

Can litigation assist in implementing the outcome of the global stocktake?

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A paper presented to the International Climate Change Conference Durham, UK,
22 June 2023

1. THE STARKNESS OF GLOBAL CLIMATE CHANGE

The United Nation's World Meteorological Organization (WMO) released the provisional State of the Global Climate report on the opening day of the 2022 Conference of Parties in Sharm el-Sheikh (COP27).¹ The report estimates that the global average temperature in 2022 will be about 1.15°C above pre-industrial (1850-1900) levels,² making the past eight years (2015-2022) the eight hottest on record.³

The report found that concentrations of carbon dioxide (CO₂), methane, and nitrous oxide, the three main greenhouse gases, reached record highs in 2021, and have continued to rise in 2022.⁴ The graphic below produced by NASA shows that levels of atmospheric CO₂ are higher than they have ever been in the past 400,000 years.⁵

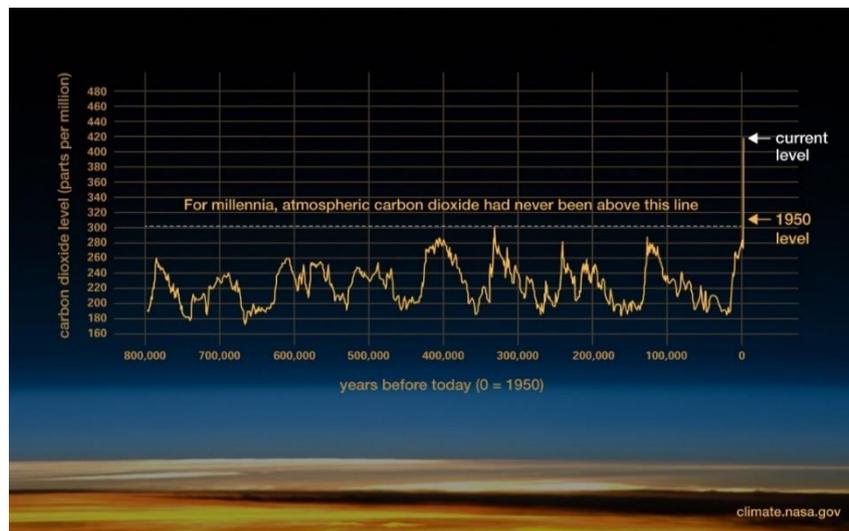


Figure 1 – The relentless rise of carbon dioxide⁶

Rising global temperatures have impacted both the sea and land. The rate of sea level rise has doubled since 1993 and the oceans are hotter than ever.⁷ Records for glacier

* Chief Judge, Land and Environment Court of NSW. I gratefully acknowledge the considerable assistance of Anasha Flintoff, Researcher and Tipstaff to the Chief Judge of the Land and Environment Court of NSW for 2022 in the research and writing of the paper.

¹ World Meteorological Organization, 'WMO Provisional State of the Global Climate 2022', WMO (Document, 2022) <https://library.wmo.int/doc_num.php?explnum_id=11359> 3, 4. The final version of the report is expected to be published in March 2023.

² Ibid.

³ Ibid.

⁴ Ibid 3.

⁵ Earth Science Communications Team at NASA's Jet Propulsion Laboratory, 'Graphic: The relentless rise of carbon dioxide', *Climate Change: Vital Signs of the Planet* (Web Page, 10 November 2022) <https://climate.nasa.gov/climate_resources/24/graphic-the-relentless-rise-of-carbon-dioxide/>.

⁶ Ibid.

⁷ World Meteorological Organization n 1, 8, 9.

melt in the European Alps were “shattered” in 2022, with an average loss of between 3 and over 4 metres.⁸ The Antarctic sea-ice area fell to its lowest level on record, almost 1 million km² below the long-term average.⁹

WMO Secretary-General, Professor Petteri Taalas, has observed that “[t]he greater the warming, the worse the impacts. We have such high levels of carbon dioxide in the atmosphere now that the lower 1.5°C of the Paris Agreement is barely within reach”.¹⁰

Rising global temperatures are also making extreme weather events more severe and frequent. The report describes a selection of high-impact events from 2022, including extensive flooding in Pakistan due to record breaking rain in July and August, with at least 1,700 deaths, 7.9 million people displaced and 33 million people affected.¹¹ China experienced the most extensive and long-lasting heatwave in 2022 since national records began and the second-driest summer on record.¹² Europe also had numerous major heatwaves, with the most exceptional occurring in the UK on 19 July 2022 when the temperature exceeded 40°C for the first time.¹³

The message of the WMO report could not be bleaker. As observed by United Nations Secretary-General, António Guterres, ahead of COP27: “Emissions are still growing at record levels... that means our planet is on course for reaching tipping points that will make climate chaos irreversible... We need to move from tipping points to turning points for hope.”¹⁴ But how do we know if we’re making progress in achieving the goals of the *Paris Agreement* or falling short? This is where the global stocktake mechanism comes in.

2. THE GLOBAL STOCKTAKE OF CLIMATE ACTION

The first global stocktake under the *Paris Agreement* is to occur in 2023, with the outcome to be presented to the 28th session of the Conference of the Parties (COP28) in November 2023 in Dubai. The global stocktake is undertaken by the Conference of the Parties serving as the meeting of the parties to the *Paris Agreement*. The first global stocktake is to be undertaken in 2023 and every five years thereafter (Article 14(2)). The purpose of the global stocktake is to “periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals” (Article 14(1)).

Although the first global stocktake process is currently being undertaken, a likely outcome of the global stocktake is a finding that, in terms of mitigation of climate

⁸ Ibid 12-13.

⁹ Ibid 11.

¹⁰ World Meteorological Organization, ‘Eight warmest years on record witness upsurge in climate change impacts’, *WMO* (Press Release, 6 November 2022) <<https://public.wmo.int/en/media/press-release/eight-warmest-years-record-witness-upsurge-climate-change-impacts>>.

¹¹ Ibid 16.

¹² Ibid 18.

¹³ Ibid 19.

¹⁴ António Guterres, ‘Secretary-General’s remarks to press prior to the Security Council meeting on Peace Operations’, *United Nations Secretary-General* (Press Statement, 3 November 2022) <<https://www.un.org/sg/en/content/dsg/press-encounter/2022-11-03/secretary-generals-remarks-press-prior-the-security-council-meeting-peace-operations>>.

change, insufficient progress has been made in achieving the long-term goals of the *Paris Agreement*. In particular, the Parties' nationally determined contributions are likely to be found to be collectively insufficient to achieve the temperature goal in Article 2(1) of 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. The Climate Action Tracker (CAT), an independent scientific analysis that tracks government climate action and measures it against the temperature goal in Article 2, estimates that warming will reach 2.7°C above pre-industrial levels in 2100 based on current policies and actions around the world.¹⁵ The CAT estimates warming will be limited to 2.4°C if Parties' nationally determined contributions are implemented.¹⁶ Warming is estimated to be limited to about 2.0°C above pre-industrial levels when Parties' long-term or net-zero targets are included.¹⁷

The graphic produced by the CAT below shows that there is likely to be both a target gap and an implementation gap in 2030.¹⁸ The target gap is the difference between the increase in global average temperature likely to be achieved if Parties' nationally determined contributions are implemented, and the temperature goal in Article 2, with the former being greater than the latter. The implementation gap is the difference between the increase in global average temperature likely to be achieved having regard to the Parties' actual climate actions and efforts, and the increase in global average temperature likely to be achieved if the Parties' nationally determined contributions were to be fully implemented, with the former being greater than the latter.

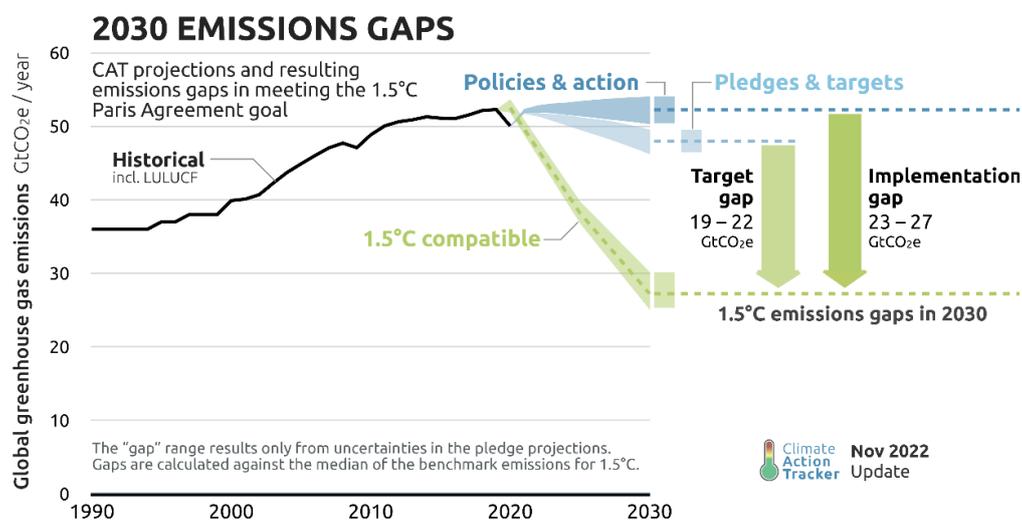


Figure 2 – 2030 emissions gaps¹⁹

Under Article 14(3) of the *Paris Agreement*, the outcome of the global stocktake is to be used in two ways: first, to “inform Parties in updating and enhancing, in a nationally

¹⁵ Climate Analytics and NewClimate Institute, ‘Temperatures’, *Climate Action Tracker* (Web Page, 11 November 2022) <<https://climateactiontracker.org/global/temperatures/>>.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Climate Analytics and NewClimate Institute, ‘CAT Emissions Gap’, *Climate Action Tracker* (Web Page, 10 November 2022) <<https://climateactiontracker.org/global/cat-emissions-gaps/>>.

¹⁹ Ibid.

determined manner, their actions and support in accordance with the relevant provisions of this Agreement” and, secondly, “in enhancing international cooperation for climate action.”

Under the first way, the outcome of the global stocktake is to be used to inform Parties’ successive nationally determined contributions (see Article 4(9)). By Article 4(3), each Party’s successive nationally determined contribution is to represent a progression beyond the Party’s then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in light of different national circumstances.

If the outcome of the global stocktake is that the Parties’ collective progress is insufficient to achieve the purpose of the *Paris Agreement*, which is likely, each Party’s successive nationally determined contribution will need not only to represent a progression beyond the Party’s then current nationally determined contribution, it will need to go further to address the shortfall revealed by the outcome of the global stocktake.

How each Party is to address that shortfall in its updated nationally determined contribution is not explained by the *Paris Agreement*. The Agreement is careful to allow each Party to update its nationally determined contribution “in a nationally determined manner” (Article 14(3)), “reflecting its common but differentiated responsibilities and respective capabilities, in light of different national circumstances” (Article 4(3)). But allowing each Party to update its nationally determined contribution in this nationally determined manner may perpetuate the problems revealed by the outcome of the global stocktake. The updated nationally determined contributions may still fall short of what is required to achieve the long-term goals of the *Paris Agreement* and in particular the temperature goal in Article 2.

There is also a timing gap between the outcome of the global stocktake in 2023 and Parties submitting their next nationally determined contribution. Under Article 4(9), each Party is to communicate a nationally determined contribution every five years. The first round of updated nationally determined contributions, five years on from the initial nationally determined contributions, will already have been submitted by the time of the outcome of the global stocktake in 2023. There will therefore be a lag of three to five years, depending on when the Party submitted its second nationally determined contribution and will submit its third nationally determined contribution, before the outcome of the global stocktake is used to inform a Party’s next nationally determined contribution. A Party does not need, however, to wait five years before submitting its next nationally determined contribution. A Party may at any time adjust its existing nationally determined contribution with a view to enhancing its level of ambition (Article 4(11)).

Informing successive nationally determined contributions is but one way the outcome of the global stocktake is to inform the Parties in updating and enhancing their actions and support in accordance with the relevant provisions of the *Paris Agreement*. Article 3 requires Parties “to undertake and communicate ambitious efforts as defined in Articles 4, 7, 9, 10, 11 and 13 with the view to achieving the purpose of this Agreement as set out in Article 2.” These efforts of the Parties are to “represent a progression

over time” (Article 3). As already noted, Article 4 requires Parties to “prepare, communicate and maintain successive nationally determined contributions that it intends to achieve”. But Article 4 goes further; it requires Parties to “pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions” (Article 4(2)). Parties can use the outcome of the global stocktake to inform the domestic mitigation measures it pursues. Parties are required to formulate and communicate long-term greenhouse gas emission development strategies, mindful of Article 2 that sets the temperature goal (Article 4(19)). Parties could increase the ambition in any such strategies to reflect the outcome of the global stocktake. Parties could also update their domestic laws and policies to achieve greater mitigation action, such as deeper and more rapid reductions in greenhouse gas emissions.

The other way the outcome of the global stocktake is to be used is to enhance international cooperation for climate action (Article 14(3)). The Paris Agreement itself provides mechanisms for international cooperation for climate action, including developed country Parties taking the lead in undertaking emission reductions (Article 4(4)), supporting developing country Parties in their mitigation efforts (Article 4(4) and (5)); pursuing voluntary cooperation to allow for higher ambition in mitigation and adaptation action (Article 6(1)); supporting international cooperation on adaptation efforts (Article 7(6), (7) and (13)); providing financial resources to assist developing country Parties with mitigation and adaptation (Article 9(1), (3) and (4)); providing technology development and transfer to developing country Parties (Article 10(1), (5) and (6)); enhancing the capacity and ability of developing country Parties (Article 11(1), (2) and (3)); and enhancing climate change education, training, public awareness, public participation and public access to information (Article 12). These various mechanisms for cooperation are manifestations of the principle of solidarity, particularly solidarity between developed country Parties and developing country Parties and disadvantaged countries.

3. LITIGATION TO ENFORCE THE OUTCOME OF THE GLOBAL STOCKTAKE

The discussion so far sketches the ways in which the outcome of the global stocktake can inform Parties’ actions and support under the *Paris Agreement*. But as so often happens in governance systems, between the idea and the reality falls a shadow. Although the outcome of the global stocktake ought to inform and inspire increased ambition and efforts to mitigate climate change, Parties’ actions may still fall short of what is needed. What can be done to hold Parties whose actions fall short accountable? Can litigation assist in this regard?

The outcome of the global stocktake may be able to be used in litigation in four ways, three being legal and one being factual.

The first legal way is to enforce a Party’s obligations under the *Paris Agreement*, including under Article 14(3) to update and enhance their actions and support in accordance with the Agreement, having regard to the outcome of the global stocktake. This would require these obligations to be incorporated in the domestic law of the Party, either directly if the country has a monist legal system or by incorporation in legislation if the country has a dualist legal system. If the obligations have been incorporated in domestic law, litigation may seek to hold a country accountable for

updating and enhancing its nationally determined contribution, or domestic mitigation measures in its laws and policies, to reflect the outcome of the global stocktake.

The second legal way is to enforce relevant resolutions of the Conference of the Parties. The global stocktake is undertaken by the Conference of the Parties serving as the meeting of the Parties to the *Paris Agreement* (Article 14(2)). The outcome of the global stocktake will be put before COP28. The Conference of the Parties serving as the meeting of the Parties to the *Paris Agreement* may make decisions at COP28 as to what and how actions and support should be taken by Parties having regard to the outcome of the global stocktake. Minnerop has argued that decisions of the Conference of the Parties serving as the meeting of the Parties to the *Paris Agreement* have legal effect and are binding on the Parties.²⁰ If so, and the decisions are incorporated into the domestic law of a Party, litigation could seek to enforce a country to take the climate action required by the decisions.

The third legal way is through the principle of solidarity. The outcome of the global stocktake is to inform the Parties in updating and enhancing their actions and support under the *Paris Agreement*, including for developing country Parties, countries with the least capacity and countries particularly vulnerable to the adverse effects of climate change, and in enhancing international cooperation for climate action. Such support for and cooperation with disadvantaged countries implements the principle of solidarity.

The obligations under the *Paris Agreement* and the decisions of the Conference of the Parties serving as the meeting of the Parties to the Agreement concerning the outcome of the global stocktake add content to the duties of the Parties under the principle of solidarity. In so far as these duties under the principle of solidarity have been incorporated into domestic law, litigation can seek to enforce a country's compliance with the duties.

The fourth way is factual. The outcome of the global stocktake will be an assessment of the Parties' collective progress in achieving the purpose and long-term goals of the *Paris Agreement*. The outcome of the first global stocktake in 2023 is likely to reveal emissions gaps, both a target gap and an implementation gap. That factual assessment can be used to establish the insufficiency of a country's ambition and implementation of mitigation and adaptation actions. Such insufficiency may need to be proved in order to establish the claim or cause of action the subject of the litigation. Whilst other evidence can be adduced to prove that a country's climate actions are insufficient, the outcome of the global stocktake provides authoritative evidence that might be able to be used to prove such insufficiency.

The outcome of the global stocktake will not be country-specific, as the assessment is of the collective progress towards achieving the purpose and long-term goals of the *Paris Agreement*. But a country-specific outcome may be able to be derived from the collective assessment. For example, if the outcome of the global stocktake were to

²⁰ Petra Minnerop, 'Taking the Paris Agreement Forward: Continuous Strategic Decision-making on Climate Action by the Meeting of the Parties' (2018) 21(1) *Max Planck Yearbook of United Nations Law Online* 124.

identify a target gap or an implementation gap, which needs to be closed in order to achieve the temperature goal of the *Paris Agreement*, these gaps could be used to determine the ambition and action that a country, particularly a developed country, ought to take if it were to take the lead and assume its proportionate and fair share of emission reductions.

This paper examines these four ways that litigation might use the outcome of the global stocktake.

3.1 Enforcing the obligations under the *Paris Agreement* on the global stocktake outcome

The incorporation of obligations under the *Paris Agreement* into domestic legislation and policy has already facilitated the growth of domestic climate litigation.²¹ There are numerous examples of litigants using legislation and policies incorporating *Paris Agreement* obligations as a benchmark for holding governments and corporations to account.²² Similar litigation could be brought to enforce the global stocktake outcome.

In *EarthLife Africa Johannesburg v Minister for Environmental Affairs*,²³ commenced before the High Court of South Africa in March 2017, an environmental non-governmental organisation (Earthlife) brought a claim challenging the decision of the Chief Director of the Minister of Environmental Affairs to grant an environmental authorisation for a proposed 1,200 MW coal-fired power station, and the decision of the Minister of Environmental Affairs to uphold that decision.

Earthlife argued that the environmental impact assessment for the proposed power station failed to consider adequately the climate change impacts of the project under the *National Environmental Management Act 1998* (NEMA). Although the NEMA did not expressly require a climate change assessment to be conducted before the grant of an environmental authorisation, the Court held that such considerations were relevant and their absence from the project's environmental impact assessment (EIA) made its approval unlawful. In particular, the Court noted that the EIA process is "inherently open-ended and context specific".²⁴ In the context of a proposed power station, the Court held that the "text, purpose, ethos and intra- and extra-statutory context" of the NEMA supported "the conclusion that climate change impacts of coal-fired power stations are relevant factors that must be considered before granting environmental authorisation."²⁵ The Court expressly referred to South Africa's nationally determined contribution under the *Paris Agreement* in support of its decision that climate change was a relevant factor. The Court noted:²⁶

A climate change impact assessment is necessary and relevant to ensuring that the proposed coal-fired power station fits South Africa's peak, plateau and decline

²¹ Brian J Preston, 'The Influence of the Paris Agreement on Climate Litigation: Legal Obligations and Norms (Part I)' (2021) 33(1) *Journal of Environmental Law* 1, 6.

²² *Ibid.*

²³ [2017] 2 All SA 519 (High Court).

²⁴ *Ibid* [89].

²⁵ *Ibid* [91].

²⁶ *Ibid* [90].

trajectory as outlined in the NDC and its commitment to build cleaner and more efficient than existing power stations.

EarthLife Africa Johannesburg v Minister for Environmental Affairs demonstrates that courts are willing to find that Parties' *Paris Agreement* obligations are relevant considerations that administrative decision-makers are required to take into account when approving projects. Courts may similarly find that the outcome of the global stocktake is a relevant consideration in administrative decision-making.

Thomson v Minister for Climate Change Issues is a further example of a case where a litigant, law student Sarah Thomson, sought to challenge a decision made by New Zealand's Minister for Climate Change Issues (Minister) concerning the setting of New Zealand's 2030 emissions reduction target, which was communicated as the country's nationally determined contribution under the *Paris Agreement*.²⁷ Thomson alleged that the Minister had erred in two respects in making the decision. First, by failing to take into account relevant climate change considerations, and second, by making an irrational or unreasonable decision due to the lack of evidence supporting the Minister's decision and the scientific consensus against the decision.

While on the facts the High Court of New Zealand did not find that the Minister had erred in law in the ways claimed by Thomson,²⁸ the Court held that the Minister's decision was justiciable. The Court rejected the Minister's argument that the decision could not be reviewed by a domestic court as it was set pursuant to an international obligation that had not been incorporated into domestic law and concerned questions of policy.²⁹ The Court's jurisdiction to review the decision "arises from the common law, pursuant to which the exercise of a public power by the executive having important public consequences is potentially amendable to review by the courts."³⁰

In the same way that the Minister's decision in relation to New Zealand's nationally determined contribution was held to be justiciable in *Thomson v Minister for Climate Change Issues*, the global stocktake outcome may give rise to a justiciable duty, although this will turn on the particular legal context in which a claim is brought.³¹

Administrative decision-makers, courts in merits review appeals and courts exercising administrative functions have also taken into account policies incorporating the *Paris Agreement*. In *Gloucester Resources Limited v Minister for Planning*,³² on a merits review appeal from a government decision to refuse an open-cut coal mine, the Land and Environment Court of NSW considered Australia's national and state policy context. The Court noted that the NSW government, in its NSW Climate Change Policy Framework, had endorsed the *Paris Agreement* and set the objective of achieving net

²⁷ [2017] NZHC 733.

²⁸ *Ibid* [179].

²⁹ *Ibid* [102].

³⁰ *Ibid* [101].

³¹ Preston n 21, 10.

³² (2019) 234 LGERA 257.

zero emissions by 2050.³³ The *Paris Agreement* informed the Court's analysis of the carbon budget and the impact of the proposed mine's emissions on climate change.³⁴

Following *Gloucester Resources Limited v Minister for Planning*, an application for a proposed open-cut coal mine was approved by the NSW Independent Planning Commission, subject to a condition linking the downstream greenhouse gas emissions of the project to the *Paris Agreement*.³⁵ The condition of consent required the project proponent to use its best endeavours to limit the sale of coal to countries that have signed the *Paris Agreement*.³⁶

Similarly, in *KEPCO Bylong Australia Pty Ltd v Bylong Valley Protection Alliance Inc*,³⁷ the NSW Court of Appeal held that consent authorities may consider the NSW Climate Change Policy Framework, which endorses Australia's commitments under the *Paris Agreement*, in determining development applications for proposed mines.³⁸

In *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)*,³⁹ the Queensland Land Court, exercising an administrative function under the *Mineral Resources Act 1989* (Qld) and the *Environmental Protection Act 1994* (Qld), recommended refusal of Waratah Coal's mining lease and environmental authority for a proposed coal mine in the Galilee Basin on climate change and human rights grounds.⁴⁰ In making these recommendations, the Land Court considered the international, national and state climate policy context, including Parties' responsibilities under the *Paris Agreement* and policies promoting Queensland's commitments under the *Paris Agreement*, in finding that the Queensland government is able "to take into account the effect of scope 3 (including combustion) emissions when making a decision on this Project."⁴¹ The remaining carbon budget under the *Paris Agreement* was also "one of many factors that [the Land Court] considered in arriving at [its] recommendations."⁴²

In *R (on the application of Friends of the Earth) et al v Secretary of State for Business, Energy and Industrial Strategy*,⁴³ Friends of the Earth, ClientEarth, the Good Law Project and environmental campaigner Joanna Wheatley (claimants) brought separate proceedings, heard together by the UK High Court, challenging decisions of the Secretary of State for Business, Energy and Industrial Strategy (SoS) in relation to the UK's Net Zero Strategy (NZS) made under the *Climate Change Act 2008* (UK) (CCA).

³³ *Ibid* [440].

³⁴ *Ibid* [439]-[450]; Lesley Hughes, 'The Rocky Hill Decision: A Watershed for Climate Change Action?' (2019) 37 *Journal of Energy & Natural Resources Law* 3, 341, 347.

³⁵ See, Condition B32, IPC, 'United Wambo Open Cut Coal Mine Project (SSD 7142)' (Development consent, 29 August 2019) <<https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2018/11/united-wambo-open-cut-coal-mine-project-ssd-7142/determination/ssd-7142-recommended-conditions-of-consent-final.pdf>> accessed 28 October 2022.

³⁶ *Ibid*.

³⁷ (2021) 250 LGERA 39.

³⁸ *Ibid* [65], [174]-[177].

³⁹ [2022] QLC 21.

⁴⁰ *Ibid* [1809], [1941].

⁴¹ *Ibid* [695].

⁴² *Ibid* [779].

⁴³ [2022] EWHC 1841 (Admin).

The NZS set the UK's most recent sixth carbon budget (CB6) in response to the UK's obligations under the *Paris Agreement*.⁴⁴

The claimants contended that the SoS failed to comply with the requirements in ss 13 and 14 of the CCA in relation to the NZS. Section 13 of the CCA imposed a duty on the SoS to "prepare such proposals and policies" as the SoS considered would enable the carbon budgets under the CCA to be met. Section 14 of the CCA required the SoS to lay before Parliament a report setting out proposals and policies for meeting the current and future "budgetary period" up to and including the carbon budget that had just been set. The NZS purported to state the proposals and policies required under s 13 and was laid before UK Parliament in October 2021 as the report required by s 14.

The claimants put forward a number of grounds of challenge to the NZS concerning ss 13 and 14. The Court rejected some of the points raised by the claimants under these grounds and accepted others. During the course of proceedings, it was revealed that the proposals and policies in the NZS were only expected to achieve 95% of the emissions reductions required to meet CB6.⁴⁵ The Court rejected the claimants' argument that under s 13 of the CCA the SoS had to be satisfied that the proposals and policies in the NZS would enable at least 100% of the reductions in emissions required by CB6 to be achieved.⁴⁶ The SoS accordingly did not make any legal error by proceeding on the basis that the proposals and policies were expected to achieve only 95% of the emissions reductions required by CB6.

The Court found in favour of the claimants on other aspects of the grounds of challenge concerning ss 13 and 14. In particular, the Court held that the SoS did not discharge his duty under s 13 of the CCA as, due to insufficiencies in the ministerial briefing materials, he was unable to take into account and decide for himself how much weight to give to his department's approach to overcoming the 5% shortfall in achieving the CB6 targets, or to the contributions which individual proposals and policies were expected to make in reducing emissions.⁴⁷ Similarly, the Court held that the SoS did not satisfy the requirements of s 14 because the NZS did not assess the contributions expected to be made by individual proposals and policies to emissions reductions, and also because it did not reveal that the analysis put before the SoS left a shortfall against the CB6 targets or how that shortfall was expected to be met.⁴⁸ In reaching this conclusion, the Court noted that a report under s 14 was required to allow Parliament and the public to understand and assess the adequacy of the UK government's policy proposals.⁴⁹

The Court accordingly ordered the SoS to lay a revised report before Parliament by no later than 31 March 2023.⁵⁰ The Court also refused the SoS's application for

⁴⁴ Section 4 of the CCA imposed a duty on the SoS to set an amount for the UK's carbon budget.

⁴⁵ *Ibid* [139].

⁴⁶ *Ibid* [177], [193].

⁴⁷ *Ibid* [194]-[222].

⁴⁸ *Ibid* [223]-[260].

⁴⁹ *Ibid* [245], [247].

⁵⁰ Order of Holgate J in *R (on the application of Friends of the Earth) et al v Secretary of State for Business, Energy and Industrial Strategy* (UK High Court, CO/126/2022, CO/163/2022, CO/199/2022, 18 July 2022) Order 6.

permission to appeal on the basis that there was no real prospect of success and no other compelling reason for the appeal to be heard.⁵¹

This case illustrates that litigation has been used to hold Parties accountable for falling short in achieving their obligations under the *Paris Agreement*. Similar litigation might be able to be brought if the global stocktake outcome reveals that collective progress is insufficient, thereby bringing into question the adequacy of a Party's action.

In *Klimatická žaloba ČR v Czech Republic*,⁵² the Municipal Court of Prague upheld a claim brought by a non-governmental organisation and a group of Czech citizens (applicants), holding that, by failing to take necessary measures to address climate change, several Czech Ministries unlawfully interfered with the applicants' rights to a favourable environment under the Charter of Fundamental Rights and Freedoms.⁵³ The Court observed that Article 4(2) of the *Paris Agreement* imposes an obligation on Parties to implement mitigation measures to achieve the objective of the nationally determined contributions.⁵⁴ As the Czech Republic had not established a nationally determined contribution of its own, the Court found that the EU nationally determined contribution, which requires a reduction of at least 55% in greenhouse gas emissions by 2030 compared to 1990 levels, applied to individual EU Member States, including the Czech Republic.⁵⁵ The Court accordingly ordered the Czech Ministries to set a plan for the measures required to achieve a 55% reduction in greenhouse gas emissions by 2030.⁵⁶

Milieudefensie et al v Royal Dutch Shell is an example of litigation that was brought by an environmental group to compel a private company to reduce its greenhouse gas emissions in line with the *Paris Agreement*.⁵⁷ The central question for The Hague District Court to decide was whether Royal Dutch Shell (Shell) is required to make changes to its existing corporate policy to reduce the emissions of the entire Shell group's energy portfolio in line with the *Paris Agreement*. The Court ultimately held that Shell was "obliged to reduce the CO₂ emissions of the Shell group's activities by net 45% at end 2030 relative to 2019 through the Shell group's corporate policy".⁵⁸ This case illustrates that courts have been willing to hold companies, who cannot be signatories to the *Paris Agreement*, accountable for emissions reduction. Indeed, on this point, the Court expressly noted that:⁵⁹

The agreement is non-binding on the signatories and is non-binding for [Shell]. However, the signatories have sought out the help of non-state stakeholders... The signatories have emphasized that the reduction of CO₂ emissions and global warming

⁵¹ Ibid Order 12, [9]-[16] (Holgate J's reasons).

⁵² Judgment No 14A 101/2021, Municipal Court of Prague, 15 June 2022 (Unofficial English Translation). Sabin Centre for Climate Change Law, 'Klimatická žaloba ČR v. Czech Republic' *Climate Case Chart* (Web Page, 2022) <<http://climatecasechart.com/non-us-case/klimaticka-zaloba-cr-v-czech-republic/>>.

⁵³ Ibid [328].

⁵⁴ Ibid [248], [250].

⁵⁵ Ibid [251], [259].

⁵⁶ Ibid [274], [280], [281], [328].

⁵⁷ ECLI:NL:RBDHA:2021:5337 (Court-issued English Translation).

⁵⁸ Ibid [4.1.4].

⁵⁹ Ibid [4.4.26].

cannot be achieved by states alone. Other parties must also contribute. Since 2012 there has been broad international consensus about the need for non-state action, because states cannot tackle the climate issue on their own. The current situation requires others to contribute to reducing CO₂ emissions...

The above cases illustrate that Parties' obligations under the *Paris Agreement* have already been referred to in domestic climate litigation. It is anticipated that future domestic litigation will continue to enforce Parties' compliance with their *Paris Agreement* commitments, which could potentially include decisions of the Conference of the Parties on the global stocktake outcome. To this latter point, I now turn.

3.2 Enforcing the decisions of the Conference of the Parties on the global stocktake outcome

As observed by Minnerop, “[m]any of the skeletal provisions and mechanisms of the Paris Agreement need to be fleshed out and operated through further decisions.”⁶⁰ The Conference of Parties serving as the meeting of the Parties makes those “skeletal provisions operational through continuous decision-making”,⁶¹ and is “the driver for the development of the law on combating climate change”.⁶²

In regard to Article 4(2) of the *Paris Agreement*, which requires Parties to “pursue domestic mitigation measures, with the aim of achieving the objectives of [nationally determined] contributions”, Minnerop notes that:⁶³

Even though it is framed as a legally binding rule, the objective of the [nationally determined contribution] as the benchmark for mitigation efforts remains vague. Much will depend on how the [Conference of Parties] will define the necessary elements of [a nationally determined contribution].

Law-making in the context of multilateral environmental treaties is traditionally conceived of as requiring the consent of all Parties to the treaty.⁶⁴ The “Paris Agreement confronts this concept with a new reality, where law-making occurs through decision-making that potentially replaces the need for treaty amendments or further protocols.”⁶⁵ Decisions of the Conference of the Parties may accordingly have external effects and the potential to develop international treaty regimes faster than a formal amendment procedure.⁶⁶ These external effects go beyond the influence that actions in the international sphere generally have on States.⁶⁷ Indeed, Minnerop contends that some Conference of Parties' decisions are legally binding and may necessitate further

⁶⁰ Petra Minnerop, ‘Taking the Paris Agreement Forward: Continuous Strategic Decision-making on Climate Action by the Meeting of the Parties’ (2018) 21(1) *Max Planck Yearbook of United Nations Law Online* 124, 124.

⁶¹ *Ibid.*

⁶² *Ibid* 164.

⁶³ *Ibid* 131-132.

⁶⁴ *Ibid* 150.

⁶⁵ *Ibid* 150.

⁶⁶ *Ibid* 129, 150.

⁶⁷ *Ibid* 129.

legal action outside the international legal regime.⁶⁸ However, the legal implications of these decisions and their impact on Parties' obligations are not always clear.⁶⁹

While there are instances where the Conference of Parties may adopt legally binding decisions, not all decisions are legally binding; they can simply be recommendations or indicate a political commitment.⁷⁰ Minnerop thus notes that a "one size fits all approach" is difficult to devise,⁷¹ "[w]hether such a decision would be legally binding, would depend on the wording and the intention of the [Conference of the Parties]."⁷²

For example, in regard to the guidance issued by the Conference of Parties to facilitate the understanding of nationally determined contributions, Minnerop explains that:⁷³

Whether the guidance will be legally binding or just a strong recommendation, depends on the exact wording and cannot be extrapolated from the meaning of the word 'guidance' as such. The [Conference of Parties] could adopt legally binding guidance on features that clarify the content of the [nationally determined contribution], such as the contribution that the Party intends to achieve, the relevant timeframe, the policy and legal framework.

The International Law Commission (ILC) has offered some further conclusions on when a decision of a Conference of Parties is legally binding in international law.⁷⁴ The legal effect of such a decision "depends primarily on the treaty and any applicable rules of procedure."⁷⁵ The "specificity and the clarity of the terms chosen in the light of the text of the [Conference of Parties'] decision as a whole, its object and purpose, and the way in which it is applied, need to be taken into account."⁷⁶ A further consideration "may be whether States parties uniformly or without challenge apply the treaty as interpreted by the [Conference of Parties' decision]."⁷⁷ Ultimately, the effect of a Conference of Parties' decision "depends on the circumstances of each particular case and such decisions need to be properly interpreted."⁷⁸ "In any case, it cannot simply be said that because the treaty does not accord the [Conference of Parties] a competence to take legally binding decisions, their decisions are necessarily legally irrelevant and constitute only political commitments."⁷⁹

The significance of statements made by the Parties to the *Paris Agreement* at the 26th session of the Conference of Parties in 2021 in Glasgow was recognised by the Queensland Land Court in *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)*. In order to emphasise that the remaining carbon budget under the climate scenario

⁶⁸ Ibid 129, 130, 150.

⁶⁹ Ibid.

⁷⁰ Ibid 150-151.

⁷¹ Ibid 152.

⁷² Ibid 153.

⁷³ Ibid 132.

⁷⁴ International Law Commission, *Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries*, 70th sess, UN Doc A/73/10 (2018). Minnerop refers to the 2016 version of the ILC's draft conclusions in her article (n 60, 152).

⁷⁵ International Law Commission n 74, 82.

⁷⁶ Ibid 89.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

advanced by Waratah Coal about the climate consequences of the proposed mine, which equated to warming of between 2°C in the mid-term and 2.7°C in the long-term, well exceeded the *Paris Agreement's* temperature goal, the Land Court noted that:⁸⁰

“At the Conference of Parties to the UNFCCC held in Scotland in 2021 (COP26), the parties expressed ‘alarm and utmost concern that human activities have caused around 1.1°C of warming to date, that impacts are already being felt in every region, and that carbon budgets consistent with achieving the Paris Agreement temperature goal are now small and being rapidly depleted’.”

While the first global stocktake is yet to occur, the following statement by the Municipal Court of Prague in *Klimatická žaloba ČR v Czech Republic* perhaps indicates that courts may be willing to consider the global stocktake outcome as a yardstick against which to measure a Party's progress on climate action. When assessing whether the Czech Ministries “had a sufficiently definite and realistic plan of specific mitigation measures to achieve” the goal of a 55% reduction in the Czech Republic's greenhouse gas emissions by 2030 relative to 1990 levels, the Municipal Court of Prague noted “that it could not use the results of the periodic assessment of the implementation of the *Paris Agreement* under Article 14 (The Global Stocktake) in its review, as the Conference of the Parties will not conduct its first global assessment until 2023.”⁸¹

3.3 Upholding the principle of solidarity regarding the global stocktake outcome

The principle of solidarity is increasingly being invoked in the political sphere as critical to the international response to the global challenge of climate change. Solidarity is more than intensified cooperation within the international community. It is a foundational concept of international law that has developed into a norm with legal implications. It requires a minimum level of alignment between the conduct of a State with that of other States in the pursuit of a common goal, even if it requires sacrifice. While solidarity is a corollary to the responsibility of States to take effective and protective action, it is also distinct from the concept of responsibility. Responsibility is often invoked between States *because of their capacity* and following previous actions. Solidarity demands that support is offered *because of a lack of capacity* and regardless of previous actions, in the expectation that support is offered regardless of reciprocity.

Climate change is a global challenge that has prompted recourse to the principle of solidarity as a tool to spur ambition among States. During the 2013 Conference of Parties in Warsaw (COP19), the United Nations Independent Expert on Human Rights and International Solidarity, Virginia Dandan, told Parties to the *United Nations Framework Convention on Climate Change* (UNFCCC) that solidarity was needed to elicit the transformative action required to address climate change: “But for such breakthroughs to occur, leaders must commit to working together in genuine and deep solidarity”.⁸² More recently, at the start of COP27, António Guterres called for “a

⁸⁰ [2022] QLC 21 [765]; United Nations, ‘COP26: Together for our planet’, *United Nations Climate Action* (Web Page) <<https://www.un.org/en/climatechange/cop26>>.

⁸¹ Judgment No 14A 101/2021, Municipal Court of Prague, 15 June 2022 (Unofficial English Translation) [264].

⁸² United Nations Human Rights Office of the High Commissioner, ‘Warsaw UN climate talks: Time for concrete and fair funding pledges, UN expert on International Solidarity urges’, *United Nations* (Press

historic Pact between developed and emerging economies – a Climate Solidarity Pact.”⁸³ The United Nation Secretary-General told over 100 world leaders: “Humanity has a choice: cooperate or perish. It is either a Climate Solidarity Pact – or a Collective Suicide Pact... The good news is that we know what to do and we have the financial and technological tools to get the job done. It is time for nations to come together for implementation. It is time for international solidarity across the board.”⁸⁴

At least eight manifestations of solidarity are found in international climate law and climate litigation. I will now turn to a discussion of these manifestations. I will, where relevant, provide examples of previous cases that have enforced compliance with some of these manifestations of solidarity in order to illustrate how similar litigation could be brought in relation to the global stocktake outcome.

First, the principle of solidarity is reflected in the *Paris Agreement*, which solidifies the principle into a clear, legally binding objective to keep the global temperature rise to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels. In its binding, operational rules, the *Paris Agreement* requires all 189 Parties, including both developed and developing countries, to take measures to achieve this objective by reducing greenhouse gas emissions within specific time frames. The level of ambition of a Party’s nationally determined contribution reflects the international environmental law principle of common but differentiated responsibilities, placing a heightened duty on developed countries to address climate change in light of their different national circumstances. The global stocktake process evaluates the collective adequacy of these nationally determined contributions. Solidarity is thus manifested by all Parties taking on responsibility to address climate change at differing levels of ambition. This represents *solidarity in determining fair shares*. That is, an assessment of whether an individual State’s effort in mitigating climate change represents a fair contribution to the global effort.⁸⁵

The courts in the *Urgenda* litigation enforced the Netherlands’ compliance with the principle of solidarity in determining fair shares by emphasising that each country, especially a developed country such as the Netherlands, has a responsibility to reduce its greenhouse gas emissions.⁸⁶ In *Urgenda Foundation v The State of the Netherlands (Urgenda I)*,⁸⁷ The Hague District Court dismissed the Netherlands’

Release, 15 November 2013) <<https://www.ohchr.org/en/press-releases/2013/11/warsaw-un-climate-talks-time-concrete-and-fair-funding-pledges-un-expert>>.

⁸³ António Guterres, ‘Secretary-General’s remarks to High-Level opening of COP27’, *United Nations Secretary-General* (Press Statement, 7 November 2022) <<https://www.un.org/sg/en/content/sg/speeches/2022-11-07/secretary-generals-remarks-high-level-opening-of-cop27>>.

⁸⁴ Ibid.

⁸⁵ Lavanya Rajamani et al, ‘National ‘fair shares’ in reducing greenhouse gas emissions within the principled framework of international environmental law’ (2021) 21(3) *Climate Policy* 983, 984; Climate Analytics and NewClimate Institute, ‘Fair Share’, *Climate Action Tracker* (Web Page, September 2021) <<https://climateactiontracker.org/methodology/cat-rating-methodology/fair-share/>>.

⁸⁶ As will be discussed shortly, the courts’ reasoning in the *Urgenda* litigation could also be said to uphold solidarity among peers and solidarity among nations, as the courts held that the Netherlands was required to match the climate ambition and action of similarly developed countries in the EU, as well as other countries. The *Urgenda* litigation accordingly demonstrates how different manifestations of solidarity can influence the reasoning of courts in overlapping ways when deciding climate cases.

⁸⁷ ECLI:NL:RBDHA:2015:7145.

argument that a reduction in the State's emissions would be of no significance to the global problem of climate change abatement and therefore negligible.⁸⁸ While the case was decided some months before COP21, where the *Paris Agreement* was adopted, there were a number of precursors to the *Paris Agreement* to which the Court referred.

The State of the Netherlands argued that whether the well below 2°C target would be achieved largely depended on the action that other countries with higher emissions would take.⁸⁹ The Netherlands' emissions represented only 0.5% of global emissions. Even if the higher emissions reduction target that Urgenda sought was to be achieved by the State, this would only result in a reduction of 0.04-0.09% of global emissions.⁹⁰ Thus, Urgenda had "no interest in an allowance of its claim for additional reduction".⁹¹ This argument was emphatically rejected by the District Court:⁹²

This argument does not succeed. It is an established fact that climate change is a global problem and therefore requires global accountability... The fact that the amount of the Dutch emissions is small compared to other countries does not affect the obligation to take precautionary measures in view of the State's obligation to exercise care. After all, it has been established that any anthropogenic greenhouse gas emission, no matter how minor, contributes to an increase of CO₂ levels in the atmosphere and therefore to hazardous climate change. Emission reduction therefore concerns both a joint and individual responsibility of the signatories to the UN Climate Change Convention... Therefore, the court arrives at the opinion that the single circumstance that the Dutch emissions only constitute a minor contribution to global emissions does not alter the State's obligation to exercise care towards third parties.

On appeal, The Hague Court of Appeal in *The State of the Netherlands v Urgenda Foundation (Urgenda II)*,⁹³ again dismissed the State's argument that ambitious action was not required at the domestic level as Dutch emissions were comparatively small. The Court referred to the *Paris Agreement*, which had been agreed by this time, noting that "[e]ach country is brought to account regarding their individual responsibility".⁹⁴ It recognised that climate change is a global problem which cannot be solved by the Netherlands alone. However, this did not release the State from its obligation to take measures which, in conjunction with the efforts of other States, could provide some protection from the impacts of dangerous climate change.⁹⁵

On further appeal in *The State of the Netherlands v Urgenda Foundation (Urgenda III)*,⁹⁶ the Supreme Court of the Netherlands acknowledged that climate change is a global problem. However, this did not mean that the Netherlands was exempt from taking action. The Court referred to the UNFCCC and the *Paris Agreement* to demonstrate that every country has a responsibility to take measures to prevent climate change in accordance with the specific responsibilities and circumstances of

⁸⁸ Ibid [4.90], [4.93].

⁸⁹ Ibid [4.78].

⁹⁰ Ibid.

⁹¹ Ibid.

⁹² Ibid [4.79].

⁹³ ECLI:NL:GHDHA:2018:2610.

⁹⁴ Ibid [15].

⁹⁵ Ibid [62].

⁹⁶ ECLI:NL:HR:2019:2007.

the country.⁹⁷ For the Netherlands, this obligation to take measures relative to its circumstances required considering internationally accepted standards and science. The Court referred to the Intergovernmental Panel on Climate Change (IPCC) reports and UNFCCC meetings as demonstrating the widespread consensus that developed country Parties, such as the Netherlands, must reduce emissions by at least 25-40% by 2020.⁹⁸ This obligation also applied to the Netherlands individually.⁹⁹ The Netherlands did not demonstrate why its approach, to reduce emissions by 20% by 2020 and then accelerate the rate of reductions with more ambitious targets for 2030 and 2050, was sufficient.

The courts in the *Urgenda* litigation observed that the underlying basis for the responsibility of developed countries to take the lead in reducing emissions is that these countries are more responsible for historical emissions and have a greater capacity to reduce future emissions. This notion of common but differentiated responsibilities also pervades EU climate policy, which was influential in the *Urgenda* cases. In *Urgenda I*, the District Court considered that, in order to ensure a “fair distribution”, the Netherlands and other Annex I countries taking the lead had committed to achieving a more than proportionate reduction in emissions.¹⁰⁰ Similarly in *Urgenda II*, the Court of Appeal considered that even among Annex I countries, the Netherlands had a high per capita GDP. Thus, the Court found that it was not reasonable to suggest that the Netherlands should have an individual emissions reduction target less than the suggested 25-40% for Annex I countries collectively.¹⁰¹

The courts’ decisions in the *Urgenda* litigation uphold the principle of solidarity in determining fair shares as the courts held that the Netherlands’ contribution to reducing greenhouse gas emissions needs to represent a fair contribution to the collective action problem of climate change.

Solidarity in determining fair shares was also enforced in *Neubauer et al v Germany*, in which the German Federal Constitutional Court upheld a constitutional challenge brought by youth claimants against provisions of the *Federal Climate Change Act 2019* that set Germany’s greenhouse gas emissions reduction targets.¹⁰² The Court held that, even though a reduction in Germany’s greenhouse gas emissions would have little effect on climate change, each State is still responsible for taking its share of climate action. It is because of the global nature of the problem of climate change and the activities required to prevent it that climate action must be taken worldwide by each State. In reaching this conclusion, the Court held that:¹⁰³

... the obligation to take national climate action cannot be invalidated by arguing that such action would be incapable of stopping climate change... The state may not evade its responsibility here by pointing to greenhouse gas emissions in other states... On the contrary, the particular reliance on the international community gives rise to a

⁹⁷ Ibid [5.72]-[5.75].

⁹⁸ Ibid [7.2.11].

⁹⁹ Ibid [7.3.6].

¹⁰⁰ ECLI:NL:RBDHA:2015:7145 [4.79].

¹⁰¹ ECLI:NL:GHDHA:2018:2610 [60].

¹⁰² (2021) 1 BvR 2656/18, 1 BvR 78/20, 1 BvR 96/20, 1 BvR 288/20 (Official English Translation).

¹⁰³ Ibid [202]-[204].

constitutional necessity to actually implement one's own climate action measures at the national level – in international agreement wherever possible. It is precisely because the state is dependent on international cooperation... that it must avoid creating incentives for other states to undermine this cooperation. Its own activities should serve to strengthen international confidence in the fact that climate action – particularly the pursuit of treaty... based climate targets – can be successful while safeguarding decent living conditions, including in terms of fundamental freedoms. In practice, resolving the global climate problem is thus largely dependent on the existence of mutual trust that others will also strive to achieve the targets. The Paris Agreement very much relies on mutual trust as a precondition for effectiveness... Creating and fostering trust in the willingness of the Parties to achieve the target is therefore seen as a key to the effectiveness of the Paris Agreement.

There is also a case pending before the South Korean Constitutional Court that raises an argument based on solidarity in determining fair shares,¹⁰⁴ as youth activists (plaintiffs) are asking the Court to measure the adequacy of South Korea's contribution to climate change against the State's proportionate contributions to the Parties' collective greenhouse gas emissions under the *Paris Agreement*. In *Do-Hyun Kim et al v South Korea*,¹⁰⁵ the plaintiffs filed a complaint contending that South Korea must adopt a more ambitious climate target based on a comparison with global averages. The plaintiffs argue that South Korea "is in a position to bear... more than the average level of responsibility for the global GHG reduction" as its "carbon dioxide emissions per capita are 2.7 times higher than the global average" and its historic greenhouse gas emissions since industrialisation are the 16th highest in the world.¹⁰⁶ "[T]hese facts mean that South Korea has no excuse to avoid bearing at least a fair share of responsibility for the greenhouse gas reduction obligations."¹⁰⁷

Second, solidarity is manifested among States in comparable national circumstances. Developed EU countries, for instance, each bear similar responsibilities, and have similar capabilities, to take similarly ambitious efforts to reduce the risks and impacts of climate change. While each country can self-determine its nationally determined contribution, the principle of solidarity calls for the setting of nationally determined contributions at a level of ambition that is comparable to that of other EU countries. This is *solidarity among peers*. As earlier noted, the courts in the *Urgenda* litigation upheld solidarity among peers in benchmarking the Netherlands' emissions reductions against the emissions reductions of other EU countries.¹⁰⁸ Solidarity among peers is evident in the reasoning of the Municipal Court of Prague in *Klimatická žaloba ČR v*

¹⁰⁴ See, Will Donaldson, 'The Meaning of "Fair Share" in Climate Ambition Litigation under the Paris Agreement', *Sabin Center for Climate Change Law Climate Law Blog* (Commentary, 29 September 2022) <<https://blogs.law.columbia.edu/climatechange/2022/09/29/guest-commentary-the-meaning-of-fair-share-in-climate-ambition-litigation-under-the-paris-agreement/>>.

¹⁰⁵ *Do-Hyun Kim et al v South Korea* (South Korean Constitutional Court, Complaint filed 13 March 2020) (Unofficial English Translation). Sabin Centre for Climate Change Law, 'Do-Hyun Kim et al. v. South Korea' *Climate Case Chart* (Web Page, 2022) <<http://climatecasechart.com/non-us-case/kim-yujin-et-al-v-south-korea/>>.

¹⁰⁶ *Do-Hyun Kim et al v South Korea* (South Korean Constitutional Court, Supplemental Complaint filed 15 May 2020) 59 (Unofficial English Translation).

¹⁰⁷ *Ibid.*

¹⁰⁸ See, e.g., *Urgenda II* ECLI:NL:GHDHA:2018:2610 [57], [60], [72].

Czech Republic discussed above,¹⁰⁹ where the Court interpreted the reduction contribution under the EU nationally determined contribution as applying individually to EU Member States.¹¹⁰

Third, solidarity is demonstrated by Parties with increased responsibilities and capabilities (developed countries) taking the lead to support and benefit Parties with lesser responsibilities and capabilities (developing countries, least developed countries, and small island nations). This is *solidarity among nations*.

In *Gloucester Resources Limited v Minister for Planning*,¹¹¹ the Land and Environment Court of NSW noted that, while total emissions from the proposed mine were only a small source of global emissions, this did not mean that they were insignificant: “It matters not that this aggregate of the Project’s GHG emissions may represent a small fraction of the global total of GHG emissions. The global problem of climate change needs to be addressed by multiple local actions to mitigate emissions by sources and remove GHGs by sinks”.¹¹² The Court recognised that: “Developed countries such as Australia have a responsibility, including under the Climate Change Convention, the Kyoto Protocol and the Paris Agreement, to take the lead in taking mitigation measures to reduce GHG emissions (see for example, Article 4(4) of the Paris Agreement and also *Urgenda Foundation v The State of Netherlands [Urgenda I]* at [4.79]”.¹¹³ The Court observed that: “Developing countries may be encouraged to take such mitigation measures by developed countries taking the lead in doing so in their countries.”¹¹⁴

The Court’s decision in *Gloucester Resources Limited v Minister for Planning* enforces solidarity among nations as developed countries are to take the lead to support developing countries lacking the same capacity to take this action. The Court further invoked the principle of solidarity among nations as one reason to reject the market substitution argument raised by the proponent mining company.¹¹⁵ The argument was that the same amount of greenhouse gas emissions would occur regardless of whether the coal mine project was approved or not in the developed country of Australia because other coal mines would be approved in developing countries, which would result in a similar amount of greenhouse gas emissions.¹¹⁶

The Queensland Land Court, following the *Gloucester Resources Limited v Minister for Planning* decision, similarly invoked the principle of solidarity among nations to reject the market substitution argument advanced by the proponent mining company in *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)*.¹¹⁷

¹⁰⁹ Judgment No 14A 101/2021, Municipal Court of Prague, 15 June 2022 (Unofficial English Translation).

¹¹⁰ *Ibid* [251], [259].

¹¹¹ (2019) 234 LGERA 257.

¹¹² *Ibid* [525].

¹¹³ *Ibid* [539].

¹¹⁴ *Ibid* [540].

¹¹⁵ *Ibid* [538]-[545].

¹¹⁶ See, Justine Bell-James and Briana Collins, ‘If We Don’t Mine Coal, Someone Else Will: Debunking the Market Substitution Assumption in Queensland Climate Change Litigation’ (2020) 37(2) *Environmental and Planning Law Journal* 167.

¹¹⁷ [2022] QLC 21 [32], [788], [1011], [1027], [1393]. The market substitution argument, also known as the perfect substitution argument, was previously a major barrier to climate litigation in Queensland.

The principle of solidarity among nations is further illustrated by the “breakthrough agreement” that was made at the close of COP27 to provide loss and damage funding to countries most vulnerable to the effects of climate change.¹¹⁸ While the details of the agreement are to be worked out at COP28, the agreement is likely to provide for a dedicated fund to assist developing countries in responding to the impacts of climate change-related weather events on physical and social infrastructure.¹¹⁹ However, as observed by António Guterres, there is still more work to be done:¹²⁰

But let’s be clear. Our planet is still in the emergency room. We need to drastically reduce emissions now – and this is an issue [COP27] did not address. A fund for loss and damage is essential – but it’s not an answer if the climate crisis washes a small island state off the map – or turns an entire African country to desert. The world still needs a giant leap on climate ambition. The red line we must not cross is the line that takes our planet over the 1.5 degree temperature limit... We must avoid an energy scramble in which developing countries finish last...

Fourth, solidarity is shown by developed countries providing support to developing countries, not only to allow for higher ambition in mitigation outcomes and increased capacity for adaptation actions, but also to provide financial resources, technology development and transfer, and capacity building. This is *solidarity in support* and is manifested in Articles 9, 10 and 11 of the *Paris Agreement*, among others. These articles of the *Paris Agreement* were expressly recognised by the Queensland Land Court in *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)* as setting out the commitments of developed countries to developing countries.¹²¹

Fifth, solidarity extends beyond the Parties to the *Paris Agreement* to include all stakeholders: government, business and industry, civil society, local communities and Indigenous peoples, among others. Those with increased responsibilities and capabilities, such as business and industry, should take action to support and benefit those who are less able to do so and who are most vulnerable to the adverse effects of climate change. This is *solidarity among stakeholders*. Solidarity in this respect is a reflection of climate justice.

The Hague District Court’s decision in *Milieudefensie et al v Royal Dutch Shell* illustrates that the principle of solidarity extends beyond the Parties to the *Paris Agreement* and includes business and industry stakeholders. This reflects solidarity among stakeholders in that those with increased responsibilities and capabilities to take action, not only Parties but also private actors, ought to take that action to support

¹¹⁸ UN Climate Press Release, ‘COP27 Reaches Breakthrough Agreement on New “Loss and Damage” Fund for Vulnerable Countries’, *United Nations Climate Change* (Web Page, 20 November 2022) <<https://unfccc.int/news/cop27-reaches-breakthrough-agreement-on-new-loss-and-damage-fund-for-vulnerable-countries>>.

¹¹⁹ *Ibid.*

¹²⁰ António Guterres, ‘Statement by the Secretary-General at the conclusion of COP27 in Sharm el-Sheikh’, *United Nations Secretary-General* (Press Statement, 19 November 2022) <<https://www.un.org/sg/en/content/sg/statement/2022-11-19/statement-the-secretary-general-the-conclusion-of-cop27%20A0-sharm-el-sheikh%20A0%20A0>>.

¹²¹ [2022] QLC 21 [680].

and benefit those who are not able to do so themselves and who are vulnerable to the risks and consequences of climate change. The Hague District Court noted that:¹²²

This issue, the not-disputed responsibility of other parties and the uncertainty whether states and society as a whole will manage to achieve the goals of the Paris Agreement, do not absolve RDS of its individual responsibility regarding the significant emissions over which it has control and influence. There is also broad international consensus that each company must independently work towards the goal of net zero emissions by 2050... Due to the compelling interests which are served with the reduction obligation, RDS must do its part with respect to the emissions over it has control and influence. It is an individual responsibility that falls on RDS, of which much may be expected... Therefore, RDS must do more than monitoring developments in society and complying with the regulations in the countries where the Shell group operates. There is broad international consensus that it is imperative for non-state actors to contribute to emissions reduction... and for companies to have an individual responsibility to achieve the reduction targets...

Sixth, climate change is an inter-generational equity problem. The action or inaction of present generations to address climate change has consequences for future generations. Solidarity is manifested by the current generation taking action for the benefit of future generations. In short, *solidarity between generations*.

The principle of solidarity between generations was upheld by the German Federal Constitutional Court in *Neubauer et al v Germany*. The Court found that the *Federal Climate Change Act* had an “advance interference-like effect” on future freedoms protected by fundamental rights in the *German Constitution* as it placed an unreasonable burden on future generations.¹²³ The Court observed that:¹²⁴

It follows from the principle of proportionality that one generation must not be allowed to consume large portions of the CO₂ budget while bearing a relatively minor share of the reduction effort, if this would involve leaving subsequent generations with a drastic reduction burden and expose their lives to serious losses of freedom – something the complainants describe as an “emergency stop”.

The Court held that the *German Constitution* enshrined a right to future freedoms that protected the youth claimants against threats to freedoms caused by greenhouse gas emissions reduction burdens being “unilaterally offloaded onto the future”.¹²⁵ The failure of the *Federal Climate Change Act* to set emissions targets beyond 2030 limited these intertemporal guarantees of freedom.¹²⁶ The Court accordingly ordered the German government to remake the emissions reduction targets in the *Federal Climate Change Act* and determine targets for the years beyond 2031 by the end of 2022.¹²⁷

¹²² ECLI:NL:RBDHA:2021:5337 (Court-issued English Translation) [4.4.52].

¹²³ (2021) 1 BvR 2656/18, 1 BvR 78/20, 1 BvR 96/20, 1 BvR 288/20 (Official English Translation) [182], [183], [186], [187], [192], [193], [194], [195]. See, Petra Minnerop, ‘The “Advance Interference-Like Effect” of Climate Targets: Fundamental Rights, Intergenerational Equity and the German Federal Constitutional Court’ (2022) 34(1) *Journal of Environmental Law* 135.

¹²⁴ *Ibid* [192].

¹²⁵ *Ibid* [183]

¹²⁶ *Ibid*.

¹²⁷ *Ibid* Order 4; [253].

The principle of solidarity between generations was also enforced by the Queensland Land Court in *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)* in recommending refusal of Waratah Coal's environmental authority on climate change grounds. The Court held that "[a]pproving the application would risk disproportionate burdens for future generations, which does not give effect to the goal of intergenerational equity."¹²⁸ Further, in finding that approval of the proposed mine was not appropriate as it would unjustifiably limit a range of human rights, the Land Court held that:¹²⁹

The intergenerational aspect of climate change risks makes the rights of children paramount. The year 2100 is the reference point for the Paris Agreement long-term temperature goal. My generation of decision makers will be long gone, but a child born this year will be 78 years old in 2100. The principle of intergenerational equity places responsibility with today's decision makers to make wise choices for future generations. The children of today and of the future will bear both the more extreme effects of climate change and the burden of adaptation and mitigation in the second half of this century. Their best interests are not served by actions that narrow the options for achieving the Paris Agreement temperature goal. This weighs the balance against approving the applications...

Seventh, solidarity is manifested between humankind and nature: humankind can respect, promote and consider the need to ensure the integrity of all ecosystems and the protection of biodiversity. This represents *interspecies solidarity*. The Land and Environment Court of NSW upheld the principle of interspecies solidarity in *Bulga Milbrodale Progress Association Inc v Minister for Planning and Infrastructure and Warkworth Mining Ltd* by refusing approval of a proposed open cut coal mine on the basis that it would have significant and unacceptable impacts on biological diversity, such as endangered ecological communities and threatened fauna.¹³⁰

Eighth, the principle of solidarity is manifested in climate litigation. Even in the absence of a mechanism to review the adequacy of each Party's contribution to the global mitigation effort, the *Paris Agreement* has inspired some courts to interpret domestic laws in light of its norms, expectations, and aspirations. While strictly speaking such litigation is purely domestic in nature, climate litigation in one jurisdiction can influence climate litigation in another jurisdiction. A court decision in one jurisdiction explicating and applying the principle of solidarity as it is manifested in its domestic laws can be raised and referred to in court proceedings and decisions in other jurisdictions. This is *inter-jurisdictional juristic solidarity*; an inter-jurisdictional dialogue between courts, leading to the globalisation and harmonisation of the principle of solidarity.

The Land and Environment Court of NSW applied the principle of inter-jurisdictional juristic solidarity in *Gloucester Resources Limited v Minister for Planning* by drawing

¹²⁸ Ibid [1938]. See also, [1836]-[1845], [1847].

¹²⁹ Ibid [1603]. See also, [1588], [1594], [1648], [1651].

¹³⁰ (2013) 194 LGERA 347 [490]. See also, the cases referred to in Justice Brian J Preston, 'What's Equity got to do with the Environment?' (2018) 92(4) *Australian Law Journal* 257, 269-272.

on decisions of courts in the US and the Netherlands.¹³¹ In turn, other courts in Australia, Canada and the UK have referred to this decision.¹³²

Inter-jurisdictional juristic solidarity was also manifested in *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)*, in which the Queensland Land Court drew on cases from international treaty bodies and foreign courts and tribunals, such as the European Court of Human Rights and the Human Rights Committee, as sources of analogical reasoning to assist with the interpretation of various human rights.¹³³

The cases discussed above highlight that litigants have brought, and courts have accepted, arguments based on the principle of solidarity. Courts have rejected arguments rooted in short-term self-interest and immediate economic advantage, such as the argument that a small share of emissions, whether from a State, company, or project, justifies continuation of those emissions,¹³⁴ in favour of doing what is necessary to implement the *Paris Agreement*. By informing the preparation of subsequent nationally determined contributions and assessing collective progress towards implementing the *Paris Agreement*, the global stocktake outcome will add important detail to the responsibilities of Parties under the principle of solidarity. The above decisions, which provide examples of past claims that have been successfully brought in relation to the principle of solidarity, lay important foundations for future litigation to be brought to enforce compliance with the global stocktake outcome. Courts may draw on these decisions when adjudicating on any future litigation. This would be a further manifestation of inter-jurisdictional juristic solidarity and would contribute to the transnationalisation of the principle of solidarity.

3.4 Using the global stocktake outcome as evidence

Courts around the world have recognised that “anthropogenically induced climate change is occurring” and that “associated harms are ‘serious and well-recognised’”.¹³⁵

¹³¹ Ibid [505]-[510], [519]-[524], [537], [539]. See, Jacqueline Peel, ‘The Land and Environment Court of New South Wales and the Transnationalisation of Climate Law: The Case of Gloucester Resources v Minister for Planning’ in Elizabeth Fisher and Brian Preston (eds), *An Environmental Court in Action: Function, Doctrine and Process* (Hart Publishing, 2022) 73, 90, for further discussion of the contribution of *Gloucester Resources Limited v Minister for Planning* to the transnationalisation of climate law.

¹³² In NSW, see, *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)* [2022] QLC 21; *Nature Conservation Council of NSW Inc v Minister for Water, Property and Housing* [2022] NSWLEC 69; *Mullaley Gas and Pipeline Accord Inc v Santos NSW (Eastern) Pty Ltd* (2021) 252 LGERA 221; *Bushfire Survivors for Climate Action Inc v Environment Protection Authority* (2021) 250 LGERA 1; *KEPCO Bylong Australia Pty Ltd v Independent Planning Commission (No 2)* [2020] NSWLEC 179; *Statewide Planning Pty Ltd v Blacktown City Council* [2019] NSWLEC 1397; *Visionary Investment Group Pty Ltd v Wollongong City Council* [2019] NSWLEC 1234; *Australian Coal Alliance Inc v Wyong Coal Pty Ltd* [2019] NSWLEC 31; in Canada, see, *References re Greenhouse Gas Pollution Pricing Act* [2021] SCC 11; and in the UK, see, *R (on the application of Finch) v Surrey County Council* [2022] EWCA Civ 187; *R (Friends of the Earth) v Secretary of State for International Trade* [2022] EWHC 568 (Admin).

¹³³ [2022] QLC 21 [1354].

¹³⁴ Rajamani et al n 85, 991-992.

¹³⁵ International Bar Association Climate Change Justice and Human Rights Task Force, *Model Statute for Proceedings Challenging Government Failure to Act on Climate Change* (Report, February 2020) 21. See, e.g., The Full Federal Court of Australia’s decision in *Minister for the Environment v*

Courts have had particular regard to the IPCC reports and the temperature goal under the *Paris Agreement* as authoritative sources of evidence that inform the current state of scientific and socio-economic knowledge on climate change, as well as its impacts and future risks, and provide a yardstick against which to measure the progress of the Parties' climate actions and efforts. I will discuss examples of the ways in which courts have had regard to these sources of evidence to illustrate how the global stocktake outcome itself could be used as authoritative evidence to prove the insufficiency of a country's climate mitigation and adaptation actions.

The IPCC was created by the WMO and the UN Environment Programme (UNEP) in 1988 with the objective of providing all levels of government with scientific knowledge about human-induced climate change to inform the development of climate policies.¹³⁶ The establishment of the IPCC was endorsed by the UN General Assembly in Resolution 43/53 adopted on 6 December 1988.¹³⁷ Since 1988, the IPCC has produced five Assessment Reports, which represent "the most comprehensive scientific reports about climate change produced worldwide", as well as a range of Methodology Reports, Special Reports and Technical Papers.¹³⁸

The First Assessment Report was instrumental in the adoption of the UNFCCC in 1994, the key treaty on preventing dangerous human interference with the climate system. The Second Assessment Report provided important material for governments to refer to in the lead up to the adoption of the *Kyoto Protocol* in 1997. The Fifth Assessment Report provided the scientific basis of the *Paris Agreement*.¹³⁹ The IPCC is currently in its sixth assessment cycle. The Synthesis Report is the last of the Sixth Assessment Report publications to be released and is expected to be finalised by the end of 2022 or early 2023 in time for the first global stocktake.¹⁴⁰

The IPCC reports have been recognised as the "most authoritative source available for information on climate change",¹⁴¹ and have been relied on effectively by litigants in a number of cases. Courts have accepted the IPCC reports as reflecting the global consensus of scientists on climate change. Four decisions are illustrative.

Sharma (2022) 400 ALR 203; [2022] FCAFC 35 did not contest the primary judge's findings of fact on climate change and the dangers it poses to the world and humanity.

¹³⁶ Intergovernmental Panel on Climate Change, 'About the IPCC', *IPCC* (Web Page, 2022) <<https://www.ipcc.ch/about/>>.

¹³⁷ *Protection of global climate for present and future generations of mankind*, GA Res 43/53, UN GAOR, 43rd sess, 70th plen mtg, UN Doc A/RES/43/53 (6 December 1988).

¹³⁸ Intergovernmental Panel on Climate Change, 'History of the IPCC', *IPCC* (Web Page, 2022) <<https://www.ipcc.ch/about/history/>>.

¹³⁹ In response to the adoption of the *Paris Agreement*, the IPCC also prepared a Special Report in 2018 on the impacts of global warming of 1.5°C above pre-industrial levels: see, IPCC, '2018: Summary for Policymakers. In: *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, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*' (Special Report, 6 October 2018).

¹⁴⁰ Intergovernmental Panel on Climate Change, 'AR6 Synthesis Report: Climate Change 2022', *IPCC* (Web Page, 2022) <<https://www.ipcc.ch/report/sixth-assessment-report-cycle/>>.

¹⁴¹ International Bar Association Climate Change Justice and Human Rights Task Force n 135, 21.

In *Urgenda I*, The Hague District Court explained why it would rely on findings in the IPCC reports:¹⁴²

The UN Climate Change Convention also made provisions for the establishment of the IPCC as a global knowledge institute. The IPCC reports have bundled the knowledge of hundreds of scientists and to a great extent represent the current climate science. The IPCC is also an intergovernmental organisation. The IPCC's findings serve as a starting point for the COP decisions, which are taken by the signatories to the UN Climate Change Convention during their climate conferences. Similarly, the Dutch and European decision-making processes pertaining to the climate policies to be pursued are also based on the climate science findings of the IPCC. The court – and also the Parties – therefore considers these findings as facts.

In *Thomson v Minister for Climate Change Issues*, the High Court of New Zealand noted that “[t]he IPCC reports provide a factual basis on which decisions can be made”.¹⁴³ It held that “[t]he IPCC reports provide the most up to date scientific consensus on climate change” and that the New Zealand government should review its long-term objective every time the IPCC publishes a new report, viewing it as a “mandatory relevant consideration”.¹⁴⁴ In regard to the temperature goal under the *Paris Agreement*, which will be discussed further below, the Court observed that:¹⁴⁵

These provisions do not expressly require that New Zealand review any target it has set under its domestic legislation when an IPCC report is published. However collectively they do underline the pressing need for global action, that global action requires all Parties individually to take appropriate steps to meet the necessary collective action, and that Parties should do so in light of relevant scientific information and update their individual measures in light of such information.

In *Milieudefensie et al v Royal Dutch Shell*, The Hague District Court held that:¹⁴⁶

The goals of the Paris Agreement are derived from the IPCC reports. The IPCC reports on the relevant scientific insights about the consequences of a temperature increase, the concentrations of greenhouse gases that give rise to that increase, and the reduction pathways that lead to a limitation of global warming to a particular temperature. Therefore, the goals of the Paris Agreement represent the best available scientific findings in climate science, which is supported by widespread international consensus. The non-binding goals of the Paris Agreement represent a universally endorsed and accepted standard that protects the common interest of preventing dangerous climate change. The court follows this reasoning in its interpretation of the unwritten standard of care. The court assumes that it is generally accepted that global warming must be kept well below 2°C in 2100, and that a temperature rise of under 1.5°C should be strived for... The court includes this broad consensus about what is needed to prevent dangerous climate change – viz. achieving the goals of the Paris Agreement – in its answer to the question whether or not RDS is obliged to reduce the Shell group's CO₂ emissions via its corporate policy.

¹⁴² ECLI:NL:GHDHA:2018:2610 [4.12].

¹⁴³ [2017] NZHC 733 [133].

¹⁴⁴ Ibid [94].

¹⁴⁵ Ibid [91].

¹⁴⁶ ECLI:NL:RBDHA:2021:5337 [4.4.27].

In *Bushfire Survivors for Climate Action Incorporated v Environment Protection Authority*,¹⁴⁷ the Land and Environment Court of NSW accepted the first part of the IPCC Sixth Assessment Report, *Climate Change 2021: The Physical Science Basis*, as decisive evidence that:¹⁴⁸

... at the current time and in the place of New South Wales, the threat to the environment of climate change is of sufficiently great magnitude and sufficiently great impact as to be one against which the environment needs to be protected.

More recently, in *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)*, the Queensland Land Court heard and accepted expert evidence based on findings in the IPCC reports about various climate scenarios and how the concept of a carbon budget relates to those scenarios in order to understand the significance of the proposed mine's climate change impacts.¹⁴⁹

This reliance of courts on the IPCC reports is recommended by the International Bar Association's *Model Statute for Proceedings Challenging Government Failure to Act on Climate Change*. Article 6.1 recommends that courts, "in Government-related climate change proceedings, take judicial notice of the findings and conclusions reached by the Intergovernmental Panel on Climate Change (IPCC) in its Assessment Reports or Special Reports."¹⁵⁰ Article 6.2 recommends that courts in such proceedings "accept the findings and conclusions contained in the IPCC Assessment or Special reports as prima facie proof of the findings."¹⁵¹

The litigants in the pending *Pabai Pabai and Guy Paul Kabai v Commonwealth of Australia* case,¹⁵² First Nations leaders from the Gudamalulgal nation of the Torres Strait Islands (applicants), also rely on the IPCC reports, among other scientific reports, as evidence of the "best available science on the causes and Impacts of Climate Change and the necessary actions to avoid the most dangerous Impacts of Climate Change".¹⁵³ The applicants allege that the Australian government owes a duty of care to Torres Strait Islanders to take reasonable steps to protect them, their culture and traditional way of life, and their environment from the impacts of climate change.¹⁵⁴ The applicants allege that the government has breached this duty as its emissions reduction targets are not consistent with the best available science.¹⁵⁵ The duty of care is claimed to arise from the Australian government's commitments under the UNFCCC and the *Paris Agreement*, among other things.¹⁵⁶

¹⁴⁷ (2021) 250 LGERA 1.

¹⁴⁸ Ibid [69].

¹⁴⁹ [2022] QLC 21 [721], [725]-[780]. See also, [617], [624].

¹⁵⁰ International Bar Association Climate Change Justice and Human Rights Task Force n 135 [6.1].

¹⁵¹ Ibid [6.2].

¹⁵² Federal Court of Australia, File No VID622/2021, Statement of Claim filed 22 October 2021. The case is listed for a lay evidence hearing commencing on 6 June 2023 and for an expert evidence hearing likely to be held in October or November 2023.

¹⁵³ Ibid 7-8.

¹⁵⁴ Ibid 26-33

¹⁵⁵ Ibid.

¹⁵⁶ Ibid 30-31.

The temperature goal in Article 2 of the *Paris Agreement*, as well as the science underlying that goal, has also been used in a number of ways in climate litigation.¹⁵⁷ In particular, courts have endorsed the concept of a “carbon budget”, which is the total amount of CO₂ emissions remaining before global warming crosses a given temperature threshold. While the *Paris Agreement* does not assign each Party a carbon budget, scientists have used its temperature goal of limiting global warming to well below 2°C, and preferably to 1.5°C, compared to pre-industrial levels to calculate carbon budget estimates. Indeed, the IPCC has provided estimates of the remaining carbon budget in various reports based on the *Paris Agreement’s* temperature targets of 1.5°C and 2°C.¹⁵⁸ The *Paris Agreement* is accordingly an indirect point of reference whenever courts apply the carbon budget approach.¹⁵⁹ I will discuss five cases of note.

In *Urgenda II*, The Hague Court of Appeal noted that “insight has developed over the past few years that a safe temperature rise should not exceed 1.5°C”.¹⁶⁰ The 1.5°C temperature target was used as a starting point for considering the limited carbon budget remaining for emissions and the urgency of action.¹⁶¹ This supported the Court’s finding of the imminent risk posed by climate change, and that the longer action was delayed, the sooner the carbon budget would be exhausted.¹⁶²

Similarly, in *Urgenda III*, the Supreme Court of the Netherlands used the carbon budget approach and the maximum available temperature rise in the *Paris Agreement* as reference points for determining the measures that the Netherlands government was required to adopt in order to comply with its obligations under Articles 2 and 8 of the European Convention on Human Rights (ECHR). The Court held that the Netherlands had not demonstrated that the intended acceleration of its emissions reductions after 2020 would be practically feasible and sufficient in order for the Netherlands to achieve the more ambitious 2030 and 2050 targets required to be achieved in order to meet its obligations under the ECHR.¹⁶³ The Court therefore concluded that it was appropriate for the Court of Appeal to have ordered the Netherlands to increase its 2020 emissions reduction targets.¹⁶⁴

In *Gloucester Resources Limited v Minister for Planning*, the community objector group contended that due to Australia’s state, national and international policy commitments, including under the *Paris Agreement*, no new coal mines could be approved. The Land and Environment Court of NSW heard expert evidence from Professor Will Steffen, an earth system scientist, that the *Paris Agreement’s* goal of limiting the increase in global average temperature to between 1.5°C and 2°C would

¹⁵⁷ Preston n 21, 21.

¹⁵⁸ “[T]he current central estimate of the remaining carbon budget from 2020 onwards for limiting warming to 1.5°C with a probability of 50% has been assessed as 500 GtCO₂, and as 1150 GtCO₂ for a probability of 67% for limiting warming to 2°C”: see, IPCC, ‘Climate Change 2022: Mitigation of Climate Change, Working Group II Contribution to the IPCC Sixth Assessment Report: Summary for Policymakers’ (Report, 4 April 2022) [B.1.3].

¹⁵⁹ Preston n 21, 20.

¹⁶⁰ ECLI:NL:GHDHA:2018:2610 [3.5].

¹⁶¹ *Ibid.*

¹⁶² *Ibid* [44], [71].

¹⁶³ ECLI:NL:HR:2019:2007 [7.4.6].

¹⁶⁴ *Ibid* [8.34]-[8.35].

require most fossil fuel reserves to remain in the ground and unburned.¹⁶⁵ Australia's existing coal mines accounted for the remaining fossil fuels that could be burned while remaining within the global carbon budget. Even these would need to be rapidly phased out to meet the carbon budget. Therefore, the group submitted that, regardless of the fact that emissions from the project represented a small fraction of global emissions, approval of the coal mine would be inconsistent with the *Paris Agreement's* temperature goal.

The Court accepted Professor Steffen's evidence that:¹⁶⁶

A commonly used approach to determine whether the [nationally determined contributions] of the parties to the Paris Agreement cumulatively will be sufficient to meet the long term temperature goal of keeping the global temperature rise to between 1.5°C and 2°C is the carbon budget approach. The carbon budget approach is based on the well-proven relationship between the cumulative anthropogenic emissions of GHGs and the increase in global average surface temperature. The carbon budget approach "is a conceptually simple, yet scientifically robust, approach to estimating the level of greenhouse gas emission reductions required to meet a desired temperature target", such as the Paris Agreement targets of 1.5°C or 2°C (Steffen report [38]).

The Court further observed that:¹⁶⁷

... the exploitation and burning of a new fossil fuel reserve, which will increase GHG emissions, cannot assist in achieving the rapid and deep reductions in GHG emissions that are necessary in order to achieve "a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century" (Article 4(1) of the Paris Agreement) or the long term temperature goal of limiting the increase in global average temperature to between 1.5°C and 2°C above pre-industrial levels (Article 2 of the Paris Agreement).

While the Court considered that Professor Steffen's argument that most fossil fuel reserves need to be left in the ground to stay within the carbon budget was "logical", it did not compel a finding that no new coal mines could ever be approved as it proceeded on the assumption "that all existing and approved fossil fuel developments will continue and there will be no reduction in [greenhouse gas] emissions from these sources".¹⁶⁸ The Court considered the "better approach" was for a consent authority to evaluate the merits of a particular fossil fuel development and consider whether it, as a whole, should be approved.¹⁶⁹ This would involve consideration of the greenhouse gas emissions of the development and their likely contribution to climate change, as well as the other impacts of the development in absolute or relative terms.¹⁷⁰

The Court noted that "[i]n absolute terms, a particular fossil fuel development may itself be a sufficiently large source of [greenhouse gas] emissions that refusal of the development could be seen to make a meaningful contribution to remaining within the

¹⁶⁵ (2019) 234 LGERA 257 [441]-[450], [527], [550], [551].

¹⁶⁶ Ibid [441].

¹⁶⁷ Ibid [527].

¹⁶⁸ Ibid [552].

¹⁶⁹ Ibid [553].

¹⁷⁰ Ibid.

carbon budget and achieving the long term temperature goal”.¹⁷¹ In relative terms, however, similar sized fossil fuel developments could be compared on their other impacts. It would be rational to refuse projects with greater environmental, social and economic impacts than those with fewer impacts. In the case of the proposed coal mine, the unacceptable planning, visual and social impacts were sufficient to refuse the mine, although the Court noted that: “[t]he GHG emissions of the Project and their likely contribution to adverse impacts on the climate system, environment and people adds a further reason for refusal.”¹⁷²

In *Greenpeace Nordic and others v Ministry of Petroleum and Energy*,¹⁷³ the Borgarting Court of Appeal recognised the relevance and importance of international agreements, such as the *Paris Agreement*:¹⁷⁴

... international agreements will be crucial for solving global environmental problems... International agreements will therefore be able to contribute to clarifying what is an acceptable tolerance limit and appropriate measures. Whether a decision or measure will be contrary to such agreements could therefore be an important element in the overall assessment.

At the outset, the Court accepted the causal connection between anthropogenic greenhouse gas emissions and climate change, as confirmed by the IPCC reports and global scientific consensus, and noted the adverse impacts and risks (including extreme climatic events) likely to result from a global temperature rise.¹⁷⁵ The Court evaluated the sufficiency of Norway’s emissions reduction and climate ambition by reference to the temperature and time targets in Articles 2 and 4 of the *Paris Agreement*, respectively.¹⁷⁶ It referred to the carbon budget prepared by the IPCC and found that “there is only room for approximately 15 years of today’s emissions before the world must switch to zero net emissions”.¹⁷⁷ The Court held that, per inhabitant, Norwegian emissions were approximately 10 tonnes per year, exceeding the global average of 5 tonnes per year, and somewhat more than the EU average.¹⁷⁸ The emissions from combustion of Norwegian oil and gas were far greater and represented approximately 1% of global emissions.¹⁷⁹ The Court found that fulfilment of the *Paris Agreement’s* temperature and time targets required drastic cuts in emissions. Norway’s total reported national contributions were too low to meet the *Paris Agreement’s* targets and a progression must accordingly occur in its contributions.¹⁸⁰ The Court held that the burden-sharing principles under the *Paris Agreement*, such as the principle of common but differentiated responsibility, strengthened Norway’s

¹⁷¹ Ibid [554].

¹⁷² Ibid [556].

¹⁷³ Borgarting Court of Appeal, Case No 18-060499ASD-BORG/03, 23 January 2020 (Unofficial English translation).

¹⁷⁴ Ibid 22.

¹⁷⁵ Ibid 5, 6, 23, 24.

¹⁷⁶ Ibid 5, 24.

¹⁷⁷ Ibid 24.

¹⁷⁸ Ibid.

¹⁷⁹ Ibid 24-25.

¹⁸⁰ Ibid 27.

responsibility. Norway's exploitation of new oil and gas reserves directly contradicted these principles and the goals under the *Paris Agreement*.¹⁸¹

However, despite these findings, the Court held that the Norwegian government had not, among other things, violated the right to a healthy environment in the *Norwegian Constitution* by deciding to grant deep-sea petroleum extraction licences due to uncertainties surrounding the extent to which the licences would increase greenhouse gas emissions.¹⁸² The Borgarting Court of Appeal's decision was affirmed by the Supreme Court of Norway.¹⁸³

In *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)*, the Queensland Land Court referred to the carbon budget as "one tool for assessing the significance of the Project".¹⁸⁴ The parties agreed that the combustion of coal from the proposed mine would emit 1.58Gt of CO₂ between 2029 and 2051.¹⁸⁵ The Land Court held that, while this would not be the difference between acceptable and unacceptable climate change, it was a "material contribution" to the remaining carbon budget to meet the temperature goal under the *Paris Agreement*.¹⁸⁶ "It is material because the remaining carbon budget to achieve the Paris Agreement temperature goal will be exhausted in somewhere between 8 to 15.5 years from now at the current rate of emissions, excluding the emissions from combusting the Project coal."¹⁸⁷ The Land Court ultimately recommended refusal of the proposed mine as "[a]llowing the Project's material contribution to the remaining carbon budget to achieve the Paris Agreement goal is not demonstrably justified".¹⁸⁸

The temperature goal under the *Paris Agreement* continues to be raised in pending climate litigation to emphasise the urgency of Parties limiting greenhouse gas emissions. In a complaint filed before the Supreme Court of the Russian Federation,¹⁸⁹ activists from several Russian climate groups (plaintiffs) claim that the Russian government is violating its citizens' rights under the *Russian Constitution* and the ECHR by setting emissions reduction targets that are inconsistent with the *Paris Agreement's* temperature goal. Russia's 2030 greenhouse gas emissions target is currently 1.5 to 2.3 times higher, and for 2050, 11.7 times higher, than that required to

¹⁸¹ Ibid.

¹⁸² Ibid 31.

¹⁸³ *Greenpeace Nordic and others v Ministry of Petroleum and Energy* (Supreme Court of Norway, Case No 20-051052SIV-HRET, 22 December 2020). On 15 June 2021, the plaintiffs referred the case to the European Court of Human Rights: see, *Greenpeace Nordic and others v Norway* (European Court of Human Rights, Application No 34068/21, Application filed 15 June 2021). See, Christina Voigt, 'The First Climate Judgment before the Norwegian Supreme Court: Aligning Law with Politics' (2021) 33(3) *Journal of Environmental Law* 697.

¹⁸⁴ [2022] QLC 21 [30].

¹⁸⁵ Ibid [31].

¹⁸⁶ Ibid [31], [35], [1409], [1793], [1937].

¹⁸⁷ Ibid [1409].

¹⁸⁸ Ibid [1796]. See also, [22]-[23], in which the Land Court noted that "[t]he evidence is clear that, globally, we are struggling to achieve [the *Paris Agreement's* temperature] goal.

¹⁸⁹ *Ecodefense et al v Russia* (The Supreme Court of the Russian Federation, Complaint filed 11 September 2022). Sabin Centre for Climate Change Law, 'Ecodefense & Other NGOs v. Russia' *Climate Case Chart* (Web Page, 2022) <<http://climatecasechart.com/non-us-case/ecodefense-other-ngos-v-russia/>>.

meet the temperature goal of the *Paris Agreement*.¹⁹⁰ The plaintiffs note that “Russia is currently one of the leading countries in terms of GHG emissions, ranking 4th in the world, accounting for around 4.7% of global GHG emissions in 2020.”¹⁹¹ “The long-term temperature goal of the Paris Agreement can only be achieved through a concerted effort by states, which, according to scientific evidence, will be most effective if a fair share of the efforts to reduce greenhouse gas emissions is applied”.¹⁹² The plaintiffs accordingly request the Russian government to set its target for greenhouse gas emissions to 31% of 1990 levels by 2030.¹⁹³

What these decisions and pending cases demonstrate is that litigants have relied on, and courts have accepted, the IPCC reports and the *Paris Agreement’s* temperature goal, which is captured by the carbon budget approach, as authoritative sources of evidence in climate litigation. Courts have endorsed the IPCC reports as clear scientific evidence that humans are responsible for climate change. The IPCC reports further support the link between human-induced climate change and extreme weather events. As the emerging area of climate attribution science develops, future findings could be made, and endorsed by the IPCC, to support arguments raised in litigation that a climate change-induced event caused specific loss or damage to a particular plaintiff.¹⁹⁴ The *Paris Agreement’s* temperature goal, which is based on the findings of the IPCC Fifth Assessment Report, also continues to be deployed by litigants, and accepted by courts, as a benchmark for evaluating a country’s climate performance.

The global stocktake, which is in the process of being assessed, is likely to result in an outcome that the Parties’ collective progress in implementing the *Paris Agreement* is insufficient. Indeed, as the global stocktake is to be conducted in light of the best available science, it is likely to reveal emissions gaps, both a target gap and an implementation gap. While the outcome of the global stocktake is meant to inform the Parties on how they need to update their climate actions and nationally determined contributions to deliver on their *Paris Agreement* commitments, Parties’ actions may still fall short or lag behind what needs to be done. Similarly to how the IPCC reports and the *Paris Agreement’s* temperature goal have been relied on in the climate litigation discussed above, the global stocktake outcome could be used as a further source of evidence of the insufficiency of a country’s climate actions, and could accordingly help bridge the gap between the current state of progress and what is needed to achieve climate stability.

4. CONCLUSION

¹⁹⁰ Ibid [17], [92].

¹⁹¹ Ibid [91].

¹⁹² Ibid [95].

¹⁹³ Ibid [114].

¹⁹⁴ Climate attribution science involves estimating how much more probable an extreme weather event was made by anthropogenic climate change: see, Petra Minnerop and Friederike Otto, ‘Climate Change and Causation: Joining Law and Climate Science on the Basis of Formal Logic’ (2020) 27(1) *Buffalo Environmental Law Journal* 49; Sophie Marjanac and Lindene Patton, ‘Extreme Weather Event Attribution Science and Climate Change Litigation: An Essential Step in the Casual Chain?’ (2018) 36(3) *Journal of Energy & Natural Resources Law* 265.

While it is easy to lose hope in the face of recent scientific evidence and extreme weather events that paint a stark picture of the worsening effects of climate change, it is important to recognise that the climate crisis also presents an opportunity for a profound and systemic shift to a more sustainable and equitable society. The first global stocktake in 2023 is an example of one such mechanism that can be used to strengthen the global response to the threat of climate change by raising the ambition of the Parties in implementing the *Paris Agreement*. Although the outcome of the first global stocktake is likely to be a finding that insufficient progress has been made in achieving the goals of the *Paris Agreement*, litigation may be able to assist.

This paper has presented four ways that litigation might be used to implement the global stocktake outcome, three being legal and one being factual. In regard to the legal ways, there are numerous examples of successful litigation being brought to enforce a Party's obligations under the *Paris Agreement*. Recent legal action on climate change shows no signs of slowing down. It is likely that litigation will continue to be brought to enforce Parties' compliance with their *Paris Agreement* commitments. This litigation could be brought to enforce not only Parties' updated obligations under the *Paris Agreement* in light of the global stocktake outcome, but also the decisions of the Conference of the Parties on the global stocktake outcome, which can have legal effect and be binding on the Parties. Further, previous litigation has illustrated that courts have been willing to uphold various manifestations of the principle of solidarity in their decisions. As the global stocktake outcome will add important content to the duties of the Parties under the principle of solidarity, it could have a similar influence on the reasoning of courts when deciding climate cases. Finally, in regard to the factual way, as has been the case with the IPCC reports and the temperature goal under the *Paris Agreement*, the global stocktake outcome could provide another authoritative source of evidence to inform government and corporate action to address climate change and courts' review of such action.

Climate mitigation and adaptation is an ongoing and iterative process. If the global stocktake outcome is a finding that insufficient progress has been made in achieving the *Paris Agreement's* goals, litigation provides an opportunity to assist in increasing a Party's ambition and implementation of climate mitigation and adaptation actions.