**International legal action on climate change:**

**Critical roles for science and scientists**

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*1. Introduction and Key Messages*

My objective in the short time we have today is to offer you a brief overview of the diverse and increasingly important legal strategies that are shaping the global climate debate and the critical role that science and scientists play in the success of those strategies.

I hope to leave you with four key messages:

* Climate policy moves slower than climate change.
* Around the world, new legal strategies are helping accelerate action.
* Science is critical to the success of these strategies.
* There are important roles for scientists beyond the science itself

*2. International Climate Policy: The UNFCCC and Beyond*

The United Nations Framework Convention on Climate Change remains the primary international forum for confronting the threat of global climate change. More than 20 years since it was adopted, however, the UNFCCC remains mired in diplomatic stalemate and political inertia. We have witnessed progress around the margins, both in the Kyoto Protocol and in the more recent political agreements during and after the Copenhagen climate talks. Yet the UNFCCC remains plagued by weak ambition and a lack of binding commitments by the United States and other key emitters of greenhouse gases (GHGs). Most recently, the UNFCCC parties have agreed to develop binding commitments by 2015, but progress in subsequent negotiations has remained slow and the prospect for major breakthroughs in the near-term remains relatively small. If that agreement materializes, the envisioned commitments would not come into effect until 2020.

In the face of these continued challenges, nations have sought to make progress on climate challenges in other international arenas. To offer but a few examples here:

* Within the Montreal Protocol, also known as the Ozone Convention, Parties have explored whether the treaty could be used to limit emissions of hydrofluorocarbons (HFCs). While they have been widely used as an ozone-friendly substitute for the ozone depleting chemicals that are the subject of the Montreal Protocol, HFCs are also potent GHGs, with a greenhouse potential hundreds to thousands of times greater than carbon dioxide (CO2).
* Within international shipping and aviation bodies--the International Maritime Organization and the International Civil Aviation Organization--work is ongoing to reduce CO2 emissions of ships and airplanes, which account for a growing proportion of GHG emissions.
* Following years of campaigning by civil society, the World Bank appears ready to take serious steps to reduce the greenhouse gas impacts of its development lending. This summer, the Bank adopted a new Energy Strategy which commits the institution to increase its focus on energy efficiency and renewable energy, and to limit funding for new coal-fired power plants to rare circumstances.
* The Arctic Council, which provides a forum for international cooperation among the countries bordering the Arctic, is exploring strategies to reduce emissions of black carbon and other short-lived climate forcers, which have a disproportionate impact on the Arctic environment.
* Within the Convention on Biological Diversity, parties have devoted significant energy to the links between forests and climate change, and adopted measures to reduce GHG emissions caused by deforestation and forest degradation.
* The United Nations Security Council has debated the relationship between climate change and global security, drawing attention to how continued inaction on climate change may lead to global warming that destabilizes governments and exacerbates national or regional conflicts.

Despite these efforts, however, carbon emissions continue to rise and the pace of climate change far exceeds the pace of policy change. As the International Energy Agency has observed, the window of opportunity for keeping aggregate global warming below 2 degrees Celsius is rapidly closing, even as the impacts of climate change on society, species and ecosystems grow increasingly evident and ever more urgent.

Accordingly, it is imperative to find new ways to bring about change.

*3. The Growing Use of Legal Strategies for Climate Change: The United States and Beyond*

Which brings us to the central objective of this presentation. A recurring lesson in the history of social and environmental movements is that, where politics breaks down, law can often break through. From voting rights to desegregation to tobacco control, people and organizations have used legal strategies to fill the gap when political strategies alone have proved insufficient. Climate change is no exception to that rule. Today, people around the world are using the law to accelerate climate action.

Not surprisingly, given its history, the United States has been at the forefront of these developments, with states, cities, nonprofits and private citizens bringing suits to tighten environmental standards, protect species, block coal plants, pipelines and other and mandate stronger governmental action on climate change. But the U.S. is not alone in these efforts--legal actions have been brought in more than a dozen countries, including the United Kingdom, Canada, Germany, France, India, the Philippines, Poland, Turkey and South Africa, among many others. These cases have been brought to protect individual species and entire ecosystems, in the name of individual communities and of entire cultures, and to assert the rights of both the present generation and of generations yet to come.

*3.1. International Options for Legal Action: Opportunities and Challenges*

Significantly, a growing number of countries, nonprofit groups and legal practitioners are exploring how these local and national legal actions can be strengthened and complemented by legal strategies at the international level. These strategies are based on a diverse array of treaties, customary international laws, human rights norms, the standards and operational policies of intergovernmental organizations like the World Bank, and transboundary applications of domestic law. Not surprisingly given this diversity, international legal strategies encompass a wide array of forms, forums and potential parties. Significantly, they also present both unique opportunities and unique challenges when compared to legal actions at the domestic level.

*3.2. State-to-State Strategies: Key Challenges*

The classic type of international legal action--and the type most people think of, assuming they think about international law at all--is a dispute between two or more sovereign nations. Indeed, one of the first questions we often hear in the wake of a disappointing climate conference is: "Why doesn't Country X just sue Country Y for climate change?" International litigation of this kind is certainly feasible, but it faces particular challenges.

* The first of these challenges is simply getting jurisdiction over the right countries. In contrast to domestic legal systems, the international legal system does not have a single legal body that can compel nations to appear before it and conclusively resolve disagreements between them.
* A second challenge is holding the parties involved to a meaningful legal standard. Can you point to a provision in a treaty, or in customary law, that clearly obligates a country to act (or not act) in a certain way? And is the obligation significant enough that a violation of it can be demonstrated, and that its remedy will make a real difference in environmental outcomes?
* To a far greater degree than in many (though not all) national contexts, countries considering a possible legal dispute against another country may be subject to intense political, diplomatic and economic pressure. This challenge takes on particular resonance when one considers that many of the countries most vulnerable to and least responsible for climate change are less developed countries with limited resources and a high dependence on foreign aid or foreign trade.
* Finally, even where these challenges can be overcome, there remains the additional challenge of getting an enforceable judgment. Just as there is no single judicial body at the international level that can compel nations to appear before it, the few forums that might oblige governments to appear may not be empowered to issue binding decisions*.*

*3.2.1. State-to-State Strategies: Cases and Advisory Opinions at the ICJ*

The International Court of Justice provides a case in point of these challenges. The ICJ is the principal judicial organ of the United Nations and, thus, the closest thing we currently have to a true "World Court". Significantly, however, the ICJ's jurisdiction is limited by the requirement of State consent. Put simply, this means that the ICJ cannot consider a contentious case between two sovereign States unless both of the States has agreed to accept the Court's jurisdiction--either through a general acceptance of compulsory jurisdiction or by specific agreement accepting jurisdiction for the case at hand. Importantly, the United States is among the countries that do not accept the ICJ's compulsory jurisdiction. Thus, no country could sue the United States before the ICJ unless the U.S. explicitly agreed to the suit. As the world's largest historic emitter of greenhouse gases and the second largest current emitter, the prospects of the United States agreeing to such a suit are extremely small.

There is, however, an alternate route by which the ICJ can consider a legal issue, by issuing an advisory opinion. As the name implies, an advisory opinion does not conclusively resolve an actual case between disputing parties. Rather, it is a vehicle through which the United Nations General Assembly, or another authorized body, can request an authoritative legal interpretation from the ICJ on a general question of law. Because these opinion don't have immediate impact on the rights of individual countries, State consent is not required for the ICJ to issue an advisory opinion. Nonetheless, by setting forth clearly the ICJ's interpretation of the law, an advisory opinion can have a significant effect on international policy and build the foundation of law for future cases.

And, in fact, a group of small island nations, led by Palau, actually launched an initiative in 2011 seeking a United Nations General Assembly resolution to request an advisory opinion from the ICJ on the responsibility of States for the impacts of climate of climate change on the territory of other States and on the global commons. Unfortunately, Palau and other nations came under quiet but significant pressure from the United States, and the initiative has been tabled--at least for now.

*3.2.2. State-to-State Strategies: Cases and Disputes under MEAs*

In addition to legal bodies of universal jurisdiction, there are also international tribunals with narrower jurisdiction, often derived from specific treaties, including multilateral environmental agreements. Of these treaties, one of the most promising from the perspective of international climate litigation is the United Nations Convention on the Law of the Sea, or UNCLOS. UNCLOS has a number of strengths, including near universal ratification, binding standards, and a dedicated judicial organ--the International Tribunal on the Law of the Sea--empowered to resolve disputes between its parties. Thus, one could envision, for example, a case brought under UNCLOS for CO2 emissions to the atmosphere that result in ocean acidification. While a case of this kind might hold significant promise, however, it would also face important limitations. The most significant of these limitations is that the United States, again, the largest historic emitter of greenhouse gases, is one of the tiny handful of States that is not a party to UNCLOS.

Another treaty that may hold promise is the UNFCCC itself. Notwithstanding the slow progress made under the climate convention, the convention itself includes a dispute settlement provision that is unique in two important respects. First, it does not depend on state consent. In cases where there is a disagreement over the interpretation or implementation of the UNFCCC, Article 14 permits any State party to the Convention to unilaterally invoke a dispute settlement process against any other Party. Moreover, if the Parties involved cannot reach an amicable resolution of their differences within a year, any Party to the dispute can then invoke a mandatory conciliation process. It must be acknowledged that the outcomes from that process would not be binding on any party as a legal matter. Yet they would likely have significant moral weight both within and outside the climate negotiations. Moreover, this is among the few mechanisms available that might put the smallest and most vulnerable States on an equal legal footing with the largest emitters. Secondly, and even more importantly, because the United States is a Party to the UNFCCC, this is one of the few compulsory mechanisms that would actually apply to the U.S. without its consent. At the same time, there would be important challenges to bringing a successful dispute under Article 14. In addition to withstanding the economic and political pressures already discussed above, any State seeking to invoke Article 14 would also need to identify a disagreement that was sufficiently specific that it could be limited to a manageable number of Parties. To date, Article 14 has never been invoked, although at least one State has publicly considered the option.

It should be noted that the Convention on Biological Diversity also has a dispute resolution mechanism similar to the one found in the UNFCCC, but potentially stronger. The CBD also contains a number of provisions which might conceivably be invoked as the basis for a dispute. It must be acknowledged, however, that many of these provisions are subject to broad exceptions and vaguely worded qualifications that would make it more challenging to hold States accountable for violations. And, as is too often the case with environmental and human rights treaties, the United States is once again not a Party.

I also note in passing that civil society groups have also filed petitions with the World Heritage Convention, in an effort to invoke stronger actions to designate and protect World Heritage sites endangered by climate change. To date, the World Heritage Convention has not taken significant action on these petitions. Despite this inaction, the petitions at the World Heritage Convention petitions are emblematic of a more active and perhaps more promising avenue for international legal action.

*3.3. International Legal Actions by Individuals and Communities*

While national governments have been hesitant to invoke State-to-State mechanisms for resolving climate disputes and accelerating climate action, there lies an additional realm of international disputes involving individuals as claimants--either against governments or against inter-governmental organizations.

*3.3.1. Individual Actions against States: Examples from Human Rights*

With respect to the former, the most iconic and significant examples arise in the realm of human rights. Human rights bodies at both the international and regional levels have established human rights commissions and human rights courts through which individuals whose human rights have been harmed or threatened by a State can petition the international community for relief, protection and redress of their grievances. The record within these bodies is admittedly mixed; yet they provide one of the most longstanding mechanisms through which private individuals can reach beyond national borders to call international attention to their plight, including in the context of climate change.

In 2005, the Inuit Circumpolar Conference brought a landmark petition before the Inter-American Commission on Human Rights (IACHR), in which it asserted that, by contributing significantly to global climate change, the United States' failure to address its greenhouse gas emissions impinged on the human rights and indigenous rights of all Arctic peoples. Although the Commission declined to consider the petition, it nonetheless convened a hearing on the human rights impacts climate change and invited testimony by attorneys from Earthjustice and the Center for International Environmental Law, who represented the Inuit on the petition. More significantly, the Inuit petition helped bring questions of human rights into the global policy debate on climate change.

In April 2013, the Arctic Athabaskan Council, with support from Earthjustice, filed a new petition with the IACHR. This petition focuses on the unique and urgent threat posed by black carbon and other short-lived climate forcers and alleges that Canada's failure to control its black carbon emissions poses an urgent threat to the human and indigenous rights of Athabaskan peoples. Significantly, the petition identifies specific measures which, in the view of the plaintiffs, could ameliorate these threats and reduce the harm to their lives and livelihoods. The petitioners are currently awaiting action by the Commission.

*3.3.2. Individual Actions against IGOs: The World Bank Inspection Panel*

The World Bank has been heavily criticized by civil society groups around the world for calling global attention to the development threats posed by climate change, particularly in the world's least developed and most vulnerable countries, while continuing to fund massive fossil fuel projects in countries around the world. In recent years, much of this debate has focused the Bank's financial support or assistance for a massive coal-fired power plant at Medupi, South Africa and support by the International Finance Corporation and the World Bank for a plan to privatize Kosovo's electrical grid and build significant new coal capacity in that country. In both cases, complaints brought by individuals and civil society groups before the World Bank Inspection Panel have helped crystallize public debate and serve as a focal point for global efforts to transform the Bank's policy. While the Medupi case did not stop the new coal plant from being built, and it's too early to know on Kosovo, it's clear that international attention and controversy generated through the cases has led to intense scrutiny of how the Bank's actions adhere to its analysis and to its own policies. As I noted earlier, a recent policy announcement by the Bank suggests this scrutiny may be bringing both the Bank's policies and its actions into closer alignment with climate science.

*3.4. Transnational Cases in National Courts*

A third category of international legal strategies, and one whose potential remains largely untapped, involves bringing international claims into domestic courts--whether they be domestic courts where the damage was suffered or those where the damage originated. For the sake of time, I'll offer just a single example here. In 2011, the Czech Republic prepared an environmental assessment for a major new coal-fired power plant to be constructed within the country. Once completed, the Prunerov coal plant would be the largest in the country and among the largest in Europe. The Federated States of Micronesia, a small island nation half a world away, intervened in the process. Micronesia argued that the Czech government was required by Czech law to consider the environmental impacts of proposed projects, regardless of the country in which those impacts occurred, even a country thousands of miles away. By significantly increasing GHG emissions in the Czech Republic, Micronesia argued, the proposed coal plant would contribute to global warming and to rising sea levels, with potential impacts on Micronesia's territory. It asked the Czech Republic, as part of its assessment process, to evaluate how the proposed coal plant would affect sea level rise in Micronesia. Micronesia's demand for an environmental assessment is significant not only in itself, but because it was based on the Czech Republic's own laws. While the law of every country is unique, and there are significant legal risks attendant to a country's subjecting itself to the courts of a foreign sovereign, the Micronesia case has inspired lawyers interested in climate change to explore whether and how the laws of other countries might be used to hold their governments accountable for greenhouse emissions or to improve climate policies.

*4. Good Law Needs Good Science*

But what does any of this have to do with science? The answer is simple: the prospects for success in all of these strategies--at the local level, the national level, the international level--depend on good science.

Scientific evidence plays a critical role in opening courthouse doors--in helping potential plaintiffs allege that they have suffered the sort of concrete and particularized harm necessary to give them standing to sue.

Good science is also needed to prove causation--to link the plaintiffs' harm to climate change and, just as importantly, to link climate change to the actions of the defendant.

It is needed to show redressability--to demonstrate for the judge or the finder of fact that it is possible for the court to order some action that will redress or alleviate the plaintiffs' harm. And to quantify the remedy if damages cannot be redressed.

*4.1. Linking Global Trends to Local Impacts*

Given that this is a room full of biologists, I want to take advantage of the opportunity to discuss the particular importance of conservation biology in this regard. Biology and Ecology are vital in helping to connect global change to local impacts--to document how broader trends at the hemispheric or regional level are shaping realities at the level of countries, ecosystems and communities. What does global warming mean for a country's fisheries? For a community's forests? For the coral reefs that play a vital role in its economy and its subsistence?

Consider Puerto Rico. Global climate models can tell us that sea surface temperatures in the Caribbean will increase due to global warming. Conservation biology can document what those changing sea surface temperatures mean for yellowfin tuna and dolphin fish habitat in the region, and increase our understanding of how climate change will affect the bioluminescent bays. From that research, we develop a better understanding of who is affected by warming and, more importantly, how--connecting the global threats to specific, identifiable and, to some extent, quantifiable damage to discrete plaintiffs, be they states or individuals. In addition to its ecosystem impacts, the loss of suitable fish habitat affects commercial and recreational fisheries. Damage to bioluminescent bays may affect the tourism industry.

In the same way, biological science can help document and quantify the damage to entire nations. Providing evidence, for example, of how climate change will affect the strongly tuna-dependent economy of the Seychelles.

*4.2. Documenting the Links between Subsistence, Culture & Ecosystem Change*

The human rights petitions provide a powerful example of how conservation science can help us not only better assess the complex mechanisms of climate damage, but document and demonstrate those harms in ways that courts can understand and act upon. For example, in the recent Athabaskan petition to the Inter-American Commission on Human Rights, the petitioners drew on scientific studies to document the effect tight linkages between traditional Athabaskan culture and the species and ecosystems of the tundra and boreal forests and to document how climate change is affecting access to traditional foods. Just as importantly, scientists helped collect, document and synthesize Athabaskan observations of climate impacts in ways cognizable by the Commission--translating traditional knowledge into documentary evidence.

*4.3. Documenting the Causal Links of Harm, Such as Exposure Pathways*

Good science can prove instrumental in establishing causal chains in surprising ways. Among our many partners around the world, the Center for International Environmental Law is working with local groups in Kosovo who are concerned about the impacts of a major new coal-fired power plant proposed for their community. Because both the International Finance Corporation and the World Bank have been involved in aspects of the project, CIEL assisted the communities in bringing complaints to the accountability mechanisms of the IFC and the Bank.

In evaluating whether the Bank had adequately considered the health and environmental impacts linked to contamination from mercury and other heavy metals, we considered likely pathways of exposure the project sponsors had overlooked. Scientific literature from the region pointed to one such significant and potentially overlooked pathway--through the uptake and concentration of mercury pollution in edible wild mushrooms, which provide both a subsistence resource and an export commodity in Kosovo.

*4.4. Building Bodies of Knowledge and Bodies of Evidence*

This points to one of the most important lessons, I hope to share. The research you produce can be put to surprisingly specific use in the legal context. Thus, one of the most important ways that scientists can contribute to global action on climate change is simply by doing good science.

As Judge David Bazelon observed in *Ethyl Corporation v. EPA,* a seminal opinion on the role of science in the courts:

[W]e need not seek a single dispositive study that fully supports the Administrator's determination. Science does not work that way; nor, for that matter, does adjudicatory fact-finding. . . . By its nature, scientific evidence is cumulative: the more supporting, albeit inconclusive, evidence available, the more likely the accuracy of the conclusion.”

In law, just as in science, many apparent breakthroughs are actually built on the steady accretion of data and experience--small advances that lead to bigger ones, experiments that fail while pointing the way to success, and the steady accretion of solid, and particularized evidence that, when pulled together, points to a greater truth.

*5. Scientists in the Courtroom*

In addition to the critical contributions of scientific research itself, scientists can and do play a vital role in climate cases that draws on builds on their work in the field and in the laboratory. They serve as expert witnesses, act as scientific advisors to plaintiffs and prospective plaintiffs, and submit so called "friend of the court" briefs to help better inform the judicial process.

*5.1. Scientists as Declarants and Expert Witnesses*

To understand the impact of scientists in these processes, you need look no further than our copanelist Michael MacCracken. Mike has submitted expert declarations and affidavits in more than half a dozen climate cases, including in the watershed case of *Massachusetts v. EPA.* In writing the majority opinion holding that EPA has the authority to regulate greenhouse gases as an air pollutant, Justice Stevens drew explicitly and repeatedly on Mike's declaration as evidence of both the injurious impacts of climate change and the causal role of CO2 emissions in those impacts.

Another particularly powerful examples involves Dr. James Hansen, one of the world's preeminent climate scientists, and a bunch of Greenpeace climate activists. In 2007, six activists climbed the smokestack at the Kingsnorth power station to protest plans to expand the site. As might be expected, they were promptly arrested. What was unexpected--and significant--is what happened when the case came to court. The activists acknowledged that they had climbed (and painted) the smokestack, but argued that they had a lawful excuse for doing so--that they had caused minor property damage to the Kingsnorth plant only to prevent the much greater property damage that would be caused by its expansion--and the resulting climate change. Dr. Hansen provided expert testimony in support of their defense. That testimony proved persuasive with the jury, which acquitted the activists of all charges.

*5.2. Scientists as Plaintiffs and Affiants*

Not only do scientists make compelling experts, they make compelling witnesses. One of the key challenges plaintiffs face in any environmental case is proving that they have standing to sue. From the perspective of the court, it is not sufficient that potential plaintiffs simply disagree with the defendant's action--or inactions--no matter how strongly. Rather, the plaintiffs must allege convincingly that they have suffered a discrete and particularized harm that distinguishes them from the public as a whole.

It is in this respect that biologists make particularly effective plaintiffs. As a long line of environmental cases has demonstrated, biologists have a very concrete and demonstrable stake in the protection of the species and ecosystems they study by virtue of the fact that they study them--and, indeed, often build their careers, their professional reputations and their livelihoods on that study. In a long line of cases, courts have repeatedly recognized that biologists have "vocational standing" as plaintiffs in cases that concern the species and ecosystems they study.

To offer a particularly relevant example, Dr. Philip Dustan was a biology professor, coral reef researcher and, importantly, a member of Friends of the Earth. When Friends of the Earth and other organizations sued the U.S. Export-Import Bank for failing to consider the climate impacts of its lending policies, Dr. Dustan joined the case as a representative plantiff. The complaint alleged that in contributing to the loss of the corals he studied, climate change caused a particularized harm to Dustan by diminishing opportunities for fundamental biological research and his ability to pursue his profession. In the complaint, Dr. Dustan explained his rationale for joining the case, ackowledging that impacts on coral reefs were "tantamount to going to Sequoia National Forest and finding every 90 out of 100 trees dead or on the ground. I cannot keep my head in the sand and keep studying the pure physiology and evolutionary biology of corals. I have to speak up."

*6. Scientists beyond the Courtoom*

Which brings me to a final, and fundamental way in which scientists can contribute to climate action: as concerned citizens--as activists, as advocates, as parents. They are marches and protests, they are writing letters and writing placards, they are risking arrest and, perhaps even tenure. Because they understand what is at stake.

Many scientists come reluctantly to advocacy, concerned that it will compromise their impartiality, their scientific credibility. But it is precisely that commitment to impartiality--to careful observation and careful reporting--that makes scientists such powerful advocates and such powerful truth-tellers. Scientists, and particularly conservation biologists, enjoy both the great privilege of observing the world up close and the great burden of reporting what they find to a society that is increasingly disconnected from its natural environment. Unlike many fields of endeavor, biology is not about seeing that world as we'd prefer it to be, but about seeing the world as it is--through the eyes of science, rather than politics, or economics. To identify and document the physical, ecological and biological realities that underlie climate change and climate impacts, and to serve candid witness to those impacts. It is this witness, this expertise developed over years of study and observation, that make yours such important, indispensable voices in the fight against climate change.

If you leave here with any single message today, I hope it is this one: that your voice matters. Profoundly. To all of us. And if ever there was a time for you to raise it, it is now.

Thank you.

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