

# **International Law Association Sydney**

6 December 2018

**Justice Nicola Pain**

**Land and Environment Court of New South Wales**

## **Climate change and sea level rise – issues in domestic litigation**

Legal responses to sea level rise predicted to occur from climate change whether at the international or national level is a large topic to do justice. I will focus on a couple of matters relevant to New South Wales, reflecting my experience as a judge on a specialist state court with exclusive jurisdiction to determine environmental matters.

Climate change is used as shorthand for dangerous climate change resulting from human produced greenhouse gas in the atmosphere.

### **Global government efforts**

As the audience is well aware, the Paris Agreement provides the current international framework for dealing with climate change. The Paris Agreement was created under the United Nations Framework Convention on Climate Change at the 21<sup>st</sup> Conference of Parties (COP21) in 2015. Most United Nations member countries agreed to keep global temperature rise this century to below two degrees celsius above pre-industrial levels through nationally determined contributions of each party state.

There is currently no legal mechanism in place by which the Commonwealth government will meet its nationally determined contribution target of a 26% reduction of 2005 levels by 2030 with the recent demise of the National Energy Guarantee arrangements. Australia's commitment under the Paris Agreement may provide a relevant policy setting to matters regulated under state and territory laws.

### **Domestic litigation**

Climate change litigation has been defined as legal action which seeks to address the causes or likely impacts of climate change.<sup>1</sup> Climate change litigation at the

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<sup>1</sup> Jacqueline Peel and Hari Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (Cambridge University Press, 1<sup>st</sup> ed, 2015) 5; Jacqueline Peel, Hari Osofsky

domestic level comes in many forms and can be broadly identified as focussed on adaptation to climate change or mitigation of greenhouse gas emissions as a means of ameliorating climate change. It has included an action in tort alleging a duty of care to prevent foreseeable environmental harm, as judicial review of decisions which may lead to environmental harm, as human rights or constitutional challenges or actions in corporations law alleging breach of director's duties.<sup>2</sup>

Australia has one of the highest rates of climate change litigation in the world, second only to the United States of America (USA), with some 80 cases having taken place up to 2017.<sup>3</sup> In contrast climate change litigation in other jurisdictions has focussed on climate change as a systemic issue such as the breach of duty by the Dutch government alleged in the tort law action in the *Urgenda* litigation<sup>4</sup> or the *Juliana* public trust case<sup>5</sup> in the USA. A large number of cases in the USA are also based on tort arguments.

The Australian experience of climate change litigation raises important issues about the impact a particular project or contributor may have in exacerbating climate change through increasing greenhouse gases and the need to mitigate these. A number of cases have also considered adaptation matters concerning coastal development in particular, such as whether the siting of development is appropriate.

## **Climate change litigation in New South Wales**

Very briefly, the Land and Environment Court is a "one-stop-shop" which has civil and criminal jurisdiction in relation to a large number of environmental and planning laws. The Court hears merit appeals, judicial review and civil enforcement matters. Climate change issues have arisen in New South Wales in several cases in the last two years. Three of the cases concern the potential impacts of coastal processes

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and Anita Foerster, "Shaping the Next Generation of Climate Change Litigation in Australia" (2017) 41 Melbourne University Law Review 793, 801.

<sup>2</sup> See Brian J Preston, "Climate Change Litigation (Part 1)" (2011) 5(1) *Carbon & Climate Law Review* 3; Brian J Preston, "Climate Change Litigation (Part 2)" (2011) 5(2) *Carbon & Climate Law Review* 224

<sup>3</sup> United Nations Environment, "The Status of Climate Change Litigation: A global review" (May 2017) 12.

<sup>4</sup> *Urgenda Foundation v the State of the Netherlands (Minister for Infrastructure and the Environment)* C/09/456689/HA ZA 13-1396.

<sup>5</sup> *Juliana v USA* (9<sup>th</sup> Cir No 17-71692, 7 March 2018).

and sea level rise on various developments (and therefore concern adaptation to climate change impacts).

### **Coastal impacts**

#### ***Belongil Spit north coast of New South Wales litigation***

In the 1960s and 1970s Byron Shire Council on the north coast of New South Wales constructed an artificial headland near Belongil Beach protected by a rock seawall. In addition Byron Shire Council had developed a policy known as “planned retreat” requiring dwellings to be able to be relocated should seaward erosion approach within 20 metres and also restricting development near beaches. The council also published a draft Coastal Zone Management Plan (CZMP) pursuant to the *Coastal Protection Act 1979* in May 2010 providing for maintenance of the seawall and included an emergency action plan. The draft CZMP was later withdrawn with the intention of drafting a new CZMP which would take into account the *Coastal Protection and Other Legislation Amendment Act 2010*. Amendments to the *Coastal Protection Act 1979* initially provided for short-term management of coastal emergencies by permitting owners of beachfront properties to carry out emergency works without planning approval, albeit still requiring authorisation from the local council. This was in addition to the longer term policy of having “planned retreat”.<sup>6</sup>

Actions have been brought in relation to coastal erosion at Belongil Spit in both the Land and Environment Court of New South Wales and the Supreme Court of New South Wales. In the Land and Environment Court in 2009, Byron Shire Council sought an interlocutory injunction restraining a land owner from building a wall out of rock to protect his property which had been exposed to beachfront erosion due to an interim sandbag wall being damaged in a storm surge.<sup>7</sup> The parties later agreed to the interlocutory injunction being varied so that the property owner could rebuild the wall with geobags and sandbags.<sup>8</sup>

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<sup>6</sup> See Kevin Roche, Ian Goodwin and John McAneney, “Management of the coastal zone in Byron Bay: The neglect of medium-term considerations” [2013] *Agenda: A Journal of Policy Analysis and Reform* 21.

<sup>7</sup> *Byron Shire Council v Vaughan; Vaughan v Byron Shire Council* [2009] NSWLEC 88.

<sup>8</sup> *Byron Shire Council v Vaughan; Vaughan v Byron Shire Council (No 2)* [2009] NSWLEC 110.

There are currently two merit appeals before the Land and Environment Court of NSW in which several of the same landowners are seeking development consent to do work on public land in front of their properties.

In 2010 fourteen plaintiffs who owned properties along Belongil Beach commenced proceedings in the Supreme Court of New South Wales alleging that Byron Shire Council had a duty of care to protect their properties by modifying or removing the seawall *inter alia*. The plaintiffs allege that the seawall caused erosion of the beach and consequently that their properties had been exposed to seawater and wave action. The plaintiffs alleged that Byron Shire Council has breached its duty of care to them and this has led to loss and damage of their properties. The plaintiff's actions allege nuisance. There have been numerous interlocutory decisions. The matter was finally settled in August 2016 with consent orders made in favour of the plaintiffs

The plaintiffs' proposed amendments allege omissions of Byron Shire Council including the withdrawal of the CZMP, the failure to prepare a new CZMP and the failure to create an emergency action plan. Byron Shire Council filed a motion seeking to strike out certain paragraphs of the existing amended statement of claim submitting that the plaintiffs' case intruded into matters of political judgement which were not open to scrutiny by the courts.

The Supreme Court dismissed the Council's motion stating that the proposed amendments raised matters of substance which should not be dealt with at this stage of the proceedings which were appropriate to consider where a continuing duty of care and continuing breaches had been alleged. The proposed amended paragraphs did not create new causes of action and were founded on the overarching duty of care alleged by the plaintiffs.

***Fetherston v Wollongong City Council [2016] NSWLEC 1527 (merit appeal) (NSWLEC)***

*Fetherston v Wollongong City Council* [2016] NSWLEC 1527 was a merit appeal against a refusal by Wollongong City Council of a development application for a two-storey dual occupancy on land at Stanwell Park Beach. An intervener was joined on the basis that if she were not joined the impacts of coastal processes on flood risk, coastal erosion and inundation and view loss would not be adequately addressed (see *Fetherston v Wollongong City Council* [2016] NSWLEC 1258). The intervener adduced expert evidence in relation to site-specific impacts of coastal processes.

One of the issues in the appeal was whether a flood study was required to address the impact of coastal processes and relatedly whether a flood study should consider the effects of climate change on ocean conditions. The expert for the intervener stated that considering changes in climate would be best practice while the expert for

the appellant stated the relevant development control plan "...did not make explicit allowances for climate change for new residential development" at [30]. The court ultimately preferred the evidence of the appellant's expert while noting there was "some merit" in the intervener's expert's approach: at [31]. Development approval was granted.

***Pridel Investments Pty Ltd v Coffs Harbour City Council [2017] NSWLEC 1042 (merit appeal) (NSWLEC)***

*Pridel Investments Pty Ltd v Coffs Harbour City Council* [2017] NSWLEC 1042 was an appeal of Coffs Harbour Council's decision to refuse a 39-lot subdivision and boundary adjustment on land at Emerald Beach near Coffs Harbour. The Council refused the development due to the high risk of flooding and inundation inter alia. In her overview of the proposed development Senior Commissioner Dixon stated that "Emerald Beach has a single foredune with a crest elevation, at the time of the hearing, of approximately eight metres AHD [Australian Height Datum]". The Commissioner went on to say:

24. As it presently stands, the dune is the barrier that protects the Site from the erosive forces of the sea. It also protects the land in another way: both the dune and its vegetation provide a visual barrier to the development. The longevity of the dune, as both a protective and visual barrier to the development, is therefore of critical importance in this case.
25. Climate change will accelerate coastal processes and make it much more likely that the Site will be inundated from the sea, within the presumed 100-year life of the development. That said, the Council's case is not dependent at all on climate change (Respondent's written submissions (RWS) at [26]). Rather, the Council contended there is a clear risk in the present that the dune will be eroded and its vegetation stripped by the erosive forces of the sea. This will make the development more susceptible to coastal processes and when the foredune eventually slumps – by erosion over time – given the proximity of property boundary to the toe of the foredune – a rebuilt lower dune would be subject to periodic wave overtopping and ongoing erosion.

The applicant submitted that the risk from coastal processes was so remote it should not be considered. Commissioner Dixon found to the contrary on the basis of coastal processes, town planning, flooding and ecology experts who expressed reservations about the development. The Commissioner found there had been inadequate assessment of the risk of coastal processes and that the development application should be refused.

The coastal development cases reflect the circumstance that potential climate change impacts are now part and parcel of such appeals.

## Evidential challenges of climate change litigation

The challenges of climate change litigation are many and complex. Broadly speaking for those community groups or individuals seeking to challenge point sources of greenhouse gases, there are three key challenges: establishing standing, proof of causation and scientific uncertainty. Evidence is of course key in most cases to how a court will determine a particular matter.

Standing is a fundamental issue in any environmental litigation but particularly so in climate change litigation. On one view everyone has an interest in accelerated climate change and may argue that they have standing to bring climate change litigation. Under the two key environmental statutes in New South Wales (the *Protection of the Environment Operations Act 1997* and the *Environmental Planning and Assessment Act 1979*) there is open standing for civil enforcement and judicial review.<sup>9</sup> Third party rights in merit appeals are more limited in New South Wales than some other Australian jurisdictions.

Causation of harm is a cornerstone of many legal actions and raises issues of proof. One of the key challenges of climate change litigation is the “single entity focus”.<sup>10</sup> It has never been disputed by parties before Australian courts that accelerated anthropogenic climate change is occurring. Such global change is very difficult in an evidentiary sense suitable to a court to link to a particular source or contributor. Scientific modelling of the global impacts of climate change has faced difficulties in being accepted by courts as evidence that can be related to a particular source. By contrast, cases such as *Urgenda* and *Juliana* which address climate change as a more systemic issue have not faced these challenges as evidence of global harm resulting from increased greenhouse gases has been more readily accepted by courts given the cause of action before them. Scientific uncertainty, underpinned by constant changes and updates in scientific understanding also presents a challenge for climate change litigation.

As usefully summarised by Rogers, a challenge in project-specific climate change litigation is that “...evidence of climate scientists is presented in this context [of a specific project], rather than in the broader context of the global need to reduce greenhouse gas emissions. This diminishes its impact and efficacy.”<sup>11</sup> This concern

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<sup>9</sup> See s 9.45 of the *Environmental Planning and Assessment Act 1979* and s 219 of the *Protection of the Environment Operations Act 1997*.

<sup>10</sup> Ibid 17.

<sup>11</sup> Nicole Rogers, “Making Climate Science Matter in the Courtroom” (2017) 34 *Environment and Planning Law Journal* 475, 477.

has been echoed by other commentators who have recognised the challenge this presents to courts which must grapple with issues of “global versus local responsibility” for climate change and of scientific uncertainty.<sup>12</sup>

## **Climate modelling in court – New South Wales experience**

### **Hunter Environment Lobby Inc v Minister for Planning [2011] NSWLEC 221**

*Hunter Environment Lobby Inc v Minister for Planning* was a merit appeal under s 75L of the then *Environmental Planning and Assessment Act 1979* against an approval by the Minister for Planning for an expansion of the Ulan coal mine. It sought conditions requiring an offset for scope 1 emissions (direct greenhouse gas emissions from mining) and scope 2 emissions (indirect emissions from the consumption of electricity used by mining) caused by the mine. As the purpose of the *Environmental Planning and Assessment Act 1979* was to protect the environment, the imposition of conditions on the approval to address greenhouse gases was arguably within power. The experts agreed that scope 1 emissions were a direct consequence of the mining activities authorised by the project approval. A condition requiring the offsetting of scope 1 emissions was therefore within the scope of the Minister’s power. By contrast, scope 2 emissions resulting from how the coal was used could not be controlled by the mine and were therefore beyond the scope of the development.

Extensive modelling of the impacts of scope 1, 2 and 3 emissions was in evidence. The expert for the applicant modelled the impact of the project in terms of scope 1, 2 and 3 emissions based on three emission scenarios used by the Intergovernmental Panel on Climate Change (high, medium and low emission levels), as well as modelling taking into account any offsetting measures taken by the mining company. The expert measured the impacts of action affecting emissions (identified as aggregated economic impacts at a global scale) and the social cost of carbon dioxide emissions. At [96] the Court summarised:

...He [the expert, Professor Jones] maintained that for the scope 1 emissions from the project the social cost of carbon estimated for scope 1, 2 and 3 emissions would still hold as that marginal cost can be divided back per tonne of CO<sub>2</sub>-e. This evidence is significant because it demonstrates that it is methodologically possible to apply data from single (large) projects in a climate model to quantify to some extent at least the social cost of carbon. Such evidence means that the submission that a particular project is but one of many contributors to a local, regional and global

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<sup>12</sup> Jacqueline Peel, “Issues in Climate Change Litigation” (2011) 5(1) *Carbon & Climate Law Review* 15, 23.

problem, while correct, can be subject to analysis of what the individual project's social cost of carbon is.

## **Emergence of extreme weather event attribution science**

The development of extreme weather event attribution science in the context of climate change litigation may have important implications for litigation. Marjanac and Patton have provided an informative discussion of the role of attribution science in climate change litigation.<sup>13</sup> They define event attribution science as:

[t]he science that seeks to determine the extent to which anthropogenic climate change has altered the probability or magnitude of the particular weather event or class of weather events that are the subject of study.<sup>14</sup>

In other words event attribution science looks at whether human induced climate change impacted the likelihood of a particular environmental event (such as a bushfire, storm, flood tsunami) occurring. There are inherent difficulties in discussing event attribution science and, as recognised by Hulme, a distinction must be made between causation which is deterministic (“this caused that”) and that which is probabilistic (“this made that more likely”).<sup>15</sup>

The first attribution study was in 2004. The limitations of attribution science were summarised by United Nations Environment (UNE) in its study on climate change litigation which recognised that although many courts have identified a general relationship between greenhouse gas emissions and negative environmental events, “no court has yet found that particular greenhouse gas emissions relate causally to particular adverse climate change impacts for the purpose of establishing liability.”<sup>16</sup> This limitation has also been recognised by a number of scholars who state that event attribution science can identify generally how anthropogenic greenhouse gases have contributed to adverse climate or weather events but cannot link particular contributors or projects to a change in climate which then resulted in an

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<sup>13</sup> See Sophie Marjanac and Lindene Patton, “Extreme weather event attribution science and climate change litigation: an essential step in the causal chain?” (2018) 36(3) *Journal of Energy & Natural Resources Law* 265.

<sup>14</sup> *Ibid* 268.

<sup>15</sup> Mike Hulme, “Attributing weather extremes to ‘climate change’: A review” (2014) 38(4) *Progress in Physical Geography* 499, 500.

<sup>16</sup> United Nations Environment, “The Status of Climate Change Litigation: A global review” (May 2012) 19-20.



adverse weather event.<sup>17</sup> This is inherent in the fungible nature of greenhouse gases.<sup>18</sup>

Event attribution science seeks to improve understanding of anthropogenic climate change by connecting changes in climate induced by human activity to specific weather events and any associated harm. While it is well-recognised that event attribution science is far from being able to link specific greenhouse gas emissions to a particular project or emitter,<sup>19</sup> it will likely assist in bringing scientific knowledge within the existing legal framework which requires proof of standing, foreseeability, causation and harm inter alia. As aptly stated by Marjanac and Patton, “attribution science will be influential in evaluating causation issues and for establishing foreseeability of weather events”.<sup>20</sup> This will likely have important flow-on consequences for policy-makers as it will improve the ability of governments to predict and plan for extreme weather events.

Commentators have considered this science opens the door to establishing evidence of specific and quantifiable loss and damage arising out of atmospheric levels of greenhouse gases linked to specific regions or individuals. Such evidence is likely to be relevant to damages claims against large emitters.

### **Wither climate change litigation?**

With Australia’s comparatively extensive experience with climate change litigation, academic commentators have stated that we are moving towards a “second generation” of climate change cases. The “first generation” of climate change litigation was characterised by cases which “...consolidated the practice of including climate change considerations in environmental impact assessment undertaken for projects with substantial greenhouse gas emissions or the potential to be impacted

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<sup>17</sup> Jacqueline Peel, Hari Osofsky and Anita Foerster, “Shaping the Next Generation of Climate Change Litigation in Australia” (2017) 41 Melbourne University Law Review 793, 812; Sophie Marjanac and Lindene Patton, ‘Extreme weather event attribution science and climate change litigation: an essential step in the causal chain?’ (2018) 36(3) *Journal of Energy & Natural Resources Law* 265, 278.

<sup>18</sup> Sophie Marjanac and Lindene Patton, “Extreme weather event attribution science and climate change litigation: an essential step in the causal chain?” (2018) 36(3) *Journal of Energy & Natural Resources Law* 265, 284-285.

<sup>19</sup> Ibid 278.

<sup>20</sup> Ibid 266.

by climate change consequences such as sea level rise.”<sup>21</sup> The “second generation” of climate change litigation will likely involve cases which do not directly consider climate change but have implications for mitigation and adaptation.<sup>22</sup> This will have flow-on effects for how such cases are run and the types of evidence adduced. Marjanac and Patton have suggested that:

...the next set of litigation issues will likely turn on whether improvements in attribution science can show what scientists knew or know about climate change, and thus what effects or events can be totally or partially attributed to climate change and what was reasonably foreseeable.<sup>23</sup>

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<sup>21</sup> Jacqueline Peel, Hari Osofsky and Anita Foerster, “Shaping the Next Generation of Climate Change Litigation in Australia” (2017) 41 Melbourne University Law Review 793, 796.

<sup>22</sup> Ibid 801-802.

<sup>23</sup> Sophie Marjanac and Lindene Patton, “Extreme weather event attribution science and climate change litigation: an essential step in the causal chain?” (2018) 36(3) *Journal of Energy & Natural Resources Law* 265, 297.