast was *not* liable to indemnify AES under the policy, as a claim did not constitute an 'occurrence' within the meaning of that policy. This was because the underlying complaint alleged an intentional emission of greenhouse gases in the ordinary course of business, the 'natural and probable consequence' of which the court held to be 'global warming and damages such as Kivalina suffered.' More recently, similar indemnity disputes have been commonplace in emerging **cyber-attack** damages cases, where insurers have sought to deny coverage for litigation defence costs under commercial general liability and/or Directors' & Officers' insurance policies – see for example *Travelers Indemnity Co. of Connecticut v. P.F. Chang's China Bistro, Inc.*, No. 3:14-cv-01458-VLB (D. Conn. filed Oct. 2, 2014).

Published on DES Disclosure Log
RTI Act 2009

G

State v emitter

Breach of emissions / adaptation regulations; consumer protection / consumer fraud

Nature of claim

- As states introduce regulations and standards to give force to their ET policies, there is significant scope for corporations that fail to comply with heightened emissions restrictions, efficiency standards or adaptation-related instruments (including, for example, revised building and planning requirements) to be prosecuted.
- Non-compliance with ET regulations and standards may also give rise to claims by consumer protection agencies and/or consumers under **consumer protection and consumer fraud** laws. In general terms, such laws prohibit corporations from engaging in unfair business practices in the sale or promotion of their goods or services, including misrepresentation of product characteristics, price, utility or performance. Consumer protection laws also commonly regulate **product safety** and **defects**. It is interesting to note that recent 'climate damages' claims by three Californian municipalities against 37 'carbon majors' include causes of action commonly covered under 'consumer protection' statutes: failure to warn and defective products (see *San Mateo, Imperial Beach* and *Marin County* cases, **(A)**, above).
- Consumer protection laws are variously enforceable in different jurisdictions by regulatory agencies (including, for example, the US Federal Trade Commission, the Canadian Competition Bureau, the Chinese State Administration for Industry and Commerce, Netherlands Authority for Consumers and Markets, Japanese Consumer Affairs Agency, New Zealand Commerce Commission and Australian Competition & Consumer Commission).
- Many jurisdictions also have **consumer class action** frameworks, that allow groups of aggrieved consumers to pursue damages against the subject corporation via a collective or representative claim
- Jurisdictions with the most permissive consumer law class action regimes include the United States, Australia and Canada. Claims in these jurisdictions are on an upwards trajectory in both number and quantum of damages – contributed to, in part, by the emergence of professional litigation funders as underwriters of claimant risk.

ET: driver & consequence

- Consequence of ET.

Valuation impacts – financial materiality?

- Prosecution costs are unlikely to be material in the context of a nation state's budget. Claims may, however, lead to penalties, legal costs and reputational damages that are material for the emitter/defendant company – *particularly where they spur subsequent claims by securities regulators and/or investors under misleading disclosure laws (see **(C)** and **(D)** above, and/or consumer protection agencies and/or consumer classes under consumer fraud laws).*

CLAIMS CATEGORY G: CONCLUSION

Potential material consequence of ET policies. High-risk sectors: energy (oil and gas, coal, electric utilities), transport (air freight, air passenger transport, maritime, rail, trucking services, automotive) materials and building (metals and mining, chemicals, construction materials, capital goods, real estate management and development), agriculture.

Published on DFE Disclosure Log RTI Act 2009

Volkswagen 'Dieselgate' – global litigation

In September 2015, the United States Environmental Protection Agency (**EPA**) announced that it had issued a 'Notice of Violation' to Volkswagen in relation to emissions irregularities detected in its testing of VW diesel vehicles. The claims related to the installation of 'defeat device' software in certain VW diesel engines that triggered a reduction in tailpipe emissions (such as nitrous oxide) under test conditions (in order to comply with stringent US and environmental emissions controls). Emissions were therefore far higher (up to 40 times permitted limits) than that claimed when the vehicles were driven on the road. The anomalies were referred to the EPA following testing by the independent International Council on Clean Transportation. VW subsequently admitted that the number of cars containing the software was more than 11 million worldwide, and a number of senior executives (including the CEO, Martin Winterkorn) were forced to resign.

More than 63% was wiped off the value of VW AG Preference Shares in the aftermath of the EPA's announcement. It suffered its first quarterly loss in 15 years, of €3.5b, in the September quarter of 2015. Preference shares were still trading around 47% below pre-scandal levels as at 30 June 2017. The three large credit ratings agencies all downgraded VW AG's credit rating (Moody's from A to A3/P-2, CreditWatch negative, S&P from A to BB+/A-2, outlook negative, and Fitch to BBB+, outlook negative).

As an indication of the scope and scale of the financial impact of this issue on Volkswagen, its September 2016 Interim Report included two pages of discussion on lawsuits relating to the 'Diesel issue' in its 'Key Events' statement, with a further two pages of discussion in its Interim Management Report on Results of Operation, Financial Position and Net Assets, and Notes to the Interim Financial Reports – including discussion of environmental and securities law regulatory proceedings, and private damages claims, in multiple jurisdictions across North America and Europe. That Interim Report provided €3.7 billion for litigation-related liability contingencies.

As at 12 January 2017, VW had committed to pay more than US$23 billion in settlements relating to the emissions scandal in the United States and Canada. This includes settlement of charges brought by the EPA and US Department of Justice for conspiracy to defraud the US government in January 2017 (including a US$1.5 billion civil penalty and US$2.8 billion criminal fine), and payments of up to US$17.5 billion to resolve claims by U.S. regulators, owners and dealers and offered to buy back nearly 500,000 polluting vehicles. Other significant proceedings that remain on foot include criminal charges against 6 VW executives in the United States, and shareholder class actions (seeking damages for investor losses sustained when the emissions scandal was revealed) in jurisdictions including the United States and Europe.

Published on DES Disclosure Log
RTI Act 2009

H

State v emitter

Constitutional and international trade law

Nature of claim

Companies that are materially impacted by national and supra-national governments' energy transition regulations may challenge those regulations under domestic administrative or constitutional laws, or international treaties (for example, utilising investor-state arbitration under international investment or free trade agreements).

ET: driver & consequence

Driver – policy (targeted governments required, and other governments incentivised, to introduce regulations that facilitate a low-carbon transition)

Valuation impacts – financial materiality?

Litigation defence costs unlikely to be material in the context of a nation state's budget. A cluster of claims may, however, lead to legal costs that are material for the emitter.

CLAIMS CATEGORY H: CONCLUSION

Potential material driver of ET (market – legal costs driver). High-risk sectors:, energy (oil and gas, coal, electric utilities), materials & building (mining and metals, construction materials, chemicals), transport (air, trucking, automotive), government.

Published on DES Disclosure Log
RTI Act 2009

Claim Category H: CASE EXAMPLES

Examples arising from other market triggers - lead indicators

Carbon Emissions - United States – challenges to the Clean Energy Power Plan

Claim

More than 60 legal challenges have been launched against component legislation of the Clean Power Plan and the scope of the Environmental Protection Agency's statutory powers, with another 10 against the GHG Reporting Rules – amongst hundreds of other challenges to Federal and State emissions-related regulations. The lead plaintiff in a number of these challenges is the Attorney-General of West Virginia.

Tobacco – Australia – challenges to plain packaging legislation

Claim

A number of tobacco companies alleged that Australian plain packaging legislation was invalid under the Australian Constitution. When their claim was rejected by Australia's highest court, Philip Morris launched international investor-state arbitration. This was also unsuccessful. Reports emerged in July 2017 that the industry had been ordered to pay the Australian Government's costs in the order of AUD$50 million Further challenges to the Australian legislation by Cuba, Dominican Republic, Honduras and Indonesia remain on foot before the WTO.

Published on DES Disclosure Log RTI Act 2009

4. Materiality and risk pricing

The analysis of claims in **Section 3.3** above makes observations on the potential materiality of particular kinds of claim by reference to analogous cases (both incident of the ET to date, and 'lead indicators' that may be drawn from unrelated market triggers). Each of the categories of claim discussed in this Report should be understood by companies, their investors and financial services providers, to enable a diligent assessment of their bearing on risk and value in individual circumstances – particularly (although not exclusively) in relation to the 'high-risk' sectors articulated for each claim.

This section contains a broader, consolidated analysis of the potential materiality of litigation risks that drive, or are driven by, the ET, over mainstream investment horizons. Such impacts may extend beyond the quantum of any fines, penalties or damages, to (for example) legal costs, reputational damage, valuation impacts, credit rating impacts, insurance coverage limitations, contractual defaults and tender process exclusions.

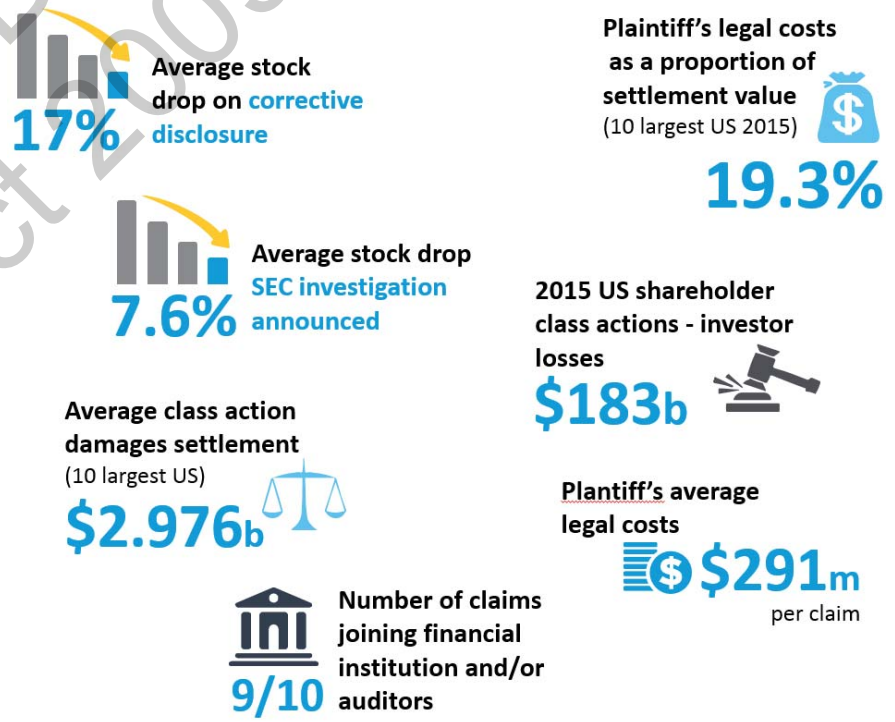
In providing these observations, it must be emphasised that the pricing of litigation risk in the energy transition is inherently complex. It involves a high proportion of tail risks and large losses, with dynamic regulatory exposures, aggressive litigation environment, a paucity of reliable data and pervasive uncertainty in risk accumulation and aggregation. It will require the specific and significant application of judgment in its input to valuation and underwriting problems. And engagement with the business being valued or underwritten will be critical to providing fit for purpose technical analysis and commercially actionable insights.

4.1 Materiality – valuation impacts

Climate litigation – and the credible *prospect* of it - is likely to act as a significant transition scenario driver. Regulatory and private claims have a direct impact on earnings (in the form of legal expenses, penalties and damages) and liabilities (litigation reserves and contingencies), and often warrant specific forward-looking risk disclosures.

Whilst the value of a breach may not be material to a corporation of itself, it commonly triggers a 'disproportionate' stock drop and ratings impact, and secondary litigation by shareholders for misleading disclosure, breach of directors' duties and/or negligence. Whilst the financial impacts of any such claim are inherently case-specific, they are often material, and often under-insured (or, in the case of a securities fraud finding, uninsurable). **Figure R5** below illustrates the scale of potential impacts of litigation for company valuation:

Figure R5: Litigation risks by the numbers – valuation of US securities class actions



Source: 2015 US shareholder claims data: COROS, Cornerstone, NERA

Published on DES Disclosure Log
RTI Act 2009

Significant claims patterns have even been known to *bankrupt* listed corporate defendants. This was in fact the case in 1982 when the world's largest manufacturer of asbestos building products, Fortune 200 company Manville Corporation, filed for Chapter 11 bankruptcy protection and reorganisation under the weight of thousands of individual asbestosis damages claims (*In Re Johns-manville Corp., et al., Debtors.the Hospital and University Property Damage Claimants, Appellants, v. Johns-manville Corporation, et al., Appellees, 7 F.3d 32 (2d Cir. 1993)*). Commentators noted that the bankruptcy petition was filed as a strategic refuge from '*potentially massive but speculative tort liability*' by a company that was otherwise '*apparently healthy*'.[40]

Factors that may impact on the stock price response to litigation in any particular case may include, for example, the level of statistical significance, the length of the event window, and market efficiency in response to new information.[41]

4.2 Materiality – credit ratings

Residual litigation exposure uncertainties factor into discount rates, and as 'key driver' in ratings metrics or outlooks (*S&P, Fitch, Moodys*). Even where companies *have* made provision for future litigation costs, the tail risks presented by the litigation's uncertainty, complexity and escalation potential may still result in its material impact on risk rating assessments. This can be illustrated by the impact of the 2015 'Dieselgate' scandal on the credit rating of VW AG (above), and the recent Fortis NV collective action settlement in the Netherlands:

Fortis NV

Claim

In March 2016, Ageas (the acquirer of Fortis NV) agreed to pay €1.204 billion to settle a misleading disclosure claim under the Dutch collective settlement process (known as 'Stichtings') to shareholders from the U.S., Europe, Middle East and Australia. Ageas did not admit liability. Under a separate settlement with its D&O and 'Public Offering of Securities Insurance' insurers, Ageas received a contribution of €290m, less than quarter of the total settlement liability. Ageas continues to maintain a provision for more than €100 million related to tail risks associated with the claim and settlement process. News of the settlement (with associated resolution of litigation risk uncertainty and enhancement of future financial flexibility) prompted review of Ageas' credit rating by all three major credit ratings agencies. Fitch upgraded its 'long term issuer default rating' by one notch, from A- to A. S&P affirmed its rating, noting: "*We also continue to apply a three-notch gap, rather than the standard two notches, between the holding company, Ageas SA/NV, and [its] core operating subsidiaries, as legacy risks and costs are borne directly by the holding company*." Moody's lifted the outlook for Ageas to 'positive'.

An escalation in commercial litigation relating to the energy transition may also have macro implications for the discount rates applied in valuation and ratings calculations across an exposed industry.

4.3 Materiality – legal costs

Based on 2016 NERA analysis of the 10 largest class action settlements in the United States, the *plaintiff* (ie claimant)'s legal expenses alone averaged approximately 10% of the total settlement value, at almost USD300 million per claim. Total legal costs – for all parties to the litigation – are likely to be a multiple of this figure.

[40] The Manville Bankruptcy: Treating Mass Tort Claims in Chapter 11 Proceedings, *Harvard Law Review*, 96(5), March 1983, 1121.

[41] See NERA Economic Consulting, *Update on Economic Analysis of Price Impact in Securities Class Actions Post-Halliburton II*, 21 August 2015, p.2.

Published on DES Disclosure Log
RTI Act 2009

These costs can escalate significantly where a corporation faces multiple claims triggered by an event or pattern of conduct. This is illustrated by the legal expenses incurred by financial institutions in defending a series of antitrust and fraud claims in multiple jurisdictions, compiled by the CCP Research Foundation (**Figure R6** below). For example, CCP reports that Lloyds Banking Group reported £2.82 billion (approximately US$4 billion) in legal expenses *for the first half of 2015 alone*, and that Bank of America incurred £46.67billion (approximately US$60 billion) in legal costs across 2011-2015, with a provision of £8.14 billion (US$10.5 billion) for litigation contingencies as at 30 June 2015.[42]

These legal costs are a material expense and liability exposure not only for the parties to the claim but, in aggregate, to their financial lines insurers.

BANKS	TOTAL COSTS 2011-2015 [GBP Bn]	PROVISIONS AS AT 31 DEC 2015 [GBP Bn]	GRAND TOTAL 2011-2015 [GBP Bn]	GRAND TOTAL 2010-2014 [GBP Bn]	[GRAND TOTAL (2001-2015)] RELATIVE POSIITON TO [GRAND TOTAL (2010-2014)] (%)			GRAND TOTAL 2009-2013 [GBP Bn]	GRAND TOTAL 2008-2012 [GBP Bn]
Bank of America	46.67	8.14	54.81	64.43	◂▸		-14.93%	66.80	54.47
JP Morgan Chase & Co	26.05	6.64	32.70	33.10	◂▸		-1.20%	35.97	25.01
Morgan Stanley	9.39	12.62	22.01	23.61	◂▸		-6.79%	19.59	24.96
Lloyds Banking Group plc	15.71	4.46	20.17	15.47	◂▸		30.42%	12.73	9.24
Citigroup, Inc	13.11	2.36	15.47	14.78	◂▸		4.63%	7.60	12.41
Barclays PLC	11.93	3.49	15.42	12.60	◂▸		22.42%	7.90	5.07
RBS	8.82	5.92	14.74	10.90	◂▸		35.14%	8.48	4.24
Deustche Bank	8.01	4.23	12.23	9.38	◂▸		30.50%	5.62	3.94
HSBC	6.84	3.05	9.89	8.69	▲	(+1)	13.78%	7.22	6.28
BNP Paribas	6.47	3.20	9.67	8.19	▲	(+1)	18.03%	3.55	1.9
Well Fargo & Company	8.36	0.88	9.24	9.22	▼	(-1)	0.14%	9.19	7.65
Goldman Sachs	6.31	1.35	7.66	6.14	▲	(+1)	24.85%	3.65	4.05
Credit Suisse	4.40	2.59	6.99	5.87	▲	(+1)	19.10%	3.56	2.98
Santander	4.42	1.81	6.23	6.95	▼	(-2)	-10.43%	3.59	4.27
UBS	3.93	2.13	6.05	5.42	◂▸		11.77%	4.19	24.66
National Australia Bank Group*	2.40	1.18	3.58	2.97	◂▸		20.57%	2.47	2.32
Commerxbank AG	1.63	0.29	1.92	1.96	◂▸		-2.05%	1.37	1.19
Societé Générale	0.09	1.57	1.66	0.95	▲	(+1)	75.18%	0.71	1.42
Standard Charted Bank	0.92	0.08	1.00	1.00	▼	(-1)	-0.92%	0.76	0.75
ING Group	0.68	0.14	0.82	0.80	◂▸		2.33%	0.90	0.95
Grand Total [GBP Bn]	**186.12**	**66.13**	**252.25**	**242.42**				**205.84**	**197.76**

Figure R6: CCP Research Foundation C.I.C: large bank litigation costs & contingencies

Data in R6 reproduced with the kind permission of CCP Research Foundation CIC, 'Conduct Costs Project Report 2016'

[42] CCP Research Foundation CIC, *'Conduct Costs Project Report 2016'*, p.7, <http://foreigners.textovirtual.com/ccp-research-conduct-costs/274/221096/conduct-costs-project-report-2016.pdf>

Published on DES Disclosure Log RTI Act 2009

4.4 Climate litigation – perfect storm or pie in the sky?

A number of characteristics of the legal framework may combine to increase the likelihood that litigation will play a significant role in the energy transition.

First, the incentive for claimants may also seek to deploy litigation as a *strategic* tool cannot be underestimated. In fact, very few securities class actions reach trial - and even fewer reach judgment. For example, of the 4,300 federal securities class actions filed in the United States since 1995, only 21 have gone to trial and only 15 have reached a verdict.[43] This may mean that claimants will pursue actions that are *credible*, but not necessarily strong.

Second, there is a steady increase in the size of securities settlements in 'class-friendly' jurisdictions outside the United States such as Australia and The Netherlands.

Finally, there has been a recent proliferation of professional litigation funders to underwrite claimant risk in class action-friendly jurisdictions.

As a general proposition, all the categories of litigation risk identified have the potential to become material drivers and/or consequences of the energy transition, under any transition scenario. Swiss Re has previously predicted that: '*[C]limate change-related liability will develop more quickly than asbestos-related claims…[the pressure from these actions] could become a significant issue.*'[44]

However, the nature of claims may skew more heavily towards particular categories depending on the timing of the transition, and the manner in which the transition occurs (all else being equal).

For example, at one transition extreme – a co-ordinated, uniform and swift transition to a global low-carbon energy paradigm (ie. consistent with the agreed Paris Agreement target of keeping global warming to well below 2˚C, within mainstream investment horizons) - may be characterised by (all else being equal) an increase in litigation against corporations (and their directors and advisors) who fail to adequately manage the foreseeable financial risks associated with that transition (claim categories **(D)** and **(E)**), as well as contractual disputes (category **(F)**), and 'anti-regulatory' litigation as emitters resort to the courts in 'last-ditch' efforts to block transition-related legislation (category **(H)**). Conversely, in that scenario plaintiffs may not perceive the same need to bring claims against emitting states and companies, limiting the consequential role of claims categories **(A)** and **(B)**. That being said, the credible prospect of litigation in categories **(A)** and **(B)** may be a material *driver* of swift policy and market transition.

At the other extreme, a slower, delayed energy transition may be characterised by a greater volume of litigation against governments, emitters and corporations, within mainstream investment horizons, as stakeholders turn to litigation as a strategic transition driver in the face of perceived policy and market failures, and to pursue damages for greater levels of climate-related harms (claim categories **(A), (B), (C), (D)**). Conversely, in that scenario emitters may not perceive the same need to bring 'anti-regulatory' claims against government entities, limiting the role of claims under category (h) as a consequence of the energy transition, within mainstream investment horizons. That being said, anti-regulatory litigation by interested emitters may itself be a material *driver* of delayed policy and market action within mainstream investment horizons.

These directions are indicated, at a high-level, in **Table ES-2** above.

Regardless of which path the ET takes, companies, their investors and financial services providers would be well-advised to develop a working knowledge of all categories of litigation risk discussed in this Report (and obtain specialist legal advice where required), to enable a diligent assessment of the bearing of this 'unconventional risk' in individual valuation circumstances.

[43] NERA Economic Consulting, *Recent Trends in Securities Class Action Litigation: 2015 Full-Year Review*, 25 January 2016, p.38.

[44] Swiss Re, *The Globalisation of Collective Redress*, Zurich, 2009.

Published on DES Disclosure Log
RTI Act 2009

5. Conclusion

A full analysis of the litigation risk arising in the ET requires four tiers of analysis:

This Report addresses the **Tier One** of this analysis, offering a general taxonomy of claims that are likely to arise in the ET, by reference to the policy and/or market variables identified by 2°ii in its ET risk taxonomy. It also offers preliminary observations on the likelihood of litigation over mainstream investment horizons on a sectoral basis, pursuant to Tiers Two and Three (high-risk sectors). This provides a foundation for work to progress in relation to Tier Four (assessment of company- and jurisdictional- risk factors) in subsequent work by the ET Risk research consortium.

The conclusions of this Report are summarised in **Table ES-2**, above.

As a general proposition, all the categories of litigation risk identified have the potential to become material drivers and/or consequences of the energy transition, under any transition scenario. However, the nature of claims may skew more heavily towards particular categories depending on the timing of the transition, and the manner in which the transition occurs (all else being equal).

The pricing of litigation risk in the energy transition is inherently complex. This risk is characterised by a high proportion of what may be considered tail risks and large losses, with dynamic regulatory exposures, aggressive litigation environments, a paucity of reliable data and pervasive uncertainty in risk accumulation and aggregation. More granular assessments of risk at sectoral- and corporate-level will require the specific and significant application of judgment in its input to valuation and underwriting problems. And engagement with the business being valued or underwritten will be critical to providing fit for purpose technical analysis and commercially actionable insights.

One area of law that has already emerged as a significant driver (and consequence) in the ET is regulatory and/or investor claims for a breach of securities fraud / misleading disclosure laws. Such claims may have material valuation and risk rating implications for individual corporations and sectors within mainstream investment horizons, and are thus likely to be of particular interest to financial analysts. This area of litigation may also feature more prominently following the June 2017 release of the Final Recommendations of the TCFD which, whilst 'voluntary', provide an influential benchmark for the 'true and fair' disclosure (and adequate underlying analysis) of material financial risks associated with climate change.

Each of the categories of claim discussed in this Report should be understood by companies, their investors and financial services providers, to enable a diligent assessment of their bearing on risk and value in individual circumstances.

Published on DFS Disclosure Log
RTI Act 2009

About MinterEllison

MinterEllison is one of the Asia Pacific's leading law firms. Our firm was established in Sydney in 1827, and today operates in Australia, Hong Kong, mainland China, Mongolia, New Zealand and the United Kingdom through a network of integrated offices and associated offices.

We understand the challenges that businesses operating in a globalised marketplace face, and offer clients services that are multi-disciplinary and industry facing. Our in-depth knowledge of how business is conducted in our region, local language skills, and proven track record for delivering outstanding work mean that clients have access to local experience and expertise that is informed by an international perspective.

MinterEllison's large and diverse client base includes blue-chip public and private companies, leading multinationals operating in our region, global financial institutions, all levels of government and state-owned entities.

Our lawyers have been independently recognised amongst the world's best for their strong technical skills and ability to deliver commercially practical solutions that assist clients to achieve their business objectives.

Committed to excellence and to adding value, our firm has advised on many of the Asia Pacific's most innovative and high-profile transactions.

For any queries in relation to this report, please contact Special Counsel Sarah Barker on +61 3 8608 2928 or sarah.barker@minterellison.com.

About 2° Investing Initiative

The 2° Investing Initiative [2°ii] is a multi-stakeholder think tank working to align the financial sector with 2°C climate goals. We are the leading research organization on climate-related metrics for investors. Our research work seeks to align investment processes of financial institutions with climate goals; develop the metrics and tools to measure the climate friendliness of financial institutions; and mobilize regulatory and policy incentives to shift capital to energy transition financing. The association was founded in 2012 and has offices in Paris, London, Berlin, and New York City.

Contact:
Email: contact@2degrees-investing.org
Website: www.2degrees-investing.org
Telephone: +33 1 4281 1997 • +1 516 418 3156
Paris (France): 97 rue la Fayette, 75010 Paris, France
New York (United States): 205 E 42nd Street, 10017 NY, USA
London (United Kingdom): 40 Bermondsey Street, SE1 3UD London, UK
Berlin (Germany): Am Kupfergraben 6a, 10117 Berlin, Germany

Authors: Sarah Barker (Minter Ellison), with editorial support from Chris Weber (2° Investing Initiative), and Jakob Thomä (2° Investing Initiative, ADEME, CNAM)

The report was realized with the financial support the European Commission, under the Horizon2020 Programme (Grant Agreement No. 696004).

SEPTEMBER 2017

The views expressed in this report are the sole responsibility of the authors and do not necessarily reflect those of the sponsor, the 2° Ii consortium members, nor those of the review committee members. The authors are solely responsible for any errors.

Published on DES Disclosure Log
RTI Act 2009

Date : 30/11/2018 3:15:34 PM
From : "SEELIG Tim"
To : "Pamela Frost"
Cc : "Sonja Litz" , "Amanda Chiv" , "Tim Auguston" , "MERRICK Jamie"
Subject : RE: 24 hours of reality
Attachment : LEEANNE ENOCH.docx;

This is what I received from US via Linh.
I have already fed back two required edits:
The reference at the top to the Minister's former portfolios reads awkwardly and is not relevant. Should just say: "Leeanne Enoch is the Minister for Environment and the Great Barrier Reef, Minister for Science and Minister for the Arts in the Palaszczuk Queensland government."
The question at the bottom on Page 2 needs amending, as currently reads "It's safe to say that some in your government, including your prime minister, would not agree with you on many points." This should read: It's safe to say that some in the Australian Federal government, including the Australian prime minister, would not agree with you on many points.
Tim

Dr Tim Seelig, Principal Advisor (Strategic Policy)
Office of the Director-General, Department of Environment and Science
07 3330 6298 (6) Personal il tim.seelig@des.qld.gov.au
I acknowledge the Jagarra and Turrbal Traditional Owners on whose land I work and live, and I pay my respects to their Elders past, present and emerging.

From: Pamela Frost <Pamela.Frost@ministerial.qld.gov.au>
Sent: Friday, 30 November 2018 2:27 PM
To: SEELIG Tim
Cc: Sonja Litz; Amanda Chiv; Tim Auguston
Subject: Re: 24 hours of reality
Thanks Tim. Are you also able to confirm if there will be other questions or what the topics will be? Thank you!

Sent from my iPhone

On 30 Nov 2018, at 2:22 pm, SEELIG Tim <Tim.Seelig@des.qld.gov.au> wrote:

> Hi Sonja, Pam
> Below is the proposed question which I have confirmed is fine with the Climate Reality (Al Gore org) Australian Branch, along with an indicative suggested answer. I am still awaiting advice from their US counterparts about whether this is an additional question or intended to replace an existing one.
> Q: "Last week, Adani announced that it would self-finance the development of a smaller Carmichael coal project. Does this mean the mine will now be going ahead?"
> Suggested A: We are yet to be satisfied that the project stacks up environmentally. There are still approvals the company needs to obtain (relating to water and bird habitats). Both the Federal and Queensland governments still have assessment steps that have not been satisfied. Meanwhile, Queensland is powering on with expanding its renewable energy sector, to generate clean energy from the sun and the wind.
> Tim
>
> Dr Tim Seelig, Principal Advisor (Strategic Policy)
> Office of the Director-General, Department of Environment and Science
> 07 3330 6298 (6) Personal il tim.seelig@des.qld.gov.au
> I acknowledge the Jagarra and Turrbal Traditional Owners on whose land I work and live, and I pay my respects to their Elders past, present and emerging.
>
> ---
>
> **From:** Sonja Litz <Sonja.Litz@ministerial.qld.gov.au>
> **Sent:** Friday, 30 November 2018 11:57 AM
> **To:** Amanda Chiv
> **Cc:** Tim Auguston; SEELIG Tim
> **Subject:** RE: 24 hours of reality
> Later this afternoon after Tim S has spoken with the US..
>
> ---
>
> **From:** Amanda Chiv
> **Sent:** Friday, 30 November 2018 11:56 AM
> **To:** Sonja Litz <Sonja.Litz@ministerial.qld.gov.au>
> **Cc:** Tim Auguston <Tim.Auguston@ministerial.qld.gov.au>; SEELIG Tim <Tim.Seelig@des.qld.gov.au>
> **Subject:** RE: 24 hours of reality
> Yes!
>
> ---
>
> **From:** Sonja Litz
> **Sent:** Friday, 30 November 2018 11:55 AM
> **To:** Amanda Chiv <Amanda.Chiv@ministerial.qld.gov.au>
> **Cc:** Tim Auguston <Tim.Auguston@ministerial.qld.gov.au>; SEELIG Tim <Tim.Seelig@des.qld.gov.au>
> **Subject:** RE: 24 hours of reality
> With these folks as well…
>
> ---
>
> **From:** Amanda Chiv
> **Sent:** Friday, 30 November 2018 11:38 AM
> **To:** Sonja Litz <Sonja.Litz@ministerial.qld.gov.au>
> **Subject:** 24 hours of reality
> Hey Sonja,
> Can we chat today just to confirm the Minister will have all materials she needs for Tuesday? 😊

Published on DES Disclosure Log
RTI Act 2009

Thank you

Amanda Chiv
Office Manager & Executive Assistant
Office of Hon Leeanne Enoch MP
Minister for Environment and the Great Barrier Reef
Minister for Science and Minister for the Arts

(07) 371 **97153** | Amanda.chiv@ministerial.qld.gov.au
1 William Street Brisbane QLD 4000 | GPO Box 5078 Brisbane QLD 4001

This email, together with any attachments, is intended for the named recipient(s) only; and may contain privileged and confidential information. If received in error, you are asked to inform the sender as quickly as possible and delete this email and any copies of this from your computer system network.

If not an intended recipient of this email, you must not copy, distribute or take any action(s) that relies on it; any form of disclosure, modification, distribution and /or publication of this email is also prohibited.

Unless stated otherwise, this email represents only the views of the sender and not the views of the Queensland Government.

Please consider the environment before printing this email.

The information in this email together with any attachments is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. There is no waiver of any confidentiality/privilege by your inadvertent receipt of this material.
Any form of review, disclosure, modification, distribution and/or publication of this email message is prohibited, unless as a necessary part of Departmental business.
If you have received this message in error, you are asked to inform the sender as quickly as possible and delete this message and any copies of this message from your computer and/or your computer system network.

This email, together with any attachments, is intended for the named recipient(s) only; and may contain privileged and confidential information. If received in error, you are asked to inform the sender as quickly as possible and delete this email and any copies of this from your computer system network.

If not an intended recipient of this email, you must not copy, distribute or take any action(s) that relies on it; any form of disclosure, modification, distribution and /or publication of this email is also prohibited.

Unless stated otherwise, this email represents only the views of the sender and not the views of the Queensland Government.

Please consider the environment before printing this email.

Published on DES Disclosure Log
RTI Act 2009

MINISTER LEANNE ENOCH

Minister for Housing and Public Works and Minister for Science and Innovation in the Palaszczuk Ministry. Enoch is now the Minister for Environment and the Great Barrier Reef, Minister for Science and Minister for the Arts.

MINISTER ENOCH, thank you for joining us. Please set the scene give us an idea of what you're working toward in Australia.

As a Government, we have made three key climate change commitments: powering Queensland with 50 per cent renewable energy by 2030; doing our fair share in the global effort to arrest damaging climate change by achieving zero net emissions by 2050 and ; demonstrating our commitment to reducing carbon pollution by setting an interim emissions reductions target of at least 30 per cent below 2005 levels by 2030.

One of your titles and responsibilities in Australia is Minister of the Great Barrier Reef. We know the reef is at great risk — but why the urgency…right now?

In Queensland, we have the privilege and responsibility of having the world's largest coral reef right on our door step. Complex, diverse and fragile – the Great Barrier Reef is the largest living structure on the planet and without question, one of the most extraordinary places on earth. The reef has been around for around 500, 000 years. It's home to a breathtaking array of life.The Australian Institute of Marine Science has shown that the Great Barrier Reef lost around 50 per cent of its coral cover between 1985 and 2012.And the biggest culprit is climate change.The latest Intergovernmental Panel on Climate Change (IPCC) Report paints a grim future for the Reef if we fail to stop global warming at 1.5 degrees Celsius – with the danger that we might experience 99 per cent reef loss if the temperature rise hits 2 degrees Celsius.

So then this is an absolutely critical time for the health of the reef, in your opinion?

Absolutely. The great barrier reef is thought to be 6-8000 years old. First nations peoples have been on this continent for more than 3000 generations. Connections go back

Published on DES Disclosure Log RTI Act 2009

65 000+ years. Put that in perspective. ***We are but a speck in time****. It is a crucial speck in time as decisions we make now will affect generations to come.*

You often talk about the reef in terms of being a mirror for the rest of the world — tell me about that?

Yes of course. The most important thing we need to understand about the Great Barrier Reef is an indicator of the health of not only Queensland but the planet.

What are we to understand, then, about the trends for the planet…learned from the Great Barrier reef?

We need to change. By 2050, some 50% of the world's population and close to 60% of the world's children are expected to reside in the tropics. According to the World Economic Forum, the global food security challenge is we will need to feed 9 billion people by 2050 in drier and hotter conditions. This means the demand for food will be 60 per cent greater than it is today. So, in effect, we will have to be more productive while at the same time ensuring sustainability. Science needs to find solutions not just to climate change but helping produce more with less. And that's why the work our sciences do to develop and commercialise nutritionally enhanced crops is so important. We are witnessing droughts which are longer and more intense. Storm cells which are more powerful more often. Develop drought resistant crops. Crops that can withstand storms and natural disasters better. Produce more with less land especially tree crops Develop more environmentally friendly ways to improve soil, tackle pests. Our life sciences industry is key to Australia's future economic growth, as well as our quality of life.

It's safe to say that some in your government, including your prime minister, would not agree with you on many points.

That's right. We don't need a Prime Minister who thinks bringing a lump of coal into Parliament is a way forward (he did, in fact, do this in 2017). Federal Ministers who can't look past the interests of mining companies. We even had a Shadow Minister in

Published on DES Disclosure Log
RTI Act 2009

Queensland who got a Mining Lobby to author his recommended amendments to a mining bill he was charged with reviewing. This is the environment we have in Australia and is why the Palaszczuk Government is providing leadership and doing something about climate change.

PLACEHOLDER FOR QUESTION ON ADANI / CONTROVERSIAL MINE IN QUEENSLAND

Finally — I know the Queensland government is promoting climate action in a number of ways — but tell us what you have planned in Brisbane this coming June? And what can Australians do to continue their learning and advocacy on the climate crisis?

(Join us at the Brisbane training. Ministers Miles and Enoch an opportunity to pitch the upcoming Brisbane Climate Reality Leadership Corps training. While the training is taking place June 5-7, 2019, applications are already open on the Climate Reality website: https://www.climaterealityproject.org/training*.)*

Published on DES Disclosure Log
RTI Act 2009

Date : 7/08/2018 11:01:16 AM
From : "SEELIG Tim"
To : "MERRICK Jamie"
Subject : RE:2)(1)(a) Cabinet matter - For consideration
Hi Jamie

Cheers
Tim

Dr Tim Seelig, Principal Advisor (Strategic Policy)
Office of the Director-General, Department of Environment and Science
07 3330 6298 | tim.seelig@des.qld.gov.au

I acknowledge the Jagarra and Turrbal Traditional Owners on whose land I work and live, and I pay my respects to their Elders past, present and emerging.

From: MERRICK Jamie
Sent: Monday, 6 August 2018 8:09 PM
To: SEELIG Tim
Subject: Fwd:)(1)(a) Cabinet matter - For consideratic

FYI and welcome your views

Cheers
J
Sent from my iPhone

Begin forwarded message:

> **From:** "WEINERT Nick" < Nick.Weinert@des.qld.gov.au>
> **To:** "MERRICK Jamie" < Jamie.Merrick@des.qld.gov.au>
> **Cc:** "HUGHES Robert (NRE)" < Robert.Hughes@des.qld.gov.au>, "SIGGERY Angela" < Angela.Siggery@des.qld.gov.au>, "TRACEY Alena" < Alena.Tracey@des.qld.gov.au>
> **Subject:**2)(1)(a) Cabinet matter - For consideration

Published on DES Disclosure Log
RTI Act 2009

Jamie

sch3(2)(1)(a) Cabinet matter - For consideration by Cabinet

Thanks,
nick

Published on DES Disclosure Log
RTI Act 2009