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Applying the Precautionary Principle to Address the "Proof Problem" in Climate Change Litigation

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Abstract

One of the challenges of climate change litigation is the difficulty of linking particular climate change impacts to emissions from a specific source, referred to as the *proof problem*. The difficulty is mainly caused by scientific uncertainties and gaps in evidence, which has been exploited by defendants seeking to deny that their emissions can be linked to specific impacts. The paper argues that application of *precautionary principle*, which requires decision-maker to take measures to prevent harm even where there is no conclusive scientific evidence, could be used to respond to the *proof problem*. It discusses how the principle can be used to hold entities and public authorities liable in climate change litigation. It provides a background of the principle, how it has been applied in litigation and how the application can be extended to climate change liability. It includes a discussion of climate related cases which have applied this principle to provide insights on how courts have applied the principle.

Keywords

climate litigation – proof problem – precautionary principle

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1 Introduction

> *The problem very often is that long before the science does come in, the harm has already been done.*
>
> MICHAEL POLLAN[1]

While the international community and national governments have been slow in taking adequate measures against climate change, people are seeking other legal avenues to address this issue. Frustrations over failure to confront climate change has driven some public interest groups, individuals and local governments to seek redress for both the causes and effects of global warming in courts. They have turned to courts to 'hold certain entities accountable for their contribution to global warming and to maintain the climate change issue on the political agenda'.[2] Consequently, there has been an increasing number of climate change related cases in courts both at the regional/sub-national and national level. Cases have been brought against corporations emitting large amounts of greenhouse gases (GHG) to the atmosphere and against governments for failing to adequately regulate GHGs and to factor climate change in decision-making.[3]

Even with the increased litigation on climate change, the success rate has been relatively low.[4] One of the major barriers has been the difficulty of linking particular climate change impacts to emissions from a specific source. In most jurisdictions, a party must have a cause of action to bring a suit before courts. This will require a party to establish injury, causation and redressability.[5] The party filing a claim must establish that the harm complained about has been caused by the defendant and that there is some form of redress. In terms of climate litigation, the plaintiff needs to establish that the harm complained of was caused by climate change and that climate change was caused by the defendant, either partly or wholly.[6]

1 Michael Pollan, 'Precautionary Principle' (*Science & Environmental Health Network*, 9 December 2001) <http://www.sehn.org/pollan.html> accessed 14 May 2015.

2 Jolene Lin, 'Climate Change and the Courts' (2012) 32(1) LS 35.

3 See William Burns and Hari Osofsky (eds), *Adjudicating Climate Change: State, National, and International Approaches* (CUP 2009) for a discussion of climate change cases.

4 ibid.

5 Erica Kassman, 'How Local Courts Address Global Problems' (2013) 24 Duke Journal of Comparative and International Law 201.

6 Joseph Smith and David Shearman, *Climate Change Litigation: Analysing the Law, Scientific Evidence and Impacts on the Environment, Health and Property* (Presidian Legal Publication 2006) 45.

Climate change is a global problem, with emissions from entities in all countries in the world being released to the atmosphere. Each country contributes to global warming, from developed highly industrialized countries to developing and least developed countries.[7] The difference is the amount of GHG emissions from each country. The atmosphere encompasses the globe and therefore the emissions from entities in all countries collectively cause harm. Small island states like Vanuatu are among the least GHG emitters yet the impact of climate change in the region is grave.[8] The impacts are not caused by emissions from the state by itself but by emissions collectively from all countries in the world.

The global nature of climate change makes it difficult to isolate emitting entities and attribute harm caused by climate change to the entities. It is almost impossible to trace emissions from specific sources to determine which source cause particular harm. The difficulty has been attributed to scientific uncertainties and gaps in evidence regarding specific harm and linking emissions to harm at the local level.[9]

While noting the difficulty of proving causation in climate litigation, the paper explores how the *precautionary principle* can be used to address the difficulty. This is an environmental principle which requires decision-makers to take measures to prevent a substance from causing harm even if there is no conclusive scientific proof linking the activity to the harm. The paper attempts to address the question; Can the *precautionary principle* be useful in addressing the uncertainties in climate change litigation to hold entities liable for consequences of climate change and if so how? It argues that application of *precautionary principle* by courts could provide a response to the difficulty of proving causation. It further examines how the principle can be used to hold entities liable for their emissions or governments liable for their inaction against climate change and how its application can be extended to climate change liability to address the *proof problem*, with examples of case law. The cases referred to in the text are mainly from Australia and United States (US), with the recent case from the Netherlands also highlighted. The US and Australia have experienced the most active attempts to address climate change through litigation and there has been an increasing number of climate cases from these jurisdictions, some even setting precedent. In addition, the courts in Australia and the US have been on the forefront in implementing the

7 Intergovernmental Panel on Climate Change (IPCC), *Fifth Assessment Report* (IPCC AR5 Working Group, 2009) <www.ipcc.ch/report/ar5/mindex.shtml> accessed 14 May 2015.

8 ibid.

9 For a discussion on the barriers to climate change litigation, see Jacqueline Peel, 'Issues in Climate Change Litigation', (2011) 5(1) CCLR 15.

precautionary principle in climate change litigation and their case-law contains a wealth of information on the contents and application of the principle. The cases referred to herein provide insight on how the principle can be applied by judicial officers to address the difficulty of proof in climate litigation.

Part 1 has provided a summary of the problem and questions that will be addressed by the paper. Part 2 expounds on the difficulty of linking harm and activity in climate change litigation. Part 3 discusses how *the precautionary principle* can be used to address the *proof problem* while part 4 provides a conclusion based on the analysis.

2 The "Proof Problem" in Climate Change Litigation

2.1 *Private and Public Claims in Climate Change Cases*

Climate change cases usually fall into two broad categories; private claims based on torts on the one hand and public law cases challenging government's failure to take climate change into consideration on the other. Private claims are usually based on personal injury, damage to property or some economic damage caused by climate change[10] and the claimants are usually seeking redress to compensate for the injury or damage suffered. They may either be filed by private parties or the government, usually against companies that are believed to contribute to climate change. One such claim was addressed by the US District Court (California) in the case of *State of California v General Motors et al*[11] where the State brought a public nuisance action against various motor-vehicle manufacturers. The state sought monetary damages for the defendants' past and on-going contributions to global warming and the related impacts. In another case in the US, *Cormer vs Murphy Oil USA Inc*,[12] a group of Missisipi Gulf Coast residents and property owners sued various companies for the damage and financial loss caused by Hurricane Katrina. The plaintiffs alleged that the emissions from the defendant companies contributed to global warming which intensified the Hurricane Katrina. Whereas the district court dismissed the case on the ground that the plaintiff's lacked standing,[13]

10 Kevin Haroff, 'Climate Change Litigation in the United States',in *'Liability for Climate Change? Experts Views on a Potential Emerging Risk'* (Munich RE 2009) <https://www.munichre.com/site/touch-publications/get/documents_E753942211/mr/assetpool.shared/Documents/5_Touch/_Publications/302-05493_en.pdf> accessed on 11 June 2015.

11 [2007] C06-05755(USDC N.D. Cal).

12 [2013] C12-60291 (USCA 5th Cir).

13 ibid.

the Court of Appeal reversed the district court's decision and held that the plaintiffs had a standing to bring claims for nuisance, trespass and negligence.[14]

Public law cases on the other hand are filed against the government challenging the government's failure to take into consideration climate change. They are often triggered by approval of projects which have or are likely to have a significant impact on the environment or by failure of government to put in place sufficient climate change mitigation or adaptation measures. The recent case of *Urgenda Foundation vs the State of Netherlands*[15] is an example of a suit filed against the government for failure to take sufficient measures to address climate change. The case was filed by the Urgenda foundation on its own behalf and on behalf of 866 Dutch citizens and the foundation sought an order from the court directing the Dutch government to reduce GHG emissions by at least 25% by 2020 compared to 1990 levels. In a judgment that was delivered in June 2015, the court ordered the Dutch government to limit the country's GHG emissions by at least 25% by 2020 compared to 1990 levels.

In both public and private claim cases, proof of causal link is material. In private claims based on tort, proof of causal link between the defendant's emissions and the alleged harm is material. Regarding public law suits, the success of a case is usually based on proof of causation and linking impacts with GHG emissions from a specific activity that needs to be regulated.

2.2 *The Challenge of Proving Causation*

Climate change is a global problem and GHG emissions are produced by entities in all countries all over the world. What varies is the amount of GHG emitted by different countries and by different entities within a country. Reports indicate that whereas countries like the US and China have the highest emissions, least emitters like Vanuatu are the ones impacted most by climate change.[16] The countries are affected by emissions from all over the world and not just from their region. This shows the global nature of climate change and it is therefore difficult, almost impossible, to attribute impacts of climate change to a specific emitter, since the GHGs emitted collectively cause harm. This is what is referred to as the "*proof problem*" which is basically 'the problem of demonstrating that the emission of GHGs to the atmosphere by a particular activity or facility will give rise [or gave rise] to specific impacts on a local area or population'.[17]

14 ibid.

15 [2015] C/09/456689 / HA ZA 13–1396 (rb Den Haag).

16 IPCC Fifth Assessment Report (n. 7).

17 Peel (n. 9); Brian Preston, 'Climate Change Litigation' (2009) 24 Environmental & Planning Law Journal 169.

The difficulty of attributing impacts of climate change to specific emitters highlights the challenges claimants face in climate change litigation. This makes it difficult to hold entities liable for their emissions and governments liable for failure to take action against climate change or take into account the impacts of climate change in decision making. The difficulty has been noted by various courts, such as the US District Court (California) in the aforementioned *General Motors* case[18] The court, in dismissing the suit filed by the State of California, held that it lacked 'guidance in determining what is an unreasonable contribution to the sum of carbon dioxide in the earth's atmosphere, or in determining who should bear the costs associated with the global climate change that admittedly result from multiple sources around the globe'.[19]

2.2.1 "Drop in the Ocean" Problem

The above case points out one factor that makes it difficult to prove causation in climate change litigation; something that Peel refers to as the 'drop in the ocean problem'.[20] Considering that climate change is a global problem, emissions from a single source will usually appear minimal in a large pool of global emissions, which makes it appear that such minimal emissions would not cause any significant impact. This is usually used by defendants to allege that their emissions are too small compared to the global emissions to cause any meaningful impact. This defence was successfully used by the defendant in the Australian case of *Anvil Hill Project Watch Association Inc v Minister for the Environment and Water Resources and Centennial Hunter*,[21] where the applicant challenged the decision by the Minister that the proposed construction of an open coal mine was not a "controlled action." Under section 75(1) of the Environmental Protection and Biodiversity Conservation Act, the Commonwealth Minister is to assess if a proposed action is a "controlled action." The court, while dismissing the appeal, agreed with the report of the Minister's delegate that the GHG emissions from the coal to be produced by the proposed mine were a small proportion of the total possible emissions from all the other sources around the globe and that such emissions were "likely to be negligible in the context of existing emissions".[22] The delegate had found that:

18 Peel (n. 9).

19 Kevin Haroff and Jacqueline Hartis, 'Climate Change and the Courts: Litigating the Causes and Consequences of Global Warming' (2008) 22 Natural Resources & Environment 50.

20 Peel (n. 9).

21 [2007] FCA 1480 (FCA).

22 ibid [25–27].

> … the amount and concentration of greenhouse gases in the atmosphere, and any resultant adverse impacts on matters protected by Part 3 of the EPBC Act, are the consequence of human activities on a global scale over a long period of time.
>
> [I]n light of the relatively small contribution of the proposed action to the amount and concentration of greenhouse gases in the atmosphere, I found that a possible link between the additional greenhouse gases arising from the proposed action and a measurable or identifiable increase in global atmospheric temperature or other greenhouse impacts is not likely to be identifiable.[23]

In dismissing the appeal, the court held that the delegate had rightly considered the relevant facts and that the claimants had failed to show that the impact of emissions from the proposed project would be significant.

2.2.2 Scientific Uncertainty

In addition to the "drop in the ocean" problem, lack of scientific certainty on impacts of climate change at the local level makes it difficult to link emissions from specific source to the harm or injury. The *proof problem* is usually caused by scientific uncertainties in ascertaining the harm emissions from sources would cause, especially at the local level. Although there is scientific evidence of existence of climate change and its impacts, which has generally been accepted in mainstream opinion,[24] the existing scientific reports[25] have for a long time focused on the effects of climate change at the global level, with little attention on how climate change might manifest at the local level.[26] This has made it difficult for claimants in climate change cases to be able to prove with certainty that their injury is as a result of emissions from specific sources.

The *proof problem* is compounded by the fact that some courts have narrowed the scope of 'impact' by emphasizing that litigants must prove significant

23 Ibid.

24 Douglas Fisher, 'The Statutory Relevance of Greenhouse Gas Emissions in Environmental Regulation' (2007) 24 *Environment and Planning Law Journal* 210; Nicola Durrant, 'The Science and Economics of Climate Change: an Update on the Predictions' (2007) 4 *National Environmental Law Review* 39; Virginie Marchal and others, 'Climate Change' in OECD(ed), *OECD Environmental Outlook to 2050: The Consequences of Inaction* (OECD, 2012); United Nations Development Program, *Human Development Report 2007/2008 – Fighting Climate Change: Human Solidarity in a Divided World* <http://hdr.undp.org/sites/default/files/reports/268/hdr_20072008_en_complete.pdf> accessed 12 May 2015.

25 IPCC Fifth Assessment Report (n. 7).

26 Peel (n. 9).

impact. In the *Anvil Hill* case,[27] an attempt to review the Minister's approval of construction of an open coal mine failed due to failure to link the proposed mine and a specific, identifiable and measurable rise in global temperatures or other climate change impacts, which led to the conclusion that 'the relatively small contribution of the proposed emissions to total global emissions could not be seen as having a significant impact'[28] The court held that the question was not whether there was an impact but whether that impact is, will be or is likely to be significant[29]

2.2.3 Liberal Approach to Causation

Some judicial officers have taken a flexible approach to the issue of causation in climate change cases. Such courts have not demanded strict proof of causal link between greenhouse emissions and particular impacts in order to uphold claims.[30] This was evident in *Massachusetts et al v Environment Protection Agency*[31] decision, with the majority of the Supreme Court finding that there was an adequate link between GHG emissions from the US transportation sector and injuries to Massachusetts caused by rising sea level and coastal erosion to find that the petitioners had a standing to challenge Environmental Protection Agencies' (EPA) refusal to regulate emissions from motor-vehicles. On Massachusetts' claim that EPA was required to regulate GHG emissions from motor vehicles pursuant to §202(a)(i) of the *Clean Air Act*, the majority held that EPA could only refuse to do so 'if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do so'.[32]

Although the decision that the petitioners had a standing to challenge EPA's refusal to regulate was procedural, the decision was based on the finding that there was a link between emissions from the transport sector and the injuries to the petitioners. The causal link between the emissions and the injuries was the basis of the decision and the Court took a liberal approach to causation by not requiring a rigorous step-by-step proof of causal link and by shifting the burden of proof to the defendant.

However, the liberal approach to causation has not been widely accepted by courts and tribunals in climate change litigation and most cases have been

27 *Anvill Hill Watch Associations* (n. 21).
28 ibid [40].
29 ibid.
30 Peel (n. 9).
31 [2006] C05-1120 (U.S.).
32 Ibid [1462].

unsuccessful due to failure to establish causation. The *Anvil Hill case*[33] is one of the cases that an attempt to litigate on climate change mitigation failed due to failure to link the emissions from a proposed project and impacts of climate change. The *proof problem* was also evident in the case of *Thornton v Adelaide Hills Council*[34] where residents appealed against an approval for installation of a coal-fired boiler to heat greenhouses of a flower farm. The appeal was dismissed due to lack of evidence of nexus between the likely increase in GHG emissions and the proposed development.

Even for the cases that have been successful, some judicial officers have openly expressed their reservations on liberalizing causation approach. The dissenting judgment in *Massachusetts v EPA* faulted the Petitioners for failing to show a causal link between the sea level rise and the lack of new motor vehicle GHG emission standards, and that the promulgation of such standards would redress the rising sea level. Accordingly, the dissenting justices concluded:

> Petitioners are never able to trace their alleged injuries back through this complex web to the fractional amount of global emissions that might have been limited with EPA standards. In light of the bit-part domestic new motor vehicle greenhouse gas emissions have played in what petitioners describe as a 150-year global phenomenon, and the myriad additional factors bearing on petitioners' alleged injury – the loss of Massachusetts coastal land – the connection is far too speculative to establish causation.[35]

3 Responding to the "Proof Problem" in Climate Change Litigation

3.1 *Responses to Proof Problem*

The *proof problem* has proved to be one of the hardest hurdles for plaintiffs in climate change litigation and for more cases to be successful, plaintiffs will need to innovate ways to address the problem and convince courts on liability arising from climate change. Addressing the *proof problem* will require strong scientific evidence that would provide certainty on the impacts of GHG emissions from specific sources.

33 *Anvill Hill Watch Associations* (n. 21).

34 [2006] 151 LGERA 1 (ERDCA).

35 *Massachusetts* (n. 31) Roberts par III.

It therefore follows that more accurate and strong scientific evidence as to the impacts of emissions from specific source would respond to the *proof problem*. Currently, lack of scientific certainty has been the hurdle in proving causation, and some cases have failed due to lack of scientific evidence directly linking harm suffered to emissions. For instance, the exact nature of various GHG and the extent to which each contributes to climate change is not clear. According to De Sadeleer, despite the efforts of the scientific community there is still no hope of fully understanding the complexities of the interactions of the atmosphere, the oceans, and greenhouse gases.[36]

While lack of sufficient scientific evidence continues to be a hurdle, some courts have had the opportunity to address the *proof problem* by applying the *precautionary principle* in climate change cases. The courts that have taken a liberal approach to causation have taken *precautionary approach* in decision-making, which has offered reprieve to claimants.[37] The *precautionary principle* therefore provides a way to respond the *proof problem* in climate change litigation.

3.2 *The Precautionary Principle as a Response to the Proof Problem*

3.2.1 Background of the Precautionary Principle

Precautionary principle is an age-old environmental principle that has evolved over time. It has its roots in the German *Vorsorgeprinzip* which arose in the 1980s in relation to air pollution control.[38] The principle was thereafter widely used in the 1990s and legitimized by inclusion in various international legal instruments, such as the *Rio Declaration on Environment and Development* and *United Nations Framework Convention for Climate Change* (UNFCCC).

The principle envisages an "anticipatory preventive action", meaning that public authorities need to take action to prevent damage even in cases of uncertainty.[39] It requires the decision making process to take all risks into account, whatever the uncertainty might be.[40]

Precautionary principle takes the approach that where there is threat to human health or the environment, measures should be taken to prevent such

36 Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (OUP 2002) 153.

37 The *Massachusetts case* (n. 31) and the *Gippsland case* (n. 57) are examples of cases where a liberal approach to causation has been taken by courts when applying the precautionary principle.

38 Sue Elworthy and Jane Holder, *Environmental Protection: Text and Materials* (Butterworths 1997) 16.

39 De Sadeleer (n. 36).

40 ibid.

harm, even if there is no conclusive scientific proof linking that particular substance or activity to the harm.[41] It ensures that a substance or activity posing a threat to human health or the environment is prevented from adversely affecting human health or the environment[42] and that lack of scientific certainty should not be a reason for postponing measures to prevent harm where there is a threat of serious or irreversible damage.

3.2.2 Recognition in Legal Instruments

The principle now features prominently in international and domestic legal instruments. Under the *Rio Declaration on Environment and Development*, states are required to take a precautionary approach to protect the environment. Consequently, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation where there are threats of serious or irreversible damage.[43]

Regarding the climate change regime, the principle is recognized by the United Nations Framework Convention for Climate Change (UNFCCC) as one of the guiding principles. The convention requires parties to take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Like the *Rio Declaration*, UNFCCC provides that lack of scientific certainty should not be a reason for postponing measures to deal with climate change.[44]

The European Union on the other hand, under Paragraph 2 of article 191 of the Lisbon Treaty, addresses *the precautionary principle* as follows:-

> Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.[45]

41 Nicholas Ashford and others, 'Wingspread Statement on the Precautionary Principle' (Wingspread Conference, Wisconsin, January 1998) <http://www.gdrc.org/u-gov/precaution-3.html> accessed 12 May 2015.

42 James Cameron and Juli Abouchar, 'The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment' (1991) 14 ICLR 1

43 UNEP Rio Declaration on Environment and Development, Principle 15.

44 UNFCCC Article 3.3.

45 Consolidated Version of the Treaty on the Functioning of the European Union [2010], art 191, para 2.

Most jurisdictions have also included this principle in their domestic legislation. For instance, the Australian New South Wales (NSW) Protection of the Environment Administration Act 1991 requires the environment protection authority to maintain ecological sustainable development (ESD) through the implementation of, among others, *the precautionary principle*.[46] The Act provides that lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation where there are threats of serious or irreversible. In the application of the precautionary principle, public and private decisions should be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment and
(ii) an assessment of the risk-weighted consequences of various options"[47]

3.2.3 Considerations in Applying the Precautionary Principle

The application of the principle is triggered by three main considerations; a threat of serious or irreversible damage, scientific uncertainty on linking an activity to the damage and proportionality.[48] In terms of the first consideration, it is not necessary for the damage to have occurred but a *threat* of the damage is necessary. It is however important to prove that the likely damage will serous or irreversible and proof of this may require scientific evidence.[49]

Other than irreversible damage and scientific uncertainty, proportionality is a prominent consideration in the application of the principle.[50] This features in various instruments requiring the application of the principle. For instance, the European Commission's Communication on *the precautionary principle* provided that, 'measures based on *the precautionary principle* must not be disproportionate to the desired level of protection and must not aim at zero risk.' [51]

The proportionality principle requires the precautionary measures taken to avert the likely risk to be proportionate to the likely risk.[52] For some provisions,

46 Protection of the Environment Administration Act 1991 (NSW), s 6.

47 ibid.

48 A comprehensive analysis of the principle together with the conditions precedent for it to be invoked is provided in the judgment by Preston CJ in the case of *Telstra Corporation Limited v Hornsby Shire Council* [2006] 146 LGERA 10.

49 ibid.

50 De Sadeleer (n. 36) 167.

51 Communication from the European Commission on the Precautionary Principle , para 6.3.1.

52 De Sadeleer (n. 36) 167.

it may be in terms of the costs where the decision-maker will need to consider the cost of measure vis-à-vis the cost of inaction. This can be seen from the international treaties such as the Rio Declaration and UNFCCC which require the measures to be cost-effective. For others, it may require the decision-maker to 'evaluate the need for and usefulness of proposed measures by considering how they will affect the interests of the various parties influenced by a decision.'[53] This may be in the form of, among others, economic and social interests as well as the country's (or region's) circumstances.

The courts will therefore need to take into account the factors as mentioned above in applying *the precautionary principle* in climate change litigation or in determining whether public authorities properly applied or failed to apply the principle. Once the three conditions are met, the courts would be willing to apply the principle.

3.2.4 Application of the Principle in Climate Change Litigation

The application of *precautionary principle* in climate change litigation could therefore provide a solution to the difficulty created by scientific uncertainty on the impacts of climate change from specific sources.[54] It would do this by, firstly, allowing the court to accept the general evidence of impacts of climate change as a likelihood of specific injury or damage to specific persons or entities. Secondly, the principle in addressing the *proof problem* may shift the burden of proof and require the defendant to prove that their emissions (or lack of action by public authorities) will not cause harm to the plaintiffs.

Arguably, GHG emission is a polluting activity that harms or is likely to harm the environment by contributing to global warming. Climate change and its impacts are based on growing scientific evidence,[55] which suggest that the possible harm arising from the impacts could be serious and irreversible. Even with the scientific uncertainty in linking climate change impacts with specific emission sources, there is considerable evidence of the general impacts of climate change, which points to the need for *precautionary approach* in climate related decisions.

The principle thus responds to *the proof problem* as it may allow courts to accept general evidence of impacts of climate change based on the available reports such as the IPCC assessment reports as a probative likelihood of

53 Ibid [169].

54 Peel (n. 9).

55 Including the IPCC (n. 7); Nicholas Stern, *The Economics of Climate Change: the Stern Review* (CUP 2007).

specific damage at the local level.[56] For instance, evidence of global sea level rise would mean that there is a high likelihood of coastal erosion at a coastal state. This seems to have been the approach taken by court in *Gippsland Coastal Board v South Gippsland SC & Others*[57] where the tribunal accepted the general consensus that climate change will result to extreme weather conditions, to hold that there was a reasonably foreseeable risk arising from climate-induced sea level rise, despite the fact that the claimant did not adduce specific evidence. This approach would therefore require the defendant to take action irrespective of scientific uncertainty linking an activity with impacts at the local level. Such an approach acknowledges that even though emissions from the specific source may be a small contribution to global emissions, its impact at the local level may be more than its impacts at global level.

The other way *the precautionary principle* may address *the proof problem* is to shift the burden of proof. This would happen where the court assumes that there is a threat of serious or irreversible damage despite uncertainties and therefore require the proponent of the project or the defendant to prove that the threat does not exist or is negligible.[58] This would lead to a 'presumption of threat or harmful impact' despite uncertainties.[59] Preston CJ in the *Telstra case* discussed the importance of shifting the burden of proof to ensure preventative measures when he held that once the principle is activated:-

> ..the decision-maker must assume that the threat of serious or irreversible environmental damage is no longer uncertain but is a reality. The burden of showing that this threat does not in fact exist or is negligible effectively reverts to the proponent of the proponent of the economic or other development plan, program or project.[60]

The *Massachusetts v EPA* case is an example on how the decision-maker, while taking precautionary approach, can shift the burden of proof to the defendant. The majority of the Supreme Court found that EPA could only refuse to regulate emissions of GHGs from motor vehicles pursuant to §202(a)(i) of the *Clean Air Act, "if* it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or

56 Peel (n. 9).

57 [2008] P3368/2007 (VCAT).

58 Cameron and Abouchar (n. 42).

59 ibid.

60 *Telstra Corporation Ltd.* (n. 48) [149–160].

will not exercise its discretion to determine whether they do so."[61] The burden was therefore shifted to the Defendant (EPA) to prove that GHGs from the US transport industry do not contribute towards climate change and EPA having failed to prove this, was bound to regulate emissions from the transport sector.

The application of the principle may see a higher success rate to climate litigation cases and this may lead to an increased number of climate related cases filed to courts. An increase in climate change cases will give climate change prominence in the political agenda and may push governments to take more action against climate change. As Peel argues that litigation has been used as a strategy in response to inadequate law-making by the government and to prompt wider policy change,[62] the increase in climate change cases may in turn influence government policies on addressing climate change.

3.2.5 Inclusion of the Principle in Legislation

So how can the *precautionary principle* be applied to climate change litigation? One way would be where it is incorporated in legislation or policy document as a consideration[63] then the decision-maker will have to determine whether it was considered. Most environmental legislations and policies include *precautionary principle* as one of the considerations, though most of them incorporate them in the objects section or part of principles to guide in decision making.[64] One of the statutes with the principle as part of the objects that has been subject to litigation is the Environmental Planning and Assessment Act 1979 (NSW) (EPA Act). Part of the objects of EPA Act is to encourage ESD, which can be achieved through implementation of the *precautionary principle* and protection of the environment.[65]

Application of ESD under EPA Act was the subject of litigation in *Walker vs Minister of Planning*,[66] where the Court applied *the precautionary principle* to reject the minister's approval for a residential sub-division and retirement

61 *Massachusetts* (n. 31).

62 Jacqueline Peel, 'The Role of Climate Change Litigation in Australia's Response to Global Warming'(2007) 24 EPLJ 90.

63 Kevin Bell, 'The Precautionary Principle: What is it and How do Courts Use it to Protect the Environment' (Environment Defenders Office Victoria Seminar on "Precautionary Principle", Melbourne, 13 July 2010).

64 ibid; See also Jacqueline Peel, 'Interpretation and Application of the Precautionary Principle: Australia's Contribution', (2009) 18(1) RECIEL 11 for a discussion of various legislations incorporating precautionary principle.

65 Environmental Planning and Assessment Act 1979 (NSW), s 5.

66 [2007] NSWLEC 741 (NSW).

development which was to be on the coastal land prone to flooding. Biscoe J held that the minister was obliged under the EPA Act to consider the principles under ESD, including whether the flooding would be compounded by climate change, which he failed to do. In discussing the relevance of climate change to the development of coastal land, the judge stated:-

> In my opinion, having regard to the subject matter, scope and purpose of the EPA Act and the gravity of the well-known potential consequences of climate change, in circumstances where neither the Director-General's report nor any other document before the Minister appeared to have considered whether climate change flood risk was relevant to this flood constrained coastal plain project, the Minister was under an implied obligation to consider whether it was relevant and, if so, to take it into consideration when deciding whether to approve the concept plan. The Minister did not discharge that function.[67]

Considering the consequences of climate change, Biscoe J held that the Minister's failure to take this into consideration was fatal and consequently declared the approval void. This decision was however overturned by the Court of Appeal in *Minister of Planning vs Walker*,[68] which held that while the EPA Act required the Minister to take into account the "public interest," he was under no obligation to consider ESD principles. The Court was of the view that the Minister was not obliged to consider all the objects of EPA Act but only those that were relevant to the situation and that failure to consider one of the objects set out in legislation should not be a ground to void the approval.

This shows that even where legislation provides for *precautionary principle* as one of the considerations to be taken into account, courts have considered that failure to apply it does not make the decision void. This decision does not however take into consideration the primary purpose of the principle and its inclusion legislation. Even where it has been included in the objects section, the purpose of such a provision is to prevent any harm or irreversible damage, and the technical approach that was taken by the Court of Appeal in the above case seems to negate from such intention.

Some legislations have gone beyond the objects section and incorporated the principle in the substantive legislative provisions. One such legislation is Australia's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Section 391 of the Act directs the federal Environment Minister,

67 ibid [166].

68 [2008] 161 LGERA 423 (NSWCA).

in making various decisions under the Act, to 'take account of the precautionary principle . . . to the extent he or she can do so consistently with the other provisions of this Act'.[69] Such a provision gives the principle a more prominent role and makes it a mandatory consideration making it easier to hold entities or authorities liable for failure to consider it.

Even where not specified in legislation, *precautionary principle* may be relevant consideration in the exercise of discretionary power[70] and can therefore be declared as applicable by courts. This can arise from the importation of the principle from international conventions (such as UNFCCC) where applicable[71] or from the general principles arising from practice. Some judicial officers have applied the principle even where there is no legislative provision. A case in point is the *Gippsland case*[72] where a tribunal took a flexible approach to the application of the principle even where the applicable planning provisions did not specifically require application of the principle. The tribunal applied *the precautionary principle* to set aside permits granted for residential developments in a low-lying coastal region due to a reasonably foreseeable risk arising from climate-induced sea level rise and flooding. The tribunal considered the risk as an adequate basis for invoking *the precautionary principle* notwithstanding the Tribunal's acceptance that there was a degree of scientific uncertainty as to the level of projected sea rise on the Gippsland coast. Though the tribunal accepted 'the general consensus that some level of climate change will result in extreme weather conditions beyond the historical record that planners and others rely on in assessing future potential impact'[73] in applying the principle, it acknowledged that '[t]he range of impacts may well be beyond the predictive capability of current assessment techniques'.

Another case is the US case of *Massachussets v EPA*.[74] Although the court did not directly refer to *precautionary principle* or any legislation requiring EPA to consider the principle when making decisions, the court took a *precautionary approach* when it held that EPA could not avoid its statutory obligation 'because of some residual uncertainty surrounding various features of climate change'.[75]

69 Environment Protection and Biodiversity Conservation Act 1999 (Australia) s 391.

70 *Telstra Corporation Ltd* (n. 42).

71 ibid.

72 *Gippsland Coastal Board* (n. 57) [1545].

73 ibid.

74 *Massachusetts* (n. 31).

75 Ibid.

The cases show that it does not necessarily have to be prescribed in legislation for judicial officers to apply the precautionary principle. The decision-makers can as well take *precautionary approach* in their decision-making rather than dismissing cases for lack of conclusive scientific evidence.

4 Conclusion

Proving causation is one of the most difficult challenges litigants face in climate change litigation. The problem is compounded by the fact that some judicial officers have taken a strict approach to causation, requiring a step-by-step rigorous proof of harm from specific activity. The problem is mainly caused by lack of scientific certainty of the impacts of climate change at the local level, with most scientific reports concentrating on the impacts at the global level.

This paper has illustrated how *the precautionary principle* can be applied to respond to the challenge of proof. It has illustrated that the principle can be used even where it is not specifically provided for in legislation. However, it would be better for law-makers to specifically provide for the principle in the substantive legislative provisions, as this would give it more weight and this will require judicial officers to explicitly apply the principle when making decisions or determining whether public authorities properly applied the principle in making decisions. Explicit provisions in legislation will ensure that the same is applied by judicial officers and not left to the courts as a matter of discretion. Even where it is not provided for in legislation, judicial officers should not shy away from applying the principle where its application is warranted. This is because litigation plays an important role in influencing government policies and this may continue to keep climate change into political agenda and influence public authorities and private entities to take measures against climate change.

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