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Climate Change Litigation

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A. Introduction

1 The damage caused by climate change is extensive and varied. It occurs on different timescales, with impacts ranging from extreme weather events such as intense rainfall, storms, hurricanes, etc to phenomena that appear slowly over time such as the rise of sea level, ocean acidification, ice mass loss, coastal erosion, loss of biodiversity, or declining soil productivity (Huggel and others, 2015, 453). Different spatial scales also come into play: mostly local, sometimes national (such as the rise of sea level wiping out a small insular State), potentially global (such as the impact of climate change on biodiversity, or in a larger sense climate change as a planetary boundary). Lastly, climate change harms not only the environment itself but also persons and property. These changes are already felt everywhere around the globe. Impacts are growing in frequency and severity. There is a risk that they will significantly worsen in the future depending on our greenhouse gas emission ('GHG') trajectories. The Intergovernmental Panel on Climate Change ('IPCC') has contributed here to raising an international consensus based on solid foundations (Climate Change 2014 Synthesis Report, Summary for Policymakers ['IPCC 2014 Report'], 2).

2 The human origin of climate change is no longer in question. According to the IPCC:

Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. ... Their effects ... are *extremely likely* to have been the dominant cause of the observed warming since the mid-20th century (IPCC 2014 Report, 4) (emphasis in original).

Yet, while scientists consider that climate change is causing and will continue to cause more frequent and more intense extreme events, human causation with respect to specific events is impossible to establish or isolate. The causal link is perhaps easier to establish with regard to slow phenomena but it remains difficult nonetheless to separate the climate change factor caused by man, from other factors (solar or volcanic activity for instance) or to quantify the part of a particular country or group of countries. But science is advancing. Thus, for the first time, scientists have determined with certainty the link between human-caused climate change and extreme weather events. They have established that some extreme events that occurred in 2016 simply could not have happened due to natural climate variability alone (Explaining Extreme Events from a Climate Perspective, 2017, 1).

3 Climate change has been rightly viewed as a 'super-wicked problem' from a policy and legal point of view (Lazarus, 2009, 1153). First, GHGs that contribute to global warming and, beyond that, to climate change, originate from a very large number of sources. A wide variety of actors are involved in climate change, from States themselves, to small and large businesses, farmers, and individuals who consume goods, heat their homes, or drive a car, etc. Furthermore, the emission of GHGs is not forbidden in and of itself; at best it is simply regulated. It is the cumulative effect of these emissions in space and in time that is problematic. Besides, the diffusion of GHGs in the atmosphere is so fast—a matter of days for CO₂—that the effects of emissions are not related to the location of their source. The increase in GHG in a particular country or region of the world is thus likely to have consequences in very distant areas of the globe. At the same time, while Northern countries are taking on the historical responsibility for the current climate change, Southern countries are the ones who are paying and who will continue to pay the highest price. Indeed, climate change will impact all parts of the world unevenly and the most vulnerable populations will be most affected. Complex issues of international justice arise. It is not an

ordinary transboundary matter of 'good neighbourly relationships' but a global issue in its very essence, calling for extensive international cooperation.

4 States have designed a specific international regime starting with the United Nations Framework Convention on Climate Change ('UNFCCC' or 'Convention') (1992), complemented by the Kyoto Protocol (1997) and the Paris Agreement (2015). These three treaties have been ratified by a large number of countries (as of 5 February 2018, the UNFCCC included 197 Parties, the Kyoto Protocol 192, and the Paris Agreement 173). States have been slow to implement this legal regime which is not sufficiently ambitious. It was not able to prevent the temperature rise that can already be felt and which, as previously mentioned, is likely to worsen in the future (The Emissions Gap Report 2017: A UN Environment Synthesis Report, 2017, xiv).

5 With the growing impacts of climate change rise the contemporary challenges of compensation for damages. Questions of responsibility and liability are arising and will continue to arise with increasing urgency, including between States. This is evidenced by the recent → *International Court of Justice (ICJ)* judgment which, even if the Paris Agreement is not mentioned, upholds Costa Rica's claims regarding the role of trees in gas regulation and air quality services before valuating it (*Certain Activities Carried Out by Nicaragua in the Border Area, Costa Rica v Nicaragua*, 2018, para 86 [*'Certain Activities Carried Out by Nicaragua'*]). In this context, it is paramount to clarify the responsibility of States in these matters and, therewith, the risks to which States are exposed. But States' responsibility is not the only one that can be invoked. Those businesses that feature among the largest emitters and the banks and investment funds that finance them are also exposed to liability claims. Indeed, the past several years have seen an explosion of litigation over actions or inaction related to climate change mitigation and adaptation efforts, before subnational, national, and supranational courts and committees, pushing for more ambitious regulations, opposing regulatory steps or new plans and proposed developments, or even requesting compensation measures. Hence, according to the Sabin Center database, as of March 2017, climate change cases had been filed in 24 countries, with 654 cases filed in the United States and over 230 cases filed in all other countries combined. With limited exceptions, governments are almost always the defendants in these cases (The Status of Climate Change Litigation – A Global Review, 2017, 10). These cases are as many as they are varied:

- as to the claimants: States (vulnerable low-emitting States like small island nations, or virtuous States against less virtuous ones, etc), NGOs, businesses, individuals;
- as to the defendants: States, businesses, banks, investment funds, even NGOs;
- as to the object of the claim: lack of sufficient measures to fight climate change or to adapt to climate change, lack of sufficient funding to support Southern States, impacts of geo-engineering measures designed to fight climate change, or the challenge of large infrastructure projects (new coal-fired power stations, new airports, etc);
- as to the forum: national or international courts;
- as to the means of dispute resolution: it can be contentious or non-contentious.

Climate litigation can pursue an objective of compensation—triggered *ex post* in relation to the damage—but more often than not it primarily aims to play a preventive role (*ex ante*), trying to push for concrete action, to press legislators and policymakers to be more ambitious in their approaches to climate change and fill the gaps left by legislative and regulatory inaction (The Status of Climate Change Litigation – A Global Review, 4). Another

specific feature is that these highly publicized and globalized litigation cases are part of communication and awareness strategies. Then the outcome of the dispute, often a negative one, matters less than the orchestration of the communication campaign.

6 This contribution will endeavour to address climate litigation in all its forms. It will focus on international courts, tribunals, and adjudicative means of dispute resolution, including non-contentious and non-binding forms of adjudication, but also on domestic courts to the extent that international law is invoked and concerned. We will discuss how, at the international level, States have sought to avoid litigation by refusing to consider the issue of climate change in terms of their responsibility (see sec B below). Even though international law is rather ill-equipped to handle interstate disputes, this type of litigation could nonetheless be brought before an international jurisdiction (see sec C below). Because of the many hurdles thereto, our reflection cannot be limited to interstate litigation in its traditional form. Beyond that, climate issues can give rise to transnational litigation (see sec D below). Last but not least, the increasing number of climate disputes at the national level is in fact related to international law. National courts are required to lay down or apply rules of obvious international relevance (see sec E below).

B. State Attempts at Avoiding Interstate Litigation

7 When breaching its international obligations, a State must respond to the grievances of the subject to whom it caused prejudice when violating the latter's rights. As the Permanent Court of International Justice stated in 1928, 'it is a principle of international law that the breach of an engagement involves an obligation to make reparation in an adequate form' (*Factory at Chorzów, Germany v Poland*, 1928, 29). This obligation is even a very extensive one; it 'must, "as far as possible" wipe out all the consequences of the illegal act' (*Gabčíkovo-Nagymaros Project, Hungary v Slovakia*, 1997, para 150; quoting *Factory at Chorzów, Germany v Poland*, 1928, 47; see also → *Gabčíkovo-Nagymaros Case (Hungary/Slovakia)*).

8 Nevertheless, in matters relating to the environment, States have long shown a certain defiance towards international jurisdiction mechanisms. Already in 1972, principle 22 of the Stockholm Declaration of the United Nations Conference on the Human Environment invited States to 'cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction'. Principle 13 of the 1992 Rio Declaration on Environment and Development also encourages this cooperation (see → *Stockholm Declaration (1972) and Rio Declaration (1992)*). Yet the subject is still characterized today by its poor conventional content. Case law has made little contribution to the development of a liability regime as almost all interstate disputes have been settled through the negotiation of compensation agreements, agreed to without any reference to international litigation rules (Boisson de Chazournes, 1995, 48), when they were not shifted towards international private law (Nollkaemper, 2006, 186). Several conventions are thus designed to facilitate the resolution of this type of disputes and to respond to the common challenge of loss and damage from environmental pollution. They establish legal regimes of private liability and compensation, 'channelling' the liability of operators by providing for the creation of compensation funds, by developing systems of strict liability, by assigning jurisdiction, or by ensuring the enforcement of rulings. However, this transfer of liability did not take place in all sectors; this only applies to certain activities, such as the transport of dangerous goods.

9 The creation of a similar international regime with regard to damage caused by climate change would have constituted a welcome solution, given that private economic actors are largely responsible for damages suffered. But it was never seriously contemplated and only ever proposed by legal scholars (for instance Cullet, 2007, 99).

10 States have also failed to reach an agreement on a specific legal framework regarding their own responsibility. More than that, they have carefully avoided doing so when establishing the UNFCCC and later on the Kyoto Protocol and Paris Agreement. The UNFCCC recognizes that ‘the largest share of historical and current emissions of greenhouse gases has originated in developed countries’ and that developed countries must ‘take the lead in combating climate change and the adverse effects thereof’, but it does not establish whether the special obligations of developed countries stem from their historical responsibility or simply from their greater capacities or their generosity. Admittedly, the principle of shared but different responsibilities and of respective capacities plays a key role in the international climate regime, and is referred to many times in these treaties. Nevertheless, whether this responsibility is causal or moral is not specified (Mayer, 2014, 8).

11 States have opted instead for the implementation of → *climate change compliance procedures*. The climate change compliance procedure for the Paris Agreement is currently being negotiated, but the Paris Agreement provides that this mechanism will be ‘expert-based and facilitative in nature and function in a manner that is transparent, non-adversarial and non-punitive’ (Art 15 (2) Paris Agreement), thus clearly non-contentious. The mechanism put in place pursuant to the Kyoto Protocol is more ambiguous from this point of view. One of the most elaborate non-compliance mechanisms of international environmental law, it includes two branches, one of which (the enforcement branch) could almost be seen as jurisdictional. It can be called upon to settle actual legal disputes (Maljean-Dubois, 2007, 193). The system provides for specific sanctions for the failure to meet certain obligations, among them specific reduction targets; however, the mechanism does not deal with the legal consequences of climate change damages (Voigt, 2008, 1). The application of penalties is not intended as compensation for any injury caused by the non-compliance, as would be the case in a State responsibility setting. Instead, the non-compliance mechanism stipulates that the consequences applied by the enforcement branch ‘shall be aimed at the restoration of compliance to ensure environmental integrity, and shall provide for an incentive to comply’ (Peel, 2016, 1009). We know that such mechanisms, because they are better suited for environmental matters, tend to marginalize traditional dispute resolution mechanisms, although they do not exclude them at least in theory (Koskenniemi, 1993, 123).

12 The creation of the ‘Warsaw international mechanism for loss and damage associated with climate change impacts’ follows the same trend. In response to the old and pressing demands of Southern countries, the Conference of the Parties (‘COP’) 19, in 2013, in Warsaw, finally put in place this mechanism, which was inserted in the Paris Agreement (Art 8 Paris Agreement). Far from meeting the demands of developing countries, it is not a compensation mechanism for climate damage that involves the recognition of a form of international liability. The decision 1/CP.21 that accompanies and adopts the Paris Agreement is very clear on this point as it expressly specifies that ‘Article 8 of the Agreement does not involve or provide a basis for any liability or compensation’. It is in fact, once again, a mechanism set up to avoid States’ international liability that could nevertheless lead to the prevention, possibly even the compensation, of climate damage, not

by virtue of a recognition of an international liability but for reasons of solidarity in the context of a cooperation policy (Doelle, 2016, 622).

13 These are only attempts at marginalizing States' responsibility, but its invocation remains possible. Within the Kyoto Protocol, it is clear that 'the procedures and mechanisms relating to compliance shall operate without prejudice to' the dispute settlement clause (Art 14 UNFCCC; Decision 27/CMP.1 Procedures and mechanisms relating to compliance under the Kyoto Protocol, 2005, 92). Moreover, some States—among small Pacific islands, such as Fiji—have made declarations specifying that their ratification 'shall, in no way, constitute a renunciation of any rights under international law concerning state responsibility for the adverse effects of climate change, and that no provisions in the [UNFCCC] can be interpreted as derogating from the principles of general international law' (Fiji Declaration upon ratification of the United Nations Framework Convention on Climate Change, 1993). Kiribati, Nauru, Papua New Guinea, and Tuvalu have made similar declarations. Under the Kyoto Protocol, the Cook Islands, Kiribati, Nauru, and Niue have done the same. Even more such declarations have been made pursuant to the Paris Agreement (Marshall Islands, Micronesia, Nauru, Niue, Philippines, Solomon Islands, Tuvalu, and Vanuatu). The wording differs slightly sometimes. In that respect, the Cook Islands' declaration is more specific, stating that '[t]he Government of the Cook Islands declares its understanding that acceptance of the Paris Agreement and its application shall in no way constitute a renunciation of any rights under international law concerning State responsibility for the adverse effects of climate change and that no provision in the Paris Agreement can be interpreted as derogating from principles of general international law or any claims or rights concerning compensation due to the impacts of climate change' (Cook Islands Declaration upon ratification of the Paris Agreement, 2016). These declarations 'demonstrated their belief that the worst greenhouse gas emitters can still be held legally responsible for their actions' (Koivurova, 2007, 267). Indeed, even though (or because) there are no → *lex specialis* secondary rules, nothing in the climate regime can be read as excluding the applicability of general international law with regard to damage caused by climate change (Voigt, 2008, 10). On the contrary, Parties' awareness is reflected in the Preamble of the UNFCCC, which recalls that States 'have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction' (UNFCCC, Preamble para 8). Given the enormous scale of the impacts foreseen from GHG pollution, the particular vulnerability of many developing countries to these impacts, and advances in attribution science, the likelihood of legal action against major-emitting countries can only increase (Verheyen and Roderick, 2008, 37).

C. Is Inter-State Climate Litigation Conceivable?

14 International law is often viewed as unable to provide an adequate response to these issues. According to Voigt, for instance, 'international law is ill-equipped when confronted with a complex situation, such as compensation for climate change damages. Vague primary rules, multiplicity of actors, different types of damages and non-linear causation all pose significant challenges to the traditional law on State responsibility' (Voigt, 2008, 2). Some small island States entertained the idea of interstate proceedings but were dissuaded on the grounds that this could have disrupted international negotiations on climate, which were already quite tense. For instance, Tuvalu, a small island State in the South Pacific whose land will be inundated within the next 50 years, announced in 2002 that it would take Australia to the ICJ (Koivurova, 2007, 267). Many contemplated litigation based on the insufficient outcome of the Copenhagen COP in 2009. In 2011, Palau, another small island developing State, initiated a campaign for the United Nations General Assembly to request an advisory opinion from the ICJ, but had to back out after the launch of the Durban negotiations and *a fortiori* when the United States threatened to interrupt the provision of

development aid (Beck and Bursleson, 2014, 17). A sort of wait-and-see attitude then imbued the preparation and launch of the Paris Agreement, (almost) everyone now deeming the content of the Agreement to be insufficient but in any event both fragile and better than nothing.

15 It is true that climate change constitutes a challenge when considering the principles and conditions surrounding States' international responsibility, whether one is looking at wrongful conduct, its consequences, or even at the enforcement of responsibility. The following discussion applies to States but also, for the most part, to any subject of international law (such as an international organization financing a project generating large GHG emissions).

1. Wrongful Act: A Violation of International Law Attributable to a State

(a) An Internationally Wrongful Act

16 The 1996 proposals of the International Law Commission ('ILC') 1996 proposals for making States strictly liable for significant transboundary harm proved to be too progressive and have been abandoned (see also Title and texts of the preamble and the draft principles on the allocation of loss arising out of hazardous activities adopted by the Drafting Committee on second reading, 2006, 1). Hence, the international liability of a State may only be incurred on the basis of an internationally wrongful act. It is a well-established principle that 'every internationally wrongful act of a State entails the international liability of that State' (Draft Articles on Responsibility of States for Internationally Wrongful Acts ['2001 ILC Draft Articles'], 2001, 2). Thus, the responsibility of the State results from the violation of international law, regardless of its consequences. It can be a breach of conventional or customary international law that may be committed through an act or omission. Indeed, the remarkable development of States' primary obligations is related to both the multiplication and increasing precision of conventional obligations, but also to the strengthening of a foundation made of customary rules. In both respects, the densification of State obligations mechanically increases the potential for litigation. Consequently, the breached primary obligation can be found within the specific climate change legal regime but also in other special regimes and general international law.

17 Treaty law is the main source of obligations in international environmental law, containing more specific obligations than customary law. Depending on the States involved in an international litigation on climate change, the UNFCCC, the Kyoto Protocol, and the Paris Agreement are directly relevant. Whether the UNFCCC imposes legally enforceable obligations is disputed in the literature. The predominant view appears to be that as a framework convention it does not stipulate enforceable primary legal norms of international law, but provides a general framework whose rules lack specificity and are subject to the treaty's compliance procedures only (Schwarte and Byrne, 2010, 1). Regarding the reduction of GHG emissions, the most specific provision, Article 4 (2) UNFCCC, provides that Parties 'shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases'. Although vague, this provision 'stipulate[s] a commitment' and 'arguably could be the basis of a liability claim' (Faure and Nollkaemper, 2007, 123; Voigt, 2008, 6). Similarly, one could also think of Article 4 (4) UNFCCC which established a 'commitment' to 'assist the developing country parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects', or even of Article 5 UNFCCC (technology transfer). For its part, the Kyoto Protocol set out more specific and quantified obligations, in particular with regard to the reduction of GHG emissions. Because they are specific, these obligations could be a basis for litigation. Lastly, the Paris Agreement sets out a general objective that is more detailed than the one found in the

UNFCCC and in the light of which it must be interpreted: '[h]olding 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' (Art 2.1 (a) Paris Agreement). The obligations laid down in this agreement are essentially procedural. Regarding mitigation, the obligation is not really substantial as 'each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions' (Art 4 (2) Paris Agreement). But the Party contribution shall 'reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances' (Art 4 (3) Paris Agreement). This implies 'a due diligence standard which requires governments to act in proportion to the risk at stake' (Voigt, 2016, 158).

18 Other conventions could also be relevant, such as the United Nations Convention on the Law of the Sea ('UNCLOS') and others treaties combating pollution of the marine environment, the Montreal Protocol on substances that deplete the ozone layer, or treaties seeking to reduce long-range transboundary air pollution. One could also think of the Convention on Biological Diversity, the UNESCO World Heritage Convention, or even human rights treaties. Very limited case law exists in this regard. For instance, an application has been made by environmental organizations and private citizens to include several sites on the List of World Heritage in Danger, on the basis of Article 11 (4) World Heritage Convention, because climate change threatens the future of these sites, including the Himalayan mountain range (Thorson, 2009, 255). Several petitions were also made to the World Heritage Committee raising the prospect of GHG emissions causing damage, through climate change, to World Heritage sites such as the Great Barrier Reef in Australia (Peel, 2016, 1009).

19 Without getting into too much detail, climate treaties and other conventions provide a fragile basis to support a finding of State liability given that the obligations are vague, attenuated, sometimes conditional, and often indirect. That is why it is interesting to also examine the possibility of invoking, in and of itself or in addition to the violation of a conventional obligation, customary obligations. From this point of view, the obligation not to harm the environment in other States or the environment in areas beyond national jurisdictions (the so called 'no-harm rule') provides an interesting lead. It is an old rule that recent case law has clarified while highlighting potential implications. Thus, it is not an obligation not to cause damage, but a positive obligation, a duty of due diligence. States must act with due diligence in order to ensure to the highest possible extent that dangerous activities which are being carried out on their territory or within their jurisdiction do not cause harmful consequences. This obligation is extremely wide. It is an obligation of 'means' and not of results: 'an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain this result' (*Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, 2011, 39 [*Responsibilities and Obligations*]). It is very strict: 'it is an obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators' (*Pulp Mills on the River Uruguay, Argentina v Uruguay*, 2010, para 197; see also → *Pulp Mills on the River Uruguay (Argentina v Uruguay)*). The → *International Tribunal for the Law of the Sea (ITLOS)* Chamber has even considered that the 'precautionary approach is also an integral part of the general obligation of due diligence' (*Responsibilities and Obligations*, para 131). Moreover, the general duty of due diligence includes a number of procedural obligations (information, notification, cooperation, impact assessment, and continuous monitoring) that could also be relied upon successfully in the context of litigation regarding large infrastructure projects (the construction of a pipeline), industrial projects

(construction, on a large scale, of coal-fired power plants) that emit a lot of GHG, or on the contrary geo-engineering projects designed to mitigate climate change.

20 This broad interpretation of due diligence, the customary nature of which is established, has significant consequences for States. Due to its 'umbrella' character, due diligence could make up for the potential shortcomings of treaties. Beyond its preventive role, it paves the way for increasing litigation based on an increasing knowledge of the thresholds not to be crossed in order to 'prevent dangerous anthropogenic interference with the climate system'. It is all the more interesting in a matter like climate change that this direct obligation of the State has an indirect impact on private stakeholders within the State's territory or jurisdiction, who are responsible for a very large part of GHG emissions. Due diligence is also seen as an attractive basis for State responsibility claims for climate change damage as it is binding on all States, including major emitters who lack specific emissions reduction obligations under the Kyoto Protocol or Paris Agreement (Peel, 2016, 1009). It is in any case an interesting basis that could be relied upon in addition to conventional ones. Indeed, the customary obligation of due diligence complements conventional obligations, keeping in mind that to this day the commitments to reduce emissions pursuant to conventions are inadequate and insufficient to 'prevent dangerous anthropogenic interference with the climate system'. A State may comply with its conventional commitments while failing to comply with its customary obligations. As for conventional obligations, they must be interpreted in the light of the customary obligation, which can result in broader obligations. In practice, conventional and customary due diligence obligations mutually feed and shed light on each other. The recent award on the South China Sea perfectly reflects the catalysis, possibly even the symbiosis, that can take place between these different kinds of obligations (*The South China Sea Arbitration, The Republic of Philippines v The People's Republic of China*, 2016, paras 941–48). Thus, despite being vague, the customary basis can remain relevant, including in the case of a dispute between two States that are Parties to the Paris Agreement.

21 It is now established that state of necessity is one of the circumstances that can preclude a finding of wrongfulness. Could a State invoke necessity to be exonerated from its obligations to prevent and limit climate change, and more generally of all its obligations on this matter? Economic necessity in particular could be argued, given the States' development imperatives. The International Center for Settlement of Investment Disputes ('ICSID') arbitral tribunals have accepted that a catastrophic economic situation threatening the living conditions of a population could justify a state of necessity (*Metalpar SA and Buen Aire SA v Argentine Republic*, 2008, para 208). On the other hand, the ICJ has accepted the possibility of an ecological state of necessity (*Gabčíkovo-Nagymaros Project*, para 51). Yet, even though it is easy to compare emissions per capita, which can differ significantly from one State to the next, to this day there is no consensus as to what would constitute necessary emissions—required for subsistence—and what would be deemed superfluous emissions. Thus, this route seems rather complicated, except perhaps in the most extreme case of the lowest or largest emitters. Perhaps the actual carbon footprint of a State should be taken into account, excluding emissions related to exports. This seems all the more difficult given that necessity is construed in a restrictive manner to avoid any abuse. Besides, necessity can justify the violation of international law only to the extent that it 'does not seriously impair an essential interest of the State or States towards which the obligation exists, or of the international community as a whole' (Art 25 (1) 2001 ILC Draft Articles). This is another hurdle that subjects of international law must overcome to be able to rely on necessity to escape liability.

22 Considerations as to whether the responsible States had the opportunity to take preventive action, the foreseeability of harm, and the proportionality of the measures chosen to reduce the harm, will also be relevant to the determination of the standard of care the State has to follow (Peel, 2016, 1009). Moreover, this standard of care is not set in stone. It evolves over time alongside scientific and technological knowledge and in space, depending on the different capacities of States, which themselves also evolve over time. As years go by, States' obligations become increasingly onerous, lightening in equal measure the burden of proof. Foreseeability of harm continuously improves, thanks in particular to the work of the IPCC, some of it at least being co-decided with representatives of States. Proportionality also evolves with scientific knowledge. It requires an assessment of the balance between the defendant's and the claimant's interests. Yet the risk involved for some States, in particular small island States, is so great, including substantial or even total loss of territory, that only significant reduction measures of GHGs could be considered proportionate (Voigt, 2008, 13). Further to the Stern Review in 2006, a significant number of economic papers have established that the costs of inaction would ultimately become far greater than the costs of action (Stern, 2006, ii).

(b) Attributing Harm to a State

23 For a State to be found liable, a causal link must be established between the harm done and the violation of international law. In theory, a State is only responsible for the actions of public authorities and of its own entities, not for those of private individuals—who are responsible for the most part of GHG emissions—except indirectly if it does not comply with its due diligence obligations in this respect. Thus, in principle, a State cannot be held responsible on the basis that its GHG emissions have caused harm, but because it has failed to take necessary and adequate measures in order to regulate emitting activities carried out within its territory or jurisdiction. From this point of view, a State is accountable for activities on its territory and under its effective control. In other situations, the lack of action by public authorities has been condemned (*Armed Activities on the Territory of the Congo, Democratic Republic of the Congo v Rwanda*, 2005, para 180; → *Armed Activities on the Territory of the Congo Cases*), as well as normative initiatives by legislators that contradicted a conventional covenant (*Metalclad Corporation v The United Mexican States*, 2000, paras 109–11). As found by the seabed disputes chamber of the ITLOS, 'it is not considered reasonable to make a State liable for each and every violation committed by persons under its jurisdiction, it is equally not considered satisfactory to rely on mere application of the principle that the conduct of private persons or entities is not attributable to the State under international law' (*Responsibilities and Obligations*, para 112). Similarly, an international organization could be held liable both for the initiatives of its normative bodies and for the actions of its services (Art 4 Draft Articles on the Responsibility of International Organizations ['2011 ILC Draft Articles'], 2011).

24 As mentioned above (see para 2), the human origin of climate change is no longer in question. It has been established by IPCC reports. Nevertheless, the climate system is complex and not linear. Even though there are clear estimates of different countries' relative contributions to the absolute tons of GHGs emitted globally, at least since the 1990s, sources of emissions are varied, vague, and untraceable. Thus, while the overall causation leaves no doubt, the same cannot be said of specific causation.

25 With regard to due diligence obligations, however, the burden of proof is less challenging. Indeed, it will be easier to show that a State has failed to take all the measures it should have taken. Proof must be provided not as to the existence of a risk but as to the lack of implementation by the State of legislation and regulation that would have enabled such State to be made aware of such risk, to assess its probability and gravity, and to take measures in order to avoid its occurrence. Proof of such failure is not particularly difficult to establish (Kerbrat and Maljean-Dubois, 2014, 929). Indeed, as due diligence obligations

are obligations of conduct, it is not necessary to prove that the environment was substantially harmed (except at a later stage when determining the right method of compensation) but simply that the State has failed to meet its obligations of conduct by not having taken all the measures that should have been taken.

26 Climate change constitutes a challenge for international law, but the latter has shown on many occasions its ability to adapt. A number of leads would be worth looking into, even though the standard of proof that would be accepted by an international jurisdiction remains unclear. As a matter of fact, each GHG emission increases the risk of specific harm by adding, in cumulative terms, to the GHG already present in the atmosphere. Thus, one could suggest that causation could be established on the sole basis of contribution to the problem of climate change by a specific actor. The issue of how much damage might have been caused by this contribution is irrelevant in this respect, although it will play a role at the stage of apportioning costs (Voigt, 2008, 16). It must be pointed out that the fact that the injury was at least partially caused by the polluting activity of the Trail Smelter in Canada appeared to be sufficient (Voigt, 2008, 15; *Trail Smelter Case*, 1938, 1941; → *Trail Smelter Arbitration*). Or that, in another case, a proximate cause was found, largely based on empirical interpretation (*Preliminary Decision No 7*, 2007, para 13). In spite of the developments of scientific knowledge, it is still relevant to consider whether the precautionary principle could not lighten the standard of proof (Faure and Nollkaemper, 2007, 1588). Indeed, we may not be in a context of uncertainty as to the overall causation any more, but the determination of specific causation does remain subject to uncertainty.

2. Consequences of the Internationally Wrongful Act

27 Under international law, as in any other legal system, a legal rule can be divided into a main or primary obligation, the obligation to comply, and an ancillary or secondary obligation, which is to correct the consequences of non-compliance. Even though any internationally wrongful act by a subject of international law gives rise to liability, if no direct harm was done the responsibility will remain theoretical and will not result in actual consequences; unless a State engages the responsibility of another State for an indirect harm, but this time exercising the diplomatic protection in respect of its nationals. That said, harm is construed in a wide sense here as it is now established that ‘injury includes any damage, whether material or moral, caused by the internationally wrongful act of a State’ (Art 31 (2) 2011 ILC Draft Articles).

28 Only affected subjects will be entitled to seek the liability of the author of the wrongful act, and the concept of injured State has long been construed in a strict manner. The existence of a real and actual dispute is a condition to litigation. The ICJ uses a narrow definition of the term ‘dispute’, thus restricting the borders of litigation and scope of action (*Mavrommatis Palestine Concessions*, 1924, 11; → *Mavrommatis Concessions Cases*). Eliminating ‘virtual’ or ‘abstract’ disputes, it considers that there is a dispute, in the judicial sense, when a State has a claim that is legally opposed to a claim from another State. In order for a dispute to exist, the two sides must hold clearly opposite views as to the performance or non-performance of certain international obligations. Moreover, a dispute exists when the evidence demonstrates that the respondent was aware, or could not have been unaware, that its views were positively opposed by the applicant (*Obligations concerning Negotiations relating to Cessation of the Nuclear Arms Race and to Nuclear Disarmament, Marshall Islands v India*, 2016, paras 33–40). The issue is thus not only about opposed legal views. Indeed ‘it must be shown that the claim of one party is positively opposed by the other’ (*South West Africa, Ethiopia v South Africa, Liberia v South Africa*, 1962, para 328; see also → *South West Africa/Namibia (Advisory Opinions and Judgments)*). In the → *Northern Cameroons Case*, the ICJ declared that ‘it would still be impossible for the Court to render a judgment capable of effective application’ since it was neither asked

to 'address the alleged injustice', nor to 'award any reparation'. It thus reaffirmed that its function is indeed to guarantee the rule of law but 'in connection with concrete cases where there exists at the time of the adjudication an actual controversy involving a conflict of legal interests between the parties' and that the decision 'must have some practical consequences in the sense that it can affect existing legal rights or obligations of the parties, thus removing uncertainty from their legal relations' (*Northern Cameroons, Cameroon v United Kingdom*, 1963, para 15).

29 Thus, in general, international law does not recognize *actio popularis* (→ *Obligations erga omnes*; → *Community Interest*; → *Barcelona Traction Case*), that is to say the possibility for any State to help establishing the responsibility of another State that breached international law. In 1966, the Court stated that 'although a right of this kind may be known to certain municipal systems of law, it is not known to international law as it stands at present' (*South West Africa, Ethiopia v South Africa, Liberia v South Africa*, 1966, para 47; see also the dissenting opinion of Judge Jessup, 387–88). This principle does suffer one exception: *erga omnes* obligations, since they create *omnium* rights. The Court has already referred to this notion explicitly and repeatedly, for instance concerning the Convention on genocide (*Application of the Convention on the Prevention and Punishment of the Crime of Genocide, Bosnia and Herzegovina v Serbia and Montenegro*, 1996, para 31; see also → *Application of the Convention on the Prevention and Punishment of the Crime of Genocide Case (Bosnia and Herzegovina v Serbia and Montenegro)*). The principle inherent to this concept is that all States have a legal interest to act when such an obligation is breached (*Barcelona Traction Light and Power Company Ltd, Belgium v Spain*, 1970, para 32; see also *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, 2004, paras 87–88; → *Israeli Wall Advisory Opinion (Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory)*). The idea here is not to invoke a subjective right any more, but rather an objective interest for the respect of legality. This leads directly to an *actio popularis*, even a limited one. Most obligations that are contained in environmental treaties seem to fit into the category of 'interdependent' obligations, according to which it is sufficient, in order to establish an interest to act, to be a Party to the treaty whenever it is impossible to single out third persons or Parties as creditors of the obligation (Santulli, 2015, 240). The 2001 ILC Draft Articles allow for the possibility that any State other than an injured State may invoke the responsibility of another State if 'a) the obligation breached is owed to a group of States including that State, and is established for the protection of a collective interest of the group; or b) the obligation breached is owed to the international community as a whole' (Art 48 2001 ILC Draft Articles). It follows from commentaries issued by the ILC that paragraph (a) concerns mainly obligations related to the protection of the environment (2001 ILC Draft Articles, 126, para 7). And yet, the ITLOS Chamber used this provision of the ILC project to consider that 'each State Party may also be entitled to claim compensation in light of the *erga omnes* character of the obligations relating to the preservation of the environment of the high seas and in the Area' (*Responsibilities and Obligations*, para 180). We may observe here an important clarification that could facilitate the invocation of the responsibility of a State or of a group of States for climate damages.

30 The first consequence when a State is found liable is that the internationally wrongful act must end if it is still ongoing. But the responsible State—or organization—is also 'under an obligation to make full reparation for the injury caused by the internationally wrongful act' (Art 31 2001 ILC Draft Articles). This reparation 'takes the form of restitution, compensation and satisfaction, either singly or in combination' (Art 34 2001 ILC Draft Articles). The ICJ has confirmed that compensation may be an appropriate form of reparation, particularly in those cases where restitution is materially impossible or unduly burdensome (*Pulp Mills on the River Uruguay, Argentina v Uruguay*, 2010, para 273). However, it recalled recently, in the → *Ahmadou Sadio Diallo Case (Republic of Guinea v*

Democratic Republic of the Congo), that, in order to award compensation, the Court has to determine 'whether there is a sufficiently direct and certain causal nexus between the wrongful act ... and the injury suffered by the Applicant' (*Ahmadou Sadio Diallo, Republic of Guinea v Democratic Republic of the Congo*, 2012, para 14; quoted in *Certain Activities Carried Out by Nicaragua*, para 32). Except by interpreting causation in a very loose way or by applying probabilistic theories, it will be difficult in the current state of scientific knowledge to establish a 'direct and certain causal nexus' between a climate damage and the emissions of a particular State or group of States. Thus, it will be difficult to obtain the *restitutio in integrum* or even a financial compensation for the material prejudice, even without taking into account that it might in fact be physically impossible to restore the situation *ex ante*. In the meantime, it is worth noting that the ICJ has no difficulty with the compensation of environmental damage. Even if it has not previously 'adjudicated a claim for compensation for environmental damage', it recently considered that 'it is consistent with the principles of international law governing the consequences of internationally wrongful acts, including the principle of full reparation, to hold that compensation is due for damage caused to the environment, in and of itself, in addition to expenses incurred by an injured State as a consequence of such damage' (*Certain activities carried out by Nicaragua*, para 41). Moreover, the ICJ recalls that 'the absence of adequate evidence as to the extent of material damage will not, in all situations, preclude an award of compensation for that damage' and that '[i]n such case, while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference, although the result be only approximate' (*Certain activities carried out by Nicaragua*, para 35; quoting *Trail Smelter Case*).

31 Let us imagine a Pacific State, A, seeking the liability of an industrialized State, B, for the damage incurred on its territory (eg sea level rise and ultimately disappearance, extreme climate events, etc) on the basis of State B's failure to comply with its due diligence obligations. By bringing a claim based on due diligence, State A avoids the delicate issues surrounding the attribution to State B of the conduct of private individuals and companies that have emitted the most part of the GHGs causing climate change. Furthermore, State A no longer has to prove the responsibility of State B in the changes State A is suffering from. It must simply establish that State B did not set sufficient emissions reduction targets. Thanks, in particular, to the work of the IPCC, it will be quite easy to establish that State B has failed to act with the required due diligence. Material compensation of the harm caused will be more delicate as the question will arise as to whether, and to what extent, the harm can be attributed to State B. As it happens, it is impossible to trace the gas emitted within State B's territory or jurisdiction and to ascertain its share of responsibility for the harm done to State A (except for relying on presumptions made from emission data). Even though the delicate issues surrounding compensation are thus not all resolved, an international court could easily find that State B breached its due diligence obligation. State A would most likely not see it as an adequate response but it could have an impact on State B's conduct, as well as, down the line, the conduct of other large emitters. In that case, responsibility is not about compensation for a material prejudice but about restoring legality and preventing further harm. An international court could also request the parties to find a solution to their dispute through negotiation in good faith and cooperation. This would be consistent with international case law (for instance, *Pulp Mills on the River Uruguay, Argentina v Uruguay*, 2010, para 81 et seq) and the work of the ILC on the protection of the atmosphere (Voigt, 2016, 163).

32 If it is established that the violation constitutes ‘a serious breach by a State of an obligation arising under a peremptory norm of general international law’, the draft project of the ILC provides for specific consequences in addition to those existing under common law. On the one hand, ‘States shall cooperate to bring to an end through lawful means any serious breach’ of this kind. On the other hand, ‘[n]o State shall recognize as lawful a situation created by’ such ‘a serious breach’ ‘nor render aid or assistance in maintaining that situation’ (Art 41 2001 ILC Draft Articles).

33 The liability of a State is not limited by the fact that one or several other States are responsible for the same internationally wrongful act (Art 47 2001 ILC Draft Articles). Each State can therefore be held separately and individually liable; however, the extent of a State’s contribution to the damage will be taken into account at the compensation stage. The Commentary to Article 47 makes it clear that each responsible State is liable only for the harm it individually causes. Thus, ‘in the determination of reparation, account shall be taken of the contribution to the injury by wilful or negligent action or omission of the injured State or any person or entity in relation to whom reparation is sought’ (Art 39 2001 ILC Draft Articles). This issue is particularly relevant with respect to climate change, but even beyond that, with respect to a significant number of cross-border pollution cases. International law will have to provide some answers. A few principles could be relied upon, such as the principle of common but differentiated responsibilities and respective capabilities, but they are far from offering ‘turnkey’ solutions. There are only a few, incomplete scientific studies that could be relied upon by a court (for instance Summary Report of the ad hoc group for the modelling and assessment of contributions to climate change, 2007, 1).

34 Given that it is the cumulative effect of GHG emissions by several—all—States that is causing harm, the question arises as to whether States that are contributing (independently) to an internationally wrongful act can be held jointly and severally liable. The effect would be that the victim could choose to sue any of the injurers falling within the joint and several liability regime and claim full compensation from any of them. The injurer who would have to fully compensate the victim could then in turn claim from the other wrongdoers the amount which they contributed to the loss (Faure and Nollkaemper, 2007, 165). This principle can be found in most legal systems but its existence in international law is far from established.

3. Enforcing State Responsibility

35 Even when a State can convincingly show that one or more other States are responsible for the violation of a primary international legal obligation that forms part of their mutual relationship, there are limited judicial avenues through which redress can be sought (Schwarte and Byrne, 2010, 15). Even if a basis for litigation can be found in substantive law, it will generally be difficult, in certain cases impossible, to find procedural means to bring a successful claim. The injured State will face the hurdle of the principle of consent to international jurisdiction. In the event of a dispute, it will thus be difficult to find a forum with jurisdiction, unless the respondent State accepts such jurisdiction once the dispute has come to light; an unlikely scenario.

36 The settlement of disputes clause in Article 14 UNFCCC provides a theoretical basis for a liability claim. Article 14 (1) provides that the Parties ‘shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice’. If this fails, Article 14 (2) includes an optional jurisdictional settlement clause: Parties may make a prior declaration (when ratifying or at any time thereafter) that they recognize submission of the dispute to the ICJ or to arbitration (in accordance with procedures that were supposed to be adopted by the COP but were not). In the event that neither the ICJ nor an arbitral tribunal

may be seized, Article 14 (5)–(7) provides for conciliation. This clause applies *mutatis mutandis* to the Kyoto Protocol (see Art 19) and to the Paris Agreement (see Art 24).

37 These provisions are not suited for the resolution of disputes arising out of the interpretation or application of multilateral conventions adopted for the defence of a ‘collective interest’ (Art 48 2001 ILC Draft Articles). Indeed, in fear of a boomerang effect, States are reluctant to rely on them for the ‘sole’ defence of a collective interest. While for years these clauses were never relied on and could be viewed as having been included only as a matter of form, they recently provided a basis for several arbitration rulings: for instance, between the Netherlands and France (*The Audit of Accounts between the Netherlands and France*, 2004). However, in these cases, contrary to what is provided in Article 14 UNFCCC, the constitution of an arbitration tribunal could be requested unilaterally; the agreement of the parties to the dispute was not required.

38 Reliance on these provisions to challenge a violation of the Convention is possible in theory. This is all the more true that the concepts of ‘dispute between any two or more Parties concerning the interpretation or application of the Convention’ or of injured State, which define their scope of application, should, in this case, be construed in a rather large sense. The core of the climate regime, featuring obligations and means to reduce emissions, most likely falls into the category of *erga omnes partes* obligations—obligations that apply to all Parties to the treaty, be it the Convention, the Kyoto Protocol, or the Paris Agreement. For this type of obligations, a ‘universalisation of liability relationships’ could and should be recognized (Sicilianos, 2003, 169).

39 Yet, in practice, the UNFCCC dispute settlement clause cannot be invoked. The fact is that it was not met with great success: out of the 197 Parties to the Convention, the Netherlands is the only country that recognized the jurisdiction of the ICJ and the possibility of arbitration proceedings, while the Solomon Islands and Tuvalu have accepted compulsory arbitration according to Article 14 (2) UNFCCC. Given the requirement for reciprocity, the clause could therefore be relied upon only between the Netherlands and Tuvalu and the Solomon Islands, or between Tuvalu and the Solomon Islands. Of course, States can always submit their dispute to such jurisdiction after its occurrence, but this scenario is, once again, very unlikely.

40 Nevertheless, litigation could arise in other fora with compulsory jurisdiction such as the Dispute Settlement Body of the WTO (‘DSB’) (→ *International trade disputes*), for disputes related to the application of the UNFCCC, of the Kyoto Protocol, or of the Paris Agreement. This possibility was brought up several times in connection with the challenge of proposals for carbon tax border adjustments; however, the outcome of these disputes is uncertain. The DSB can only intervene insofar as the dispute involves two or more Members of the WTO and has a trade-related dimension: the special group potentially put in place would naturally rule ‘in the light of the relevant provisions’ of WTO law (Art 7 Understanding on the Rules and Procedures Governing the Settlement of Disputes, Annex 2 to Agreement Establishing the World Trade Organization). This could be the case even in disputes involving a WTO Member that is not a Party to the climate treaties. This is in fact the scenario that would involve the most severe conflicts. However, even if all States involved in a dispute were Members of the WTO as well as of the Kyoto Protocol or Paris Agreement, panels do not have the power to articulate these two legal spaces. It is true that the WTO Appellate Body has clearly stated, in its very first ruling, that the General Agreement on Tariffs and Trade 1994 is not to be read ‘in clinical isolation from public international law’ (*United States – Standards for Reformulated and Conventional Gasoline*, 1996, para 16). However, the → *Biotech Case* showed later that an environmental convention—in this instance, the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (‘Cartagena Protocol’)—could not be seen as being part of the law

applicable for the purposes of resolving a dispute within the WTO. According to the opinion adopted by the panel, which to this day has not been overturned given the absence of any appeal, for it to be the case, all Members of the WTO would have to be Parties to the Convention on Biological Diversity. Applied to climate change, this 'case law' prevents reliance on climate-related conventional law to interpret the WTO law, at least on the basis of Article 31 (3) (c) Vienna Convention on the Law of Treaties ('Vienna Convention'), given that the United States or Canada are WTO Members but not Parties to the Cartagena Protocol, or that a dozen of States are WTO Members and not Parties to the Paris Agreement, among them Russia or Turkey (*European Communities – Measures Affecting the Approval and Marketing of Biotech Products*, Panel Report, 2006, paras 7.73 et seq; *European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft*, Appellate Body Report, 2011, paras 844–45; for an (unsuccessful) utilization of the UNFCCC, see *India – Certain Measures Relating to Solar Cells and Solar Modules*, Appellate Body Report, 2016, paras 7.285–7.301).

41 Other conventional mechanisms could come into play, such as the ones provided in the UNCLOS (Part XV), the United Nations Fish Stocks Agreement (Part VIII), the Montreal Protocol on substances that deplete the ozone layer (see in particular Art 14 with Art 11 Vienna Convention), or the Convention on Biological Diversity (Art 27), other supervisory bodies of international treaties, conciliation procedures, advisory opinions of the ICJ, or even the ITLOS, which has proven to be more progressive. While the relevance of a request for an advisory opinion from the Court could have been called into question during the negotiations that lead to the adoption of the Paris Agreement in 2015, the situation is now different. Advisory opinions are not binding, but they do provide an authoritative statement on questions of international law. As States' national contributions are significantly insufficient to reach the objectives of the Paris Agreement, it could be the right time for the Court to clarify the rights and obligations of States on the matter, including, most importantly, on the basis of customary law (Koran and Garcia, 2012, 35).

D. Transnational Climate Litigation

42 Climate litigation can also be transnational, involving claims by private persons or subnational actors against States, or even private persons against multinational companies. Climate damage can also give rise to complaints before bodies protecting human rights by 'ricochet' by relying on the right to life, right to health, or right to respect for the home. This is evidenced by the Inuit's 2005 petition to the Inter-American Commission on Human Rights claiming that US climate change policy violated the human rights of its US and Canadian citizens by failing to adopt adequate GHG controls. The US was still the largest cumulative emitter of GHG emissions at that time. The petition was dismissed but it did succeed in drawing public attention to the severe effects of global warming on the Inuit, and instigating further discussion about the human rights implications of climate change (The Status of Climate Change Litigation – A Global Review, 31). One should also mention the ruling of the Federal Court of Nigeria considering that Shell's flaring of methane from its gas production activities on the Niger Delta violated human rights to a clean and healthy environment protected under the Nigerian constitution and the African Charter on Human and Peoples' Rights (*Gbemre v Shell Petroleum Development Company Nigeria Limited and Others*, 2005; The Status of Climate Change Litigation – A Global Review, 31). Indeed, with climate damages increasing, it would seem appropriate to explore the role of human rights bodies (Wewerinke-Singh, 2017, 22).

43 Transnational disputes may in particular occur in the context of → *international investment arbitration*, with claims relating to environmental measures adopted by governments (Fuentes Torrijo, 2016, 309). The trend towards investment in renewable and low carbon energy industries has also given rise to a growing number of arbitrations at the → *Permanent Court of Arbitration (PCA)* under the Energy Charter Treaty, NAFTA, and bilateral investment treaties ('BITs'; → *Investments, Bilateral Treaties*) relating to solar, wind and hydropower investment (Miles, 2017, 26). This is also the case under the ICSID Convention on the Settlement of Investment Disputes between States and Nationals of Other States. For example, a Swedish investor, the owner of a coal-fired power plant near Hamburg, has initiated arbitration against Germany before an ICSID tribunal, claiming that additional environmental restrictions to reduce the plant pollution in the Elbe River were imposed after the provisional approval of the project in 2007 and that they constitute a violation of its right to a fair and equitable treatment (*Vattenfall AB, Vattenfall Europe AG, Vattenfall Europe Generation AG v Federal Republic of Germany*, 2009). There is also a growing number of investment arbitrations relating this time to the enactment of legislative measures reducing or withdrawing economic support mechanisms previously introduced in support of renewable sources of energy (Dias Simões, 2017, 174).

44 Lastly, a claim before the accountability mechanisms of the international financial institutions could also be contemplated, be it the World Bank inspection panel or the International Finance Corporations' Compliance Advisor and Ombudsman. They provide potentially useful opportunities to raise climate-related concerns regarding projects financed by the World Bank or other international financial institutions (Gleason and Hunter, 2009, 311).

E. International Law and Domestic Climate Change Litigation

45 Admittedly, international courts 'have themselves become new social actors, ones that contribute to evolutions in the state of human consciousness and actions' (Sands, 2016, 889). Yet international courts do not appear to have sufficient political legitimacy to set precedents with potentially tremendous consequences on the world's order and to persuade States to implement the courts' decisions (Mayer, 2014, 19). In these circumstances, control at the national level is to play a crucial role. The development of national climate litigation is not a new phenomenon, but it is now 'booming', initiated by a wide variety of claimants, from farmers to a group of grandmothers, cities, a law student, or groups of children. Opposite them are States, and large emitters such as the fossil fuel industry, or those financing them. In these cases, climate defenders' requests are rarely granted, but that is almost secondary. What matters equally, if not more, is the successful mediatization at the global level of these cases that are real communication stunts. Furthermore, national litigation does have a link with international law. Such litigation is increasing because of the slow implementation of an ambitious international climate regime, claimants seeking to make up for the gaps and shortcomings thereof (Peel and Osofsky, 2015, 338).

46 Yet, national climate disputes also benefit from international negotiations and State commitments, and even from the recent clarifications regarding the customary 'no harm' rule. Claimants rely on factual data gathered pursuant thereto (eg a stocktake of GHG emissions prepared since the 1990s pursuant to the UNFCCC, elements presented in reports prepared by States), on scientific arguments (the legitimacy and authority of IPCC reports in particular are widely recognized), and on legal arguments (eg the objective of limited global warming set out in the Paris Agreement, or national contributions as unilateral declarations capable of creating legal obligations). They can also rely, in a less direct way, on a law that implements a State's international commitments. Here, the Paris Agreement provides more of a breeding ground conducive to national litigation, rather than legal arguments as such. While the Paris Agreement does not assign each country a carbon

budget, it does offer a basis for deducing a budget from national commitments. It also makes clear that policies leading to net increases in emissions are disfavoured (The Status of Climate Change Litigation – A Global Review, 17). The Dutch *Urgenda* case has contributed to creating a powerful incentive for national climate trials: the Court found that the Dutch government had a duty to take more ambitious mitigation measures, by virtue of national law, European law, and international law (the ‘no harm’ rule for instance, or the sustainability principle embodied in the UNFCCC) (*Urgenda Foundation v The State of the Netherlands*, 2015). In the New Zealand case of *Thomson v The Minister for Climate Change Issues*, 2017 (*Thomson*), while denying the claimant’s plea, the High Court of New Zealand recognized that the national emissions targets should be reviewed with regard to IPCC reports (*Thomson*, para 178) after stating that ‘the IPCC reports provide a factual basis on which decisions can be made’ (*Thomson*, para 133). The court reviewed national policy and in particular the national contribution of New Zealand to the Paris Agreement, in the light of the requirements, minimal in substance, laid down by the Agreement. The court concluded that ‘neither the Convention nor the Paris Agreement stipulate any specific criteria or process for how a country is to set its [intended nationally determined contribution] and [nationally determined contribution], nor how it is to assess the costs of the measures it intends to take’ (*Thomson*, para 139). Thus the claimant did not succeed in establishing the unlawful nature of the national contribution (*Thomson*). The Swiss grandmothers case, *Union of Swiss Senior Women for Climate Protection v Swiss Federal Council*, still pending, relates to the adequacy of the Swiss government’s climate change mitigation targets and implementation measures. The claimants have underlined the objectives laid down by the Paris Agreement, and argued that Switzerland was not creating the conditions to meet these objectives. Other cases are leading claimants to assert that their respective governments’ legal commitments to climate change mitigation are consistent with and articulated through ratification of the Paris Agreement (one dealing with the expansion of Vienna’s airport in Austria, another one with licenses for deep-sea oil and gas extraction in the Barents Sea in Norway, a last one in Sweden with the sale of coal mines and coal-fired power plants in Germany by a State-owned energy company; The Status of Climate Change Litigation – A Global Review, 219). Now that the control mechanism of the climate regime is going to be less strict than it used to be, there is a growing need for a ‘handover’ between the international and the national level. It has been shown that these two control mechanisms fit into a sort of ‘circular continuum’. They mutually support and feed each other. Yet they are not interdependent and have very different characteristics that plead in favour of a combination rather than a substitution (Tabau, 2017, 220).

47 Climate change litigation ‘provides a valuable complement to treaty, legislative, and executive action because it fosters needed interaction across levels of government’ (Osofsky, 2009, 377). If States do not raise the level of ambition of their national contributions to the Paris Agreement, if they do not honour their financial and technology transfer commitments, climate litigation cases and adjudicative approaches could skyrocket in the years to come, not only at the national but also at the international level.

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