

Changing Climate Law and Governance: A multi-level perspective

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Challenges to a Sustainable Recovery: International Law, Climate Change and Public Health Conference

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The challenge the climate crisis presents

The theme of this conference is identifying and suggesting solutions to challenges to a sustainable recovery from, amongst other threats, climate change. Climate change is an overwhelmingly human-induced problem. We have been emitting, and are continuing to emit, too much greenhouse gases by sources and have been reducing, and continue to reduce, too little greenhouse gases by sinks, so that the global average temperature is continuing to rise above pre-industrial levels, with concomitant calamitous consequences for the planet and its people.¹ Herein lies the challenge.

The Paris Agreement sets two targets to meet this challenge: a temperature target and a time target. The temperature target, set by Article 2.1(a) is:

“Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.”

The time target, set by Article 4.1, is:

“In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.”

These temperature and time targets appear to be straightforward and capable of being achieved. Regrettably, this has not been proven to be so. Although 196 countries of the world are parties to the Paris Agreement, the world is not on track to meet either of the targets set by the Paris Agreement. Already, the increase in global average temperature above pre-industrial levels is 1.1°C, with the Intergovernmental Panel on Climate Change (IPCC) predicting that global warming is likely to reach 1.5°C above pre-industrial levels between 2030 and 2052 if it continues to increase at the current

¹ William J Ripple et al, ‘World Scientists’ Warning of a Climate Emergency’ (2020) 70 (1) *BioScience* 8.

rate.² The aggregate of parties' Nationally Determined Contributions (NDCs), the commitments of parties to reduce greenhouse gas emissions in their jurisdictions, would result in an increase in global average temperature of around 2.4°C by 2100.³

Thus, despite parties knowing what is the challenge, they are failing to do what needs to be done to meet the challenge. Like Emperor Nero while Rome burnt, we fiddle while the world warms. And warm it does. The latest IPCC Report, the Sixth Assessment Report released in August 2021, paints a disturbing picture:

- Recent changes in the climate are widespread, rapid, and intensifying, and unprecedented in thousands of years.⁴
- It is indisputable that human activities are causing climate change, making extreme climate events, including heat waves, heavy rainfall, and droughts, more frequent and severe.⁵
- Climate change is already affecting every region on Earth, in multiple ways. The changes we experience will increase with further warming.⁶
- Some changes in the climate system are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level.⁷
- Unless there are immediate, rapid, and large-scale reductions in greenhouse gas emissions, limiting warming to 1.5°C will be beyond reach.⁸

How can such mass cognitive dissonance be occurring? We have accepted the science and we have recognised the challenge. Yet we fail to take the ambitious and urgent action in accordance with the science that is necessary to meet the challenge. This dilemma is top of the agenda for the upcoming Conference of the Parties (COP 26) in Glasgow in two months. There is a call to bring forward the time target, from the end of this century to the middle of the century, to achieve net zero emissions by 2050.⁹ Although clearly desirable, that adjusted time target will be insufficient. On current greenhouse gas emissions trajectories, the global carbon budget necessary to prevent the global average temperature exceeding the temperature target will be exceeded well before 2050.¹⁰ Achieving the temperature target will require deep and urgent reductions of greenhouse gas emissions by sources and increased removals of greenhouse gases by sinks.

If parties have not been willing so far to take the necessary action to overcome this mass cognitive dissonance, what will cause them to do so in the future? Answering

² Intergovernmental Panel on Climate Change, *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways* (Report, 2018) A.1.

³ Climate Action Tracker, *Climate Action Tracker: Warming Projections Global Update* (Report, May 2021).

⁴ Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Report, 2021) A.1.

⁵ Ibid A.1.

⁶ Ibid A.3.

⁷ Ibid B.5.

⁸ Ibid B.1.

⁹ United Nations, *Net Zero Coalition* (Web page, 2021) <<https://www.un.org/en/climatechange/net-zero-coalition>>.

¹⁰ Climate Council, *Aim Fast, Go High: Why Emissions Need to Plummet this Decade* (Report, 2021).

this question is fundamental to achieving the desired sustainable recovery from the challenge of climate change. This question, and finding the answers to it, are the burning issues of today. They will be front and centre at COP26, as they will be at this conference hosted by Durham University.

It would presumptuous and arrogant for me to suggest that I have found answers where far more knowledgeable and capable people have not been able to, and I do not do so. My contribution today will be far more modest. I simply want to suggest where it might be productive to look for the answers. I suggest looking at examples where there has been some shift in attitude and action concerning climate law and governance, and then analyse how and why that shift might have occurred. This analysis might provide insights into what might be able to be done in the future. To assist in this analysis I will refer to an approach, used in sociotechnical transitions studies, of the multi-level perspective.

Using a multi-level perspective to answer the challenge

I will use a modified form of multi-level perspective, which suggests a nested hierarchy comprising a micro-level (niches), meso-level (regimes) and macro-level (landscape).¹¹ This is depicted diagrammatically in Figure 1.

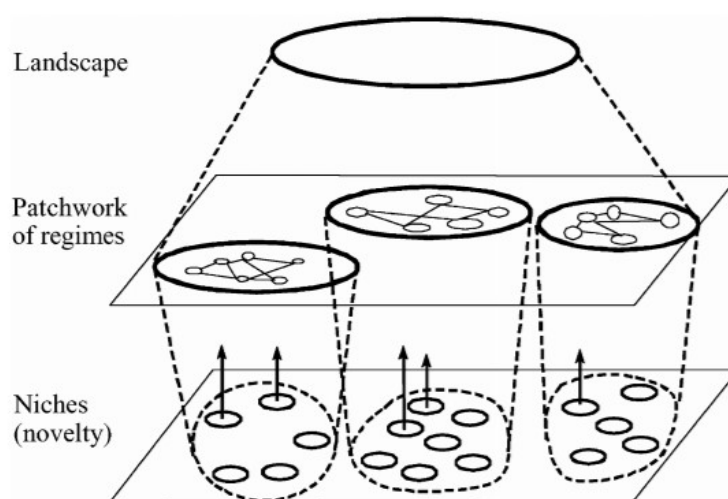


Figure 1. Multiple levels as a nested hierarchy.¹²

The regime

The regime or meso-level is the institutional, political, social, economic and legal status quo. The regime contains the dominant institutions and the prevailing laws, rules, policies, practices, routines and discourses. The institutions in a country include the three branches of government: the legislature, the executive and the judiciary. The regime includes the law and legal system, as well as the prevailing legal culture and

¹¹ See, for an explanation of the multi-level perspective, Frank W Geels, 'Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and case study' (2002) 31 *Research Policy* 1257-1274.

¹² Geels (n 11) 1261.

values that underpin the law and legal system. These elements are linked together and constitute the configuration of the regime.

The regime has considerable stability and inertia, making it difficult for radically different ideas, attitudes and behaviours to become established.¹³ In the context of sociotechnical regimes, Geels gives this explanation for the stability and inertia of the regime:

“Elements at the regime level are stable because they are linked together. These linkages are maintained and reproduced by the alignment and co-ordination of different actor groups. In stable situations, innovation is mainly incremental and ‘down the design hierarchy’. Radical innovations, which are pioneered in niches, have a hard time to break out of the niche-level.”¹⁴

This inertia of the regime is especially true for the law, legal institutions and the legal system, which all value stability. This does not mean that change cannot occur – it does – but the change tends to be of an incremental nature and path dependent according to legal method and logic. The core concept of the regime is that it imposes logic and direction for change along established pathways of development.¹⁵

The niches

Niches are places where radical, revolutionary innovations are generated and developed. From a sociotechnical transitions perspective, innovations are scientific, technical and technological, but in law the innovations are ideas and arguments. In climate law, the ideas and arguments might have as their outcome or objective persuading or compelling greater action to mitigate and adapt to climate change or remedying harm caused by climate change.

The actors in the niches include environmental non-governmental organisations, climate action groups, community groups, legal and other professional organisations, and their lawyers and expert advisors. The actors generate and develop ideas and arguments in the protected space of the niche. Actors also interact with other actors in other niches, sharing ideas and arguments. These interactions can establish social networks, which might evolve into social movements.

The generation and development of ideas and arguments in individual niches and the interactions between actors in different niches cause niche innovations to build up internal momentum and exert pressure on the regime. One example is civil protests by social movements such as Fridays for Future, initiated by Swedish school student Greta Thunberg, and Extinction Rebellion. Another example is climate litigation by environmental NGOs and community groups. This is the example I will explore.

The process of niche innovation involves phases, including emergence, diffusion, adaptation or hybridisation, and cumulation. Emergence involves actors in niches

¹³ Frank W Geels et al, ‘Reducing energy demand through law carbon innovation: A sociotechnical transitions perspective and thirteen research debates’ (2018) 40 *Energy Research & Social Science* 23, 24.

¹⁴ Geels (n 11) 1272.

¹⁵ Kirsten Jenkins, Benjamin K Sovacool and Darren McCauley, ‘Humanizing sociotechnical transitions through energy justice: An ethical framework for global transformative change’ (2018) 117 *Energy Policy* 66, 68; Geels (n 11) 1272; Geels et al (n 13) 26.

generating ideas and developing arguments employing the ideas. This involves framing. An idea needs to be framed in a claim or cause of action known to the law of the jurisdiction. The claim or cause of action needs to be brought by a person with standing to sue and be justiciable by the court. The arguments advancing the claim or cause of action must be legally sound, founded on precedent and principle in the jurisdiction of the regime, but also drawing on persuasive dicta and legal materials from other jurisdictions, both domestic and international. The claim or cause of action must be proven by sound evidence. In climate cases, that evidence may concern local and international conditions. The interactions between actors in different niches will assist in the framing of the ideas and arguments for the claim or cause of action.

The ideas and arguments, encapsulated in the claim or cause of action, are deployed by the actors in climate litigation in a domestic court. The court's decision, and the ideas and arguments on which the decision was based, are disseminated by the actors involved to other actors in other niches. This involves a diffusion of the ideas and arguments.¹⁶

Other actors in other niches take the ideas and arguments developed in one jurisdiction and adapt or hybridise them to suit their local conditions. The emergence phase is replicated in these other niches. New claims or causes of action, employing the adapted or hybridised ideas and arguments, are deployed in climate litigation in another domestic court. In turn, that other domestic court's decision, and the adapted or hybridised ideas and arguments on which the decision is based, are disseminated and diffused to other actors in other niches. And so the process is repeated.¹⁷

Over time, there is cumulation of both niches as well as ideas and arguments. This builds a cumulation trajectory, along which ideas and arguments pass from niches to the regime-level.¹⁸ This can ultimately effect change in the regime, in ways that I will shortly explain.

The landscape

The landscape or macro-level forms an exogenous environment beyond the direct influence of niche and regime actors, but acting upon them in various ways.¹⁹ The external factors in the landscape are slow changing, such as broader trends in global events and the environmental, socioeconomic and cultural contexts within which actors and institutions are situated.²⁰ In a climate context, the external factors include the natural, social, political and economic environments that have been shaped, and continue to be shaped, by climate change and its consequences, as well as the international legal system, institutions and community. In the climate law context, these include the international climate agreements, such as the UN Framework Convention on Climate Change and the Paris Agreement; the institutions established thereunder, such as the IPCC and the Conference of the Parties; and other actors

¹⁶ For the phases of emergence and diffusion, see Geels et al (n 13) 24.

¹⁷ For a summary of this ripple effect of climate decisions, see Brian J Preston, 'The Influence of the Paris Agreement on Climate Change Litigation: Causation, Corporate Governance and Catalyst (Part II) (2021) 33 *Journal of Environmental Law* 227, 247-255.

¹⁸ Geels et al (n 13) 27.

¹⁹ Geels et al (n 13) 26.

²⁰ Jenkins et al (n 15) 74.

involved in the mitigation of and adaptation to climate change. This landscape level also incorporates broader political, social, cultural and environmental values of society.

The landscape changes through gradual changes in these external factors. Examples in the exogenous environment are the changing climate and the concomitant increasingly adverse effects as well as the changing responses of the international community, including the making of the Paris Agreement, parties' NDCs submitted under the Paris Agreement, and the resolutions and actions agreed at the various conferences of the parties. These developments at the landscape level may put pressure on the regime.²¹

Regime change

Pressure from niche innovations and exogenous developments triggers tensions in the regime, creating windows of opportunity for the breakthrough of niche innovations to effect changes in the regime.²² The success of ideas and arguments, therefore, is governed not only by processes within niches, but also developments at the levels of the existing regime and the landscape.²³ Kemp et al suggest that: "It is the alignment of developments (successful processes within the niche reinforced by changes at regime level and at the level of the sociotechnical landscape) which determine if a regime shift will occur."²⁴ The dynamic interactions between the three levels are shown in Figure 2.

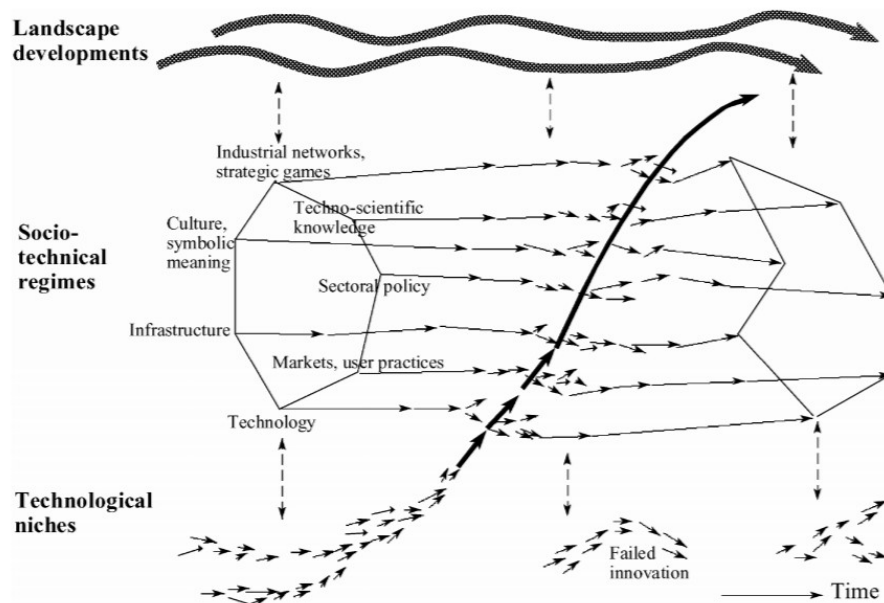


Figure 2. A dynamic multi-level perspective.²⁵

A worked example: the ideas of inter- and intra- generational equity

²¹ Geels (n 11) 1261.

²² F W Geels, F Berkhout and D van Vuuren, 'Bridging analytical approaches for low-carbon transitions' (2016) 6(6) *Nature Climate Change* 576, 580.

²³ Geels (n 11) 1261.

²⁴ R Kemp, A Rip and JW Schot, 'Constructing transition paths through the management of niches' in R Garud and P Karnoe (eds), *Path Dependence and Creation* (Lawrence Erlbaum, 2001) 269, 277.

²⁵ Geels (n 11) 1263.

Let me now illustrate how niches innovations can facilitate change at the regime level. I will select as examples of niche innovations two ideas that have founded arguments in climate litigation. These ideas concern two types of climate equity or justice, inter-generational equity and intra-generational equity. The first is concerned to ensure equity or justice between the current and future generations while the second is concerned to ensure equity or justice between members of any generation. Arguments based on these ideas have been developed at the niche level and litigated in the courts of different countries, which are at the regime level. Although the prevailing conservative legal system and culture within which the courts operate were at first less than receptive to these niche innovations, pressure by repeated litigation raising arguments based on these ideas, together with slow changing events at the landscape level, created opportunities for the courts to embrace in their decision-making the ideas of inter-generational equity and intra-generational equity. The dominant institutions and elements at the niche, regime and landscape levels influencing the development and acceptance of the ideas and arguments are depicted in Figure 3.

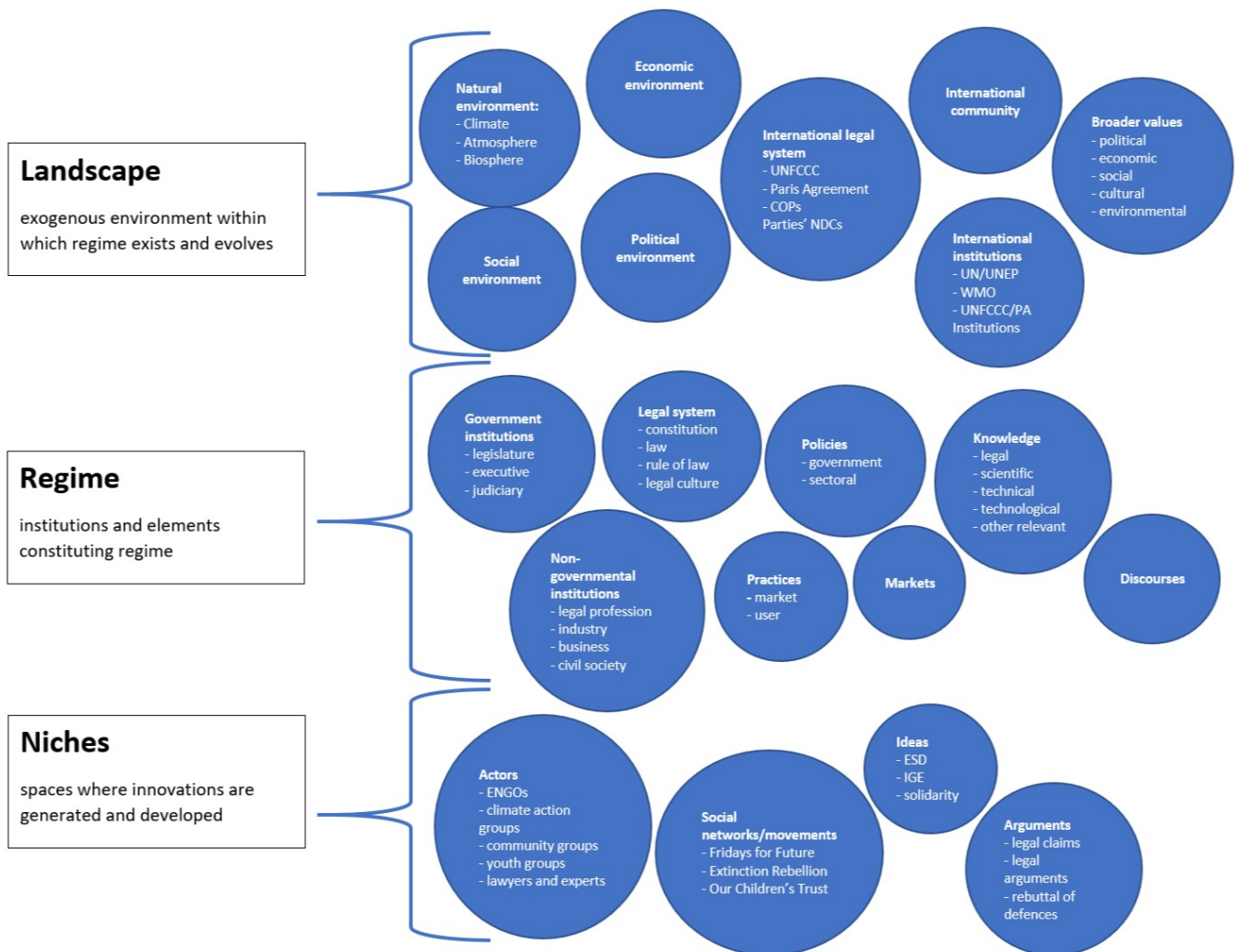


Figure 3. A multi-level perspective on climate law and governance transitions.

Starting with the idea of inter-generational equity, it has been advanced through public interest litigation using youth plaintiffs. A first mover was the public interest litigation concerning the over-exploitation of the forests of The Philippines in *Oposa v Factoran*.²⁶ The plaintiffs were minors, representatives of the next generation, who were suing to preserve a balanced and healthful ecology for current and future generations. This idea of using youth plaintiffs to promote the idea of inter-generational equity was disseminated and adapted for use in climate litigation. The domestic legal actions brought in the United States by youth plaintiffs, organised by Our Children's Trust, of which *Juliana v USA*²⁷ is the best known, are illustrations. In turn, these actions have spurred similar actions by youth plaintiffs in other countries, including *Ali v Federation of Pakistan*²⁸, *Segovia v Climate Change Commission* (The Philippines)²⁹, *Pandey v India*³⁰, *Future Generations v Ministry of the Environment* (Colombia)³¹ and *Sharma v Minister for Environment (Sharma)* (Australia)³².

The idea of inter-generational equity has also framed the legal arguments raised in climate litigation. In Australian climate litigation, plaintiffs have claimed that administrative decision-makers are bound to consider the principles of ecologically sustainable development, one of which is inter-generational equity. Courts, particularly in New South Wales, have held that administrative decision-makers, in their consideration of ecologically sustainable development, need to take into account the impact of a development on climate change and conversely the impact of climate change on a development: *Gloucester Resources Ltd v Minister for Planning*³³ (*Gloucester*) is a recent example. This consideration includes taking into account the adverse effect that a proposed action is likely to have on inter-generational equity.³⁴ This use of the idea of inter-generational equity has also been diffused. The Land and Environment Court of NSW's finding in *Gloucester* that the proposed coal mine would cause inter-generational inequity was referred to in an amicus brief filed in support of the youth plaintiffs in *Chernaik v Brown*³⁵, climate litigation in the Supreme Court of Oregon supported by Our Children's Trust.

Turning to the idea of intra-generational equity, plaintiffs have used the idea in climate litigation to compel governments to take more ambitious action to mitigate or adapt to climate change. Litigation has been brought against governments challenging the adequacy of their commitments, policies and NDCs in reducing greenhouse gas emissions by sources. Consider the litigation brought by the Urgenda Foundation arguing that The Netherlands' government was acting unlawfully by not reducing sufficiently greenhouse gas emissions in the country. The intra-generational inequity of the Dutch government's conduct was manifested in two ways: first, the Dutch government's actions violated the human rights of people who are suffering and will

²⁶ GR No 101083 (1993) 224 SCRA 792.

²⁷ D Or, 6:15-cv-1517-TC, 8 April 2016.

²⁸ Supreme Court of Pakistan, Constitutional petition filed 5 April 2016.

²⁹ GR No. 211010, 7 March 2017, Supreme Court of the Philippines.

³⁰ National Green Tribunal of India, Original Application No. 187 of 2017, Petition filed 24 March 2017.

³¹ STC4360-2018, 5 April 2018.

³² [2021] FCA 560.

³³ (2019) 234 LGERA 257; [2019] NSWLEC 7 at [488], [498].

³⁴ *Gray v Minister for Planning* (2006) 152 LGERA 258 at [118]-[126]; *Gloucester* at [399], [498].

³⁵ Or Cir Ct, 16-11-09273, 31 July 2019 (original amicus brief filed 11 May 2015).

suffer the adverse effects of climate change and, second, the Dutch government was not contributing its proportional share to prevent climate change, have regard to what comparable developed countries were doing and The Netherlands' historic contributions to the greenhouse gas concentrations in the atmosphere. The first type of inequity concerns the need for solidarity with the poor, the disadvantaged and the vulnerable, while the second type of inequity concerns the need for solidarity between peers and amongst nations. The Dutch courts at each level, in finding that the Dutch government breached its duty of care under the Dutch Civil Code and its obligations under the European Convention on Human Rights, upheld the principle of intra-generational equity and the norm of solidarity in these respects.³⁶ Exerting an influence on the Dutch courts' decision-making were exogenous developments at the landscape level, including the worsening climate crisis and the international community's responses to the climate crisis, including the commitments of comparable developed countries to reduce greenhouse gas emissions.

The principle of intra-generational equity and the norm of solidarity have also been invoked by plaintiffs in arguing that courts should reject certain defences raised by governments and enterprises in climate litigation.

One defence is that the greenhouse gas emissions that will be caused by the impugned decision or project are only a "drop in the ocean", being so insignificant relative to total global greenhouse gas emissions as not to be worth bothering about. Courts have rebutted that argument. Examples are the Dutch courts' decisions in the *Urgenda* litigation³⁷, the US Supreme Court's decision in *Massachusetts v EPA*³⁸ and the Land and Environment Court's decision in *Gloucester*³⁹. Again, there has been diffusion of the ideas and arguments. The Land and Environment Court's rejection of the drop in the ocean argument in *Gloucester* was cited with approval by the Supreme Court of Canada in *References re Greenhouse Gas Pollution Pricing Act*.⁴⁰

Other defences concern market substitution. The argument is that if a proposed greenhouse gas emitting project were not to be approved and carried out in one country, an equivalent project will be approved and carried out in another country, so that no benefit would be obtained by not approving the project in the first country. A variant on the market substitution argument is the carbon leakage argument whereby it is said that if the substituted project were to be carried out in a country with laxer environmental laws, greenhouse gas emissions may in fact be greater. Again, courts are increasingly being persuaded to reject these arguments, based partly on the principle of intra-generational equity and the norm of solidarity.⁴¹ Where the project is

³⁶ *Urgenda Foundation v Netherlands (Urgenda I)*, The Hague District Court, C/09/456689/HA ZA 13-1396, 24 June 2015 at [4.83]; *Netherlands v Urgenda Foundation (Urgenda II)*, The Hague Court of Appeal, 200.178.245/01, 9 October 2018 at [29]; and *Netherlands v Urgenda Foundation (Urgenda III)*, The Supreme Court of the Netherlands, 19/00135, 20 December 2019 at [5.6.2].

³⁷ *Urgenda I* at [4.79], [4.83], [4.90]; *Urgenda II* at [62]-[64] and *Urgenda III* at [5.7.1]-[5.8], summarised in Brian J Preston, 'Influence of the Paris Agreement on Climate Change Litigation: Legal Obligations and Norms (Part I)' (2021) 33 *Journal of Environmental Law* 1, 15-16.

³⁸ 127 S Ct 1438 (2007) at [523]-[524].

³⁹ *Gloucester* at [525].

⁴⁰ [2021] SCC 11 at [189].

⁴¹ See *Gloucester* at [399], [406] and [414] as to intra-generational equity and [536]-[545] as to market substitution and carbon leakage.

proposed in a developed country, the developed country has a responsibility to take the lead in taking mitigation measures to reduce greenhouse gas emissions.⁴²

These ideas and arguments about inter-generational and intra-generational equity have been developed by the plaintiffs, mostly environmental NGOs and climate action groups, at the niche level and are run in the domestic courts of the regime. In turn, there is dissemination, diffusion, adaptation and cumulation of the ideas and arguments. The courts' acceptance of the ideas and arguments, however, has been facilitated by slow changing factors at the landscape level.

The most fundamental of these factors is the climate crisis itself. With each year, the consequences of climate change become more acute and more evident. Heat waves, droughts, fires, floods, storms, cyclones and sea level rise are but some of the climate change induced events. These environmental events have caused severe social and economic damage. The magnitude and significance of the environmental, social and economic harm caused by climate change is publicised in the mainstream media and in academic literature.⁴³ The peak international climate science authority, the IPCC, authoritatively documents past harms and predicts likely future harms. The IPCC's Sixth Assessment Report is the most recent chronicle.

These events and documentation of the climate crisis spur international and national action. The Paris Agreement itself is a response to the events and documentation prior to 2015. The Paris Agreement sets not only obligations, but also norms. The norms include the global norm for all countries to take action to mitigate climate change, the temperature target and the time target. International norms exert exogenous pressure on domestic decision-making.⁴⁴ Action by parties to the Paris Agreement includes not only submitting their NDCs, but also implementing their NDCs by taking legislative and executive action in their jurisdictions.

These events and documentation of the climate crisis and the international and national responses, also influence broader political, social and cultural attitudes and values. As shown by the lead up to COP21, where the Paris Agreement was adopted, and now the lead up to COP26, where there is a push for committing to net zero by 2050, governments can be swept along by increased consciousness and concern about climate change. Such climate consciousness and concern can also be seen in society. Polls regularly record people's concern about climate change and its consequences and their desire for their governments to take stronger action to address climate change.⁴⁵

⁴² See art 4(4) of the Paris Agreement and *Urgenda I* at [4.79], *Urgenda II* at [47], [71]; *Gloucester* at [539]-[540].

⁴³ See, for example, Ripple et al (n 1); K Lyons, 'IPCC report shows "possible loss of entire countries within the century"' *The Guardian* (online, 10 August 2021) < <https://www.theguardian.com/world/2021/aug/10/ipcc-report-shows-possible-loss-of-entire-countries-within-the-century>> and D Welsby et al, 'Unextractable fossil fuels in a 1.5 °C world' (2021) 597 *Nature* 230.

⁴⁴ See Preston (n 37) 14-27.

⁴⁵ See, for example, Nick O'Malley, 'Debate over coal "electorally dead"', *The Sydney Morning Herald* (Sydney, 30 August 2021) 4; and Nick O'Malley and Miki Perkins, 'Voters in every federal seat back climate action', *The Sydney Morning Herald* (Sydney, 30 August 2021) 1, 4. As to how climate consciousness can and should affect lawyers, see Brian J Preston, 'Climate Conscious Lawyering' (2021) 95 ALJ 51.

This changing context at the landscape level exerts pressure on the regime. Courts, being part of the regime, take cognisance of this changing context. This is not to say that courts are like reeds bowing in the direction of the prevailing wind. They are not. It is to say, however, that there are leeways of choice in finding, interpreting and applying the law and courts can legitimately have regard to the context and purpose of the law, in making these choices.⁴⁶

Two recent examples of courts taking cognisance of exogenous developments at the landscape level are *Sharma v Minister for Environment*⁴⁷ in Australia and *Milieudefensie v Royal Dutch Shell*⁴⁸ in the Netherlands. In *Sharma*, the Federal Court of Australia relied on the evidence of the changing climate and its dire consequences to hold that the government owed a duty of care to the Australian children when exercising powers under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) to approve an extension of a coal mine.⁴⁹ In *Milieudefensie v Royal Dutch Shell*, The Hague District Court held that Shell had violated its duty of care under Dutch law by emitting greenhouse gas emissions that contributed to climate change. The Court grounded its decision on the norms in the Paris Agreement, including the time target of net zero emissions by 2050, and the changing risks and consequences of climate change.⁵⁰

A third example of a court taking cognisance of changing circumstances is the recent decision of the Land and Environment Court of NSW in *Bushfire Survivors for Climate Action Inv v Environment Protection Authority*⁵¹ (*Bushfire Survivors*). The Court found that the statutory duty on the Environment Protection Authority (EPA) to develop policies to ensure environment protection is ambulatory, allowing the content of the duty to embrace changes in the threats to the environment. Policies to ensure environment protection will need to change in response to the threats to the environment that prevail and are pressing at the time. As one of the greatest threats is climate change, the Court held the EPA was required to develop policies to ensure environment protection from climate change.⁵²

The increasing number of judicial decisions around the world that reflect the changing context at the landscape level provides some evidence of the pressure that exogenous developments can exert on the regime.⁵³

We can see, therefore, that changes in the regime come about by alignments between processes at three levels. Niche innovations in ideas and arguments build up internal momentum, through the phases of emergence, diffusion, adaptation and cumulation of the ideas and arguments. Exogenous developments at the landscape level, including changes in the natural, social, political, economic and legal environments, create pressure on the regime. Tensions in the regime, caused by pressure from the

⁴⁶ Brian J Preston, 'The Art of Judging Environmental Disputes' (2008) 12 SCULR 103.

⁴⁷ [2021] FCA 560.

⁴⁸ ECLI:NL:RBDHA:2021:5337 (The Hague District Court).

⁴⁹ *Sharma* at [29]-[69].

⁵⁰ *Milieudefensie* at [4.434], [4.455].

⁵¹ [2021] NSWLEC 92.

⁵² *Bushfire Survivors* at [64]-[69].

⁵³ Preston (n 17) 247-255.

niche and landscape levels, create windows of opportunity for the acceptance of niche innovations by the courts, which cause changes in the regime.

The changes in the regime are initially in the law. The courts' decisions pronounce and develop the law. But those changes in the law must be implemented by the parties and society more generally. Where one of the parties is the government, it must adhere to and apply the decision of the court.

Thus, in response to the US Supreme Court's decision in *Massachusetts v EPA*, the US EPA revisited its earlier decision that greenhouse gases are not pollutants, and hence not able to be regulated under the *Clean Air Act*, so as to thereafter regulate greenhouse gas emissions from motor vehicles and other sources.⁵⁴ The Dutch government, in response to the Dutch courts' decisions in the *Urgenda* litigation, needed to increase the reductions in greenhouse gas emissions in The Netherlands. In response to the Land and Environment Court's decision in the *Bushfire Survivors* case, the NSW Government and the EPA announced that they will do "everything necessary to give that [judgment] full effect".⁵⁵ In response to the German Constitutional Court's decision in *Neubauer et al v Germany*,⁵⁶ to strike down parts of the German climate legislation as being incompatible with fundamental rights for failing to set sufficient provisions for emissions cuts beyond 2030, the legislature will need to enact a new and more ambitious climate law.

Such judicial remands drive climate action by the legislature and executive.⁵⁷ This too effects changes in the regime.

Closing the circle

The multi-level perspective provides an analytical framework to understand transitions in climate law and governance. I have illustrated the conceptual perspective using two related ideas of inter-generational and intra-generational equity. I have suggested that actors, such as environmental NGOs and climate action groups, working in protected spaces referred to as niches, employ these ideas to develop legal arguments in climate litigation in domestic courts. Through a process characterised by the phases of emergence, diffusion, adaptation and cumulation, the ideas and arguments are incorporated through judicial decision-making by the courts into the law of the land.

This process is facilitated by exogenous developments at the landscape level. The changing climate and its increasingly severe effects, and the changing attitudes and behaviours of the international community, including under international law, in response to the changing climate, exert contextual pressure on domestic courts' decision-making.

⁵⁴ 'Regulations for Greenhouse Gas Emissions', *United States Environmental Protection Authority* (Web Page, 2021) <www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-ghg-emissions>

⁵⁵ A Morton, 'NSW can "absolutely" stop using coal power by 2030, energy minister says', *The Guardian* (online, 10 September 2021) <<https://www.theguardian.com/australia-news/2021/sep/10/nsw-can-absolutely-stop-using-coal-power-by-2030-energy-minister-says>>.

⁵⁶ (2021) 1 BvR 2656/18, 1 BvR 96/20, 1 BvR 78/20, 1 BvR 288/20, 1 BvR 96/20, 1 BvR 78/20 at [261].

⁵⁷ See Joseph Sax, *Defending the Environment: a Handbook for Citizen Action* (Vintage Books, 1971) xviii and 152 and Brian J Preston, 'The role of public interest environmental litigation' (2006) 23 EPLJ 337, 339.

The combined pressures from the niche and landscape levels create tensions at the regime level, leading to a loosening up of the linkages of elements that comprise the configuration of the regime. The configuration becomes warm and receptive to incorporating the ideas and arguments. The courts, through their decisions, incorporate the ideas and arguments into the body of the law. Lawyers and other actors in the legal system accept, act and advise on the basis that the ideas and arguments are now the law. The other branches of government, the legislature and the executive, respond to this change in the law, adjusting their behaviours accordingly. Business and industry likewise adjust their behaviours to the new norm. And society's awareness and attitudes also adjust. In sum, there is regime change.

Breakthroughs of innovative ideas and arguments thus depend not only on the processes of generation and development at the niche level, but also on processes at the levels of regimes and landscapes. Context is all important. This is what makes the multi-level perspective useful for analysing transitions in climate law and governance.

I said earlier in my talk that my purpose is not to provide answers to the problem of achieving a sustainable recovery from climate change and its consequences, but simply to suggest where to look for the answers. I have suggested that a multi-level perspective may provide a useful tool in this search for answers. I hope that my worked example of how and why the ideas of inter-generational equity and intra-generational equity have led to shifts in climate law and governance at the regime level illustrates the usefulness of the multi-level perspective.