COMMENTS

# Unlocking Willpower and Ambition to Meet the Goals of the Paris Climate Change Agreement (Part One): Shifting Needs of Law, Policy, and Economics

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In December 2015, 195 nations attending the 21st Conference of the Parties (COP21) in Paris, France, adopted a historic agreement to combat climate change (the Paris Agreement). The Agreement charts a course for achieving two main goals of the United Nations Framework Convention on Climate Change (UNFCCC). First, to prevent dangerous anthropogenic climate change, the Agreement includes a global commitment to limit the increase in global average temperature to no more than 2°C (3.6°F) above pre-industrial levels, with an aspirational goal of no more than 1.5°C (2.7°F). Second, the Agreement provides a framework for reducing greenhouse gas emissions (GHGs) to achieve "carbon neutrality" during the second half of this century. It does so by calling on all nations to make commitments to limit carbon emissions (intended nationally determined contributions, or INDCs) and to update those commitments every five years. Like its predecessors, the Agreement provides enabling mechanisms such as financing, technology transfer, capacity-building, and measurement guidelines to facilitate policy implementation.

The Paris Agreement incorporates a long-standing recognition of the need for expanded "ambition," which in the context of the UNFCCC means attaining higher levels of GHG mitigation (environmental aspiration and stringency) by participating nations.[1] This specific concept of ambition first appears at COP16 in Cancun in the context of nationally appropriate mitigation commitments or actions by developed country Parties[2]; then again at COP18 in Doha through more ambitious emission reduction commitments[3]; and later at COP20 in Lima through the formation of INDCs and the Lima call for climate action.[4] The evolving focus on ambition in the UNFCCC during this period is an outgrowth in large part of shortfalls in global GHG reductions and other lessons learned from the Kyoto Protocol.

In order to achieve the 2°C climate stabilization goal established in Paris and to make progress toward a 1.5°C

1. Edward Cameron, *What Is Ambition in the Context of Climate Change?*, World Resources Inst., Nov. 26, 2012, http://www.wri.org/blog/2012/11/what-ambition-context-climate-change.
2. The official text of the Cancun Agreements is available online. *Report of the Conference of the Parties on Its Sixteenth Session, Held in Cancun From 29 November to 10 December 2010*, UNFCCC, U.N. Doc. FCCC/CP/2010/7/Add.1 (2011), http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf. See Article 38, for the reference to the concept of "ambition."
3. *Doha Amendment to the Kyoto Protocol* at 4, Item E, art. 3, para. 1 quater (2012), http://unfccc.int/files/kyoto_protocol/application/pdf/kp_doha_amendment_english.pdf.
4. *Lima Call for Climate Action*, Decision- /CP.20, §18, http://unfccc.int/files/meetings/lima_dec_2014/application/pdf/auv_cop20_lima_call_for_climate_action.pdf.

aspirational target, quantifiable national commitments for GHG emissions reductions will be required on a much more ambitious scale than those made before or during the Paris Agreement. Current INDCs, for instance, would stabilize global temperature changes only at an estimated 2.6-3.1°C on a cumulative basis if fully implemented[5]; consequently, greater ambition will be needed beyond the commitments made in Paris to meet the 2°C minimum stabilization commitment, let alone the 1.5°C level.

While ambition for greater GHG reductions is formally expressed in decisions of the COPs and implementing activities of the UNFCCC, a parallel expression of the importance of expanded "willpower" (the conviction to match ambition with necessary implementation actions) does not appear as clearly. In its opening paragraph, the Copenhagen Accord states, "We emphasize our strong political will to urgently combat climate change in accordance with the principle of common but differentiated responsibilities and respective capabilities." But a review of subsequent written agreements and decision principles, criteria, and activities of UNFCCC does not reveal use of the term "willpower."

It can be argued that willpower is implied in various ways and has been an underlying and often unexpressed component of COP multilateral negotiations and the political feasibility that undergirds them, and that willpower has been informally embedded in the formulation of enabling mechanisms such as flexibility, capacity-building, financing, cooperation, transparency, and self-determination. It appears to have been a significant consideration of bilateral climate change agreements, such as the United States-China bilateral agreement, as well as climate change-related deliberations of regional and global bodies such as the G20 and Major Economies Forum.

However, while willpower has been raised informally by participants and observers, it has not yet been formally or systematically addressed within the UNFCCC in terms of concept, strategy, and implementing actions in contrast to expanded ambition for GHG mitigation. Put differently, ambition within the context of the UNFCCC is more narrowly defined than the scope of ambition typically necessary for nations to pursue top national priorities. This is particularly true as it relates to the need to focus on economic and national security at the same time as climate stabilization. In this context, ambition can be thought of as "talking the talk" and willpower as "walking the walk." Ideally, the two would be integrated from the very outset of policymaking so that willpower is not merely an afterthought.

This Comment examines the nexus between willpower and ambition in the context of the Paris Agreement and its domestic implications worldwide, and identifies key elements of a more integrated, systematic, and strategic treatment of the two through law and policy. We first examine the evolution of the issue since the Kyoto Protocol through activities inside and outside of the UNFCCC, then specific conditions required by nations to build the necessary political willpower to achieve the Paris commitment, and finally the ties between willpower and policy development and implementation procedures, with an eye toward legal conditions.

In the subsequent Comment in this series, we will examine specific legal pathways by which willpower and ambition can be more clearly integrated and advanced through the law, focusing in particular on the United States, and examine a set of potential legal forcing mechanisms for climate change ambition that may create heightened opportunities and needs for integration. We also consider their complications and components.

## I. Evolution of Willpower and Ambition Within the UNFCCC

The Kyoto Protocol represents an important turning point in the evolving decisions of the COP. It established quantifiable reduction targets and timetables for GHG reductions (as a percent change in 2020 from a base year of 1990) for each of the developed nations (which belong to Annex 1), in furtherance of the UNFCCC commitment that developed nations take the lead. Negotiation of these targets immediately raised potential conflicts between environmental stringency and political feasibility and led to a variety of attempts to "soften the blow" through flexibility mechanisms, including exchange of commitments between Annex 1 (developed) countries (internationally transferrable assigned amounts through trading); shared projects and exchange of credit between Annex 1 countries (joint implementation); and shared projects and exchange of credit between Annex 1 and Annex 2 (developing) nations (the clean development mechanism). Flexibility was also functionally provided in negotiations through the concept and practical application of "common but differentiated" targets, which enabled nations to set goals based on national circumstances beyond GHG emission levels.

The Kyoto negotiations were confounded by the complexity of factors that influence a nation's ability to pursue a stringent target, and by the lack of low-cost/high-value solutions that were known at the time.[6] They also were affected by economic and equity concerns. Most notably, the Byrd-Hagel U.S. Senate Resolution expressed the sense

5. Joeri Rogelj et al., *Paris Agreement Climate Proposals Need a Boost to Keep Warming Well Below 2°C*, 534 Nature 631-39 (2016), *available at* http://www.nature.com/nature/journal/v534/n7609/full/nature18307.html?WT.feed_name=subjects_scientific-community-and-society.

6. At the time, the menu of known mitigation solutions was relatively small in comparison to the proliferation of solutions and databases that have evolved since. *See, e.g.*, The Center for Climate Strategies (CCS), *CCS Master Catalog of LEDS Policies & Actions*, http://www.climatestrategies.us/library/library/view/1100 (last visited Oct. 21, 2016).

of the Senate that the United States should not make commitments to reduce emissions without the participation of the developing (Annex 2) nations.[7]

During a briefing of the U.S. Congressional Delegation in Kyoto, U.S. lead negotiator Stuart Eizenstat described the proposed GHG targets under consideration by the president, i.e., stabilizing 2020 GHG emissions at 1990 levels. The bipartisan delegation responded with two specific questions about the domestic implications of this international commitment: (1) where would the tonnage reductions come from within the U.S. economy; and (2) what would "the folks back home" have to do to comply?[8] The lack of specifics by the administration in terms of compliance plans and domestic impacts did not assuage concerns within the United States about potentially negative and disparate impacts that could result from treaty implementation.

Nevertheless, as contemplated by the UNFCCC,[9] a top-down procedure was deployed to establish levels of ambition for each of the Annex 1 nations, and the Kyoto Protocol was approved by the negotiators and hailed as a major milestone in the fight against global climate change. Subsequently, the United States, a key player, did not ratify the treaty or submit it to the Senate for advice and consent, and others pulled out of the agreement. As implementation of the Kyoto Protocol unfolded, a variety of challenges emerged with its implementation and, combined with the lack of full participation by Annex 1 nations and exclusion of Annex 2 nations, signaled a deficiency in terms of the level of ambition that could be expected from the structure of the agreement.

Fresh thinking soon emerged within the UNFCCC regarding approaches that could better achieve the high levels of ambition needed for climate stabilization in both the developed and developing world. Programs were crafted to induce Annex 2 participation, including nationally appropriate mitigation actions (NAMAs) and nationally appropriate plans for adaptation (NAPAs). Each was designed to encourage voluntary, country-driven approaches to the development of specific, sector-level mitigation and adaptation policies in the form of a quantified, comprehensive plan. They were coupled with initial programs for financing (the Green Climate Fund, or GCF), capacity-building (NAMA Registry), and technology transfer (Climate Technology Centre and Network).

Unlike the Kyoto Protocol, developing nations were encouraged to develop mitigation programs not driven by top-down targets, but instead based on open-ended, bottom-up policy development and feasibility, coupled with the measurement, reporting, and verification (MRV) of actions. This shift toward a more self-determined, capacity-enabled, flexible, feasibility-driven, multisector approach was influenced by concerns of many developing nations about economic conflicts that could result from overly aggressive or prescribed actions. It reflected the need to build national willpower through specific new mechanisms.

In 2008, the evolution toward multiobjective policy development took a pronounced step forward with the introduction by the European Union (EU) of the concepts of low-carbon development (LCD) and low emissions development strategies (LEDS),[10] and later adoption at COP15 in Copenhagen as an implementing mechanism for the Fast Start Finance program.[11] The LCD and LEDS concepts were consistent with the advancement of policy development that was occurring outside of the UNFCCC framework. This included: (1) the widespread use of comprehensive, multiobjective, stakeholder-based climate action planning at the state level in the United States; (2) the advent of the green growth concept and a series of related initiatives in developing and emerging countries; (3) the ascension of multiobjective climate change actions at the national level in key countries such as China[12] (China's 12th Five-Year Plan included the establishment of national targets and programs for joint attainment of economic growth, energy intensity reduction, and GHG emissions reduction)[13]; (4) expansion of the concept of sustainable development to include GHG reductions as well as macroeconomic progress; (5) the launch of the Enhancing Capacity for LEDS program (EC-LEDS) by the United States Agency for International Development (USAID); and (6) the incorporation of GHG emissions objectives into a variety of economic, energy, and resource planning

7. S. Res. 98, 105th Cong. (1997), *available at* https://www.congress.gov/bill/105th-congress/senate-resolution/98. Tom Peterson served as a Brookings Legislative Fellow to Sen. Joe Lieberman (D-Conn.) on climate change and related issues during this period, and was directly involved in negotiations on Senate Resolution 98.
8. December 1997 congressional delegation briefing by the U.S. State Department in Kyoto, personal attendance by Tom Peterson in his acting role as congressional liaison for the White House Climate Change Task Force.
9. The UNFCCC was modeled on the successful experience with the Montreal Protocol on Substances That Deplete the Ozone Layer, in which a general treaty was followed by specific protocols establishing numeric targets. This model did not, however, involve the complex problems posed by differences between developed and developing nations.
10. Background on LCD is available at UNEP DTU Partnership, *Low Carbon Development*, http://www.unepdtu.org/what-we-do/thematic-programmes/low-carbon-development (last visited Oct. 21, 2016). Background on LEDS is available at IISD, *OECD/IEA Offer Insights on Low-Emission Development Strategies*, http://sdg.iisd.org/news/oecdiea-offer-insights-on-low-emission-development-strategies/?rdr=climate-l.iisd.org (last visited Oct. 21, 2016), and U.S. Department of State, Lessons Learned From Fast Start Finance: A U.S. Perspective, https://unfccc.int/files/cooperation_support/financial_mechanism/fast_start_finance/application/pdf/u_s__lessons_learned_from_fsf_v4.pdf (last visited Oct. 21, 2016).
11. UNFCCC, *Fast-Start Finance*, http://unfccc.int/cooperation_support/financial_mechanism/fast_start_finance/items/5646.php (last visited Oct. 21, 2016).
12. Since 2009, the Center for Climate Strategies (CCS) has supported development of China's Low Carbon Development program, including joint development of the China Subnational Low Carbon Development Planning and Analysis Toolkit with the China Academy of Sciences Institute for Policy Management. This program was recognized under a U.S. State Department and National Development and Reform Commission EcoPartnership from 2011-2016. Tom Peterson served as a director for this project.
13. Joanna Lewis, Energy and Climate Goals of China's 12th Five-Year Plan (Center for Climate and Energy Solutions 2011), http://www.c2es.org/international/key-country-policies/china/energy-climate-goals-twelfth-five-year-plan.

activities such as comprehensive energy and economic development plans at the national and subnational levels.

In the proceedings of COP17 in Lima, the INDC mechanism emerged as another step toward the implementation of LCD and LEDS approaches in preparation for decisions ultimately enacted at COP20 in Paris, building on the Lima call for climate action.

## II. Conditions for Integrating and Improving Willpower and Ambition

Experiences with climate change law and policy both inside and outside the UNFCCC processes[14] underscore the need for climate strategies designed specifically to enable national willpower. The key conditions driving this shift include:

1. Alignment with national vision and priorities
2. Assurance of capacity (manpower and money)
3. Improvement of public support and collaboration
4. Provision of free and open choice within nations on preferred low-carbon policy approaches
5. Access to effective tools for low-carbon policy development and implementation decisions

These conditions are interrelated and described in more detail below.

### *A. Alignment With National Vision and Priorities*

National vision is typically expressed in an overarching expression of national ambition. In turn, national priorities include issues and sectors that flow from this vision or feed into it, and include both immediate issues and longer-term strategic priorities at the national and subnational levels. The need for alignment with an overarching vision and short- and long-term priorities across a range of priority areas requires high-level, multiobjective procedures and capacities for planning, analysis, and implementation of climate change strategies and actions, in contrast to narrower approaches based on available technology, environmental stringency, or other isolated considerations.

Key national priority goal areas often include economic, energy, resource, health, security, and equity needs that cut across a variety of economic sectors and governing institutions. This requires an integrative approach that seeks linkages and promotes synergies among response options. Successful national initiatives are often overseen, as a result, at the level of the president, prime minister/vice president, or an established interagency or interministerial group empowered to ensure goal integration. Economic and national security issues are typically paramount in such proceedings.

The Democratic Republic of the Congo (DRC) provides an example of a national vision combined with short- and long-term national priorities. Through presidential decree, DRC seeks achievement of "emergent nation" status in the early 2030s by increasing per capita income one order of magnitude (current per capita income is $410 USD).[15] The immediate priorities of national agencies to enable this vision include providing electricity to 91% of households currently lacking access,[16] moving toward sustainable diversified economic systems for agriculture and forestry based on controlled active use, expanding coverage of waste treatment to protect health,[17] building a resilient commercial banking system through expanded household savings, and others.

Like many other nations, for the DRC to identify climate change mitigation as a national priority, low-carbon actions must facilitate the achievement and enhancement of its existing national vision and be consistent with specific priorities in key sectors such as those identified above. In particular, countries consistently seek expanded national and economic security and are open to climate policies consistent with these needs, but are hesitant where trade offs are involved. In the case of the DRC, provision of electricity will enable access to education, health, safety, economic support systems, and environmental protection. If renewable electricity powers this transition (including solar and micro hydro), it will reduce environmental damage, including GHG emissions, in comparison to fossil fuel-based power plants or large-scale hydroelectric dams such as the proposed Inga 3 hydropower project,[18] and create a pathway for high-priority, low-carbon development.

By way of another example, through the EC-LEDS program in Ukraine, a group of 53 high-level stakeholders and agency representatives participated in a goal survey administered by the Center for Climate Strategies (CCS) through the EC-LEDS program. The participants were asked for a relative ranking of national priorities that could be addressed through the LEDS process, including: economic expansion, energy security, resource sustainability, health improvement, GHG mitigation, and equity.[19] The improvement of personal wealth (per capita income) emerged as the top priority, even above energy security in the face of ongoing conflicts with Russia over natural gas supplies. This may not be surprising given that Ukraine's per capita income is roughly one-quarter that

14. Through the CCS, Tom Peterson has served as project director and/or core expert for comprehensive climate action planning processes at the national and subnational levels, including LEDS and LCD, in over 20 U.S. states and a number of nations, including China, Guatemala, Mexico, and Ukraine.

15. Estimate from 2013, found at World Bank, *Congo, Dem. Rep.*, http://data.worldbank.org/country/congo-dem-rep (last visited Oct. 21, 2016).

16. The rate of electricity access by households in sub-Saharan Africa is estimated at only 32% and is considered a major barrier to economic development and sustainability.

17. The DRC capital city of Kinshasa, with a population of 11 million people, only treats one-third of its waste due to capacity limits.

18. International Rivers, *The Inga 3 Hydropower Project*, https://www.internationalrivers.org/campaigns/the-inga-3-hydropower-project (last visited Oct. 21, 2016).

19. USAID-Ukraine municipal energy reform and EC-LEDS program; survey administered by CCS.

of neighboring Poland and Russia and symptomatic of its economic isolation and obsolescence.

The experience in Ukraine illustrates the fundamental question of whether the environment and wealth are, or are not, positively related, and what specific conditions are required to attain both simultaneously—a principal goal of the EC-LEDS program. The use of survey research for revealed preferences in Ukraine helped focus the screening, design, and testing of specific LEDS policy options against a range of national priorities to enable multi-criteria analysis (MCA) of policy options[20] and the targeting of high-impact, high-integration actions in all sectors.

Concerns about economic security are not unique to emerging and developing economies. The global financial crisis that started in 2008 had an impact on national perspectives on climate change ambition.[21] In Europe, for instance, the shift in focus toward economic hardship led some member nations of the EU to delay or alter actions on GHG mitigation. The EU environment and energy commissioners have been divided over the economic ramifications of higher levels of ambition for GHG reductions, reflective of Member State concerns.[22] Spain temporarily suspended its feed-in tariff scheme (which guarantees a premium price to producers of electricity from renewable sources) in the aftermath of the global financial crisis and subsequent Eurozone debt crisis,[23] while Italy dramatically cut renewable energy subsidies during the same period.[24] In the United States, some state legislatures, such as North Carolina, attempted to roll back renewable energy standards out of economic fear. Ironically, macroeconomic benefits ultimately helped defeat some of these efforts. In the case of North Carolina, the state ultimately chose not to alter the standards, in part due to the number of business startups they had created.

The general fear of the recession increased the level of scrutiny on proposed shifts to clean energy and led to stronger research on links between macroeconomic performance and climate action. Research by CCS in the United States, for instance, indicated that many sector-based actions had reduced national GHG emission trajectories without macroeconomic harm, and that future opportunities were available in *all sectors* that could simultaneously improve economic, energy, and environmental security if advanced technical and facilitative procedures were used for their formulation.[25] Similarly, analyses of the macroeconomic impacts of the Regional Greenhouse Gas Initiative have shown net expansion of jobs and economic growth and the potential for low-carbon actions to be aligned with economic needs.[26]

Meta-analysis of a wide range of U.S. climate policies corroborates these findings and provides insight into the key drivers of macroeconomic gain that can be used proactively to screen, select, and structure climate policy actions that avoid economic trade offs and build synergy.[27] The good news is that such success is possible. The bad news is that it is sensitive to technical expertise and decisionmaking procedures that frequently require new capacity.

### *B. Assurance of Capacity (Manpower and Money)*

Without the sufficient financial and institutional capacity needed to achieve tangible outcomes, policymakers are hesitant to expend high levels of effort to enact new policies, particularly if they involve trade offs with existing priorities. As a result, ambitious GHG reduction measures are unlikely to be pursued without reasonable assurance that the funding and institutional capacity needs for their implementation will exist. Interviews conducted by CCS with high-level officials in national agencies of developing and emerging nations (e.g., China, the DRC, Guatemala, Macedonia, Ukraine) as well as more than 20 states (e.g., Michigan, Kentucky, South Carolina, and others) consistently indicate that the lack of future funding and staff resources for energy and environmental programs presents a major barrier to climate change policy development, even when such programs can advance economic development and other top priorities. Climate and clean energy policy is highly sensitive to capacity constraints.

Manpower issues are particularly critical in developing and emerging nations. It is not uncommon to find agencies with the knowledge and technical capabilities required to advance priority issues but lacking capacity to implement at scale. In the DRC, for instance, the DRC Ministry of Environment, Conservation of Nature, Water, and Forests has implemented successful sustainable forestry demonstration projects that could be scaled to a national level, but are held back primarily due to agency manpower con-

20. *See* CCS, LEDS Action Planning and Analysis: A Planner and Participant Guide (2016), and specifically the section on MCA use in screening and prioritization of policy options, *available at* http://www.climatestrategies.us/library/library/view/1147 [hereinafter LEDS Action Planning and Analysis].

21. Susanne Droege, *Climate Policy and Economic Bust: The European Challenges to Create Green Stimulus*, 3 Carbon & Climate L. Rev., 135-37 (2009), *available at* http://www.lexxion.de/pdf/cclr/cclr_209_reading-sample.pdf.

22. *See* Sonja van Renssen, *Climate Policy Bumps Into Competitiveness in Europe*, Energy Post, Jan. 13, 2014, http://energypost.eu/climate-policy-bumps-competitiveness-europe/.

23. World Wildlife Fund & World Resources Institute, Meeting Renewable Energy Targets: Global Lessons From the Road to Implementation 16-17 (2013), *available at* http://awsassets.panda.org/downloads/meeting_renewable_energy_targets__low_res_.pdf.

24. Arjun Mahalingam & David M. Reiner, Energy Subsidies at Times of Economic Crisis: A Comparative Study and Scenario Analysis of Italy and Spain 1-3 (Cambridge Working Paper in Economics No. 1608, Energy Policy Research Group, Working Paper No. 1603, 2016), *available at* http://www.eprg.group.cam.ac.uk/wp-content/uploads/2016/02/1603-PDF.pdf.

25. Pat Delaquil et al., Developing and Assessing Economic, Energy, and Climate Security and Investment Options for the US: 2012 International Energy Workshop Paper (The Center for Climate Strategies 2012), *available at* http://www.climatestrategies.us/library/library/view/993.

26. Paul J. Hibbardet al., The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States: Review of RGGI's Second Three-Year Compliance Period (2012-2014) 5 (The Analysis Group July 14, 2015), *available at* http://www.eenews.net/assets/2015/07/13/document_pm_04.pdf.

27. *See* Adam Rose & Noah Dormady, *A Meta-Analysis of the Economic Impacts of Climate Change Policy in the United States*, 32 Energy J. 143-66 (2011), *available at* www.climatestrategies.us/library/library/download/1057.

straints.[28] As a result, progressive programs often do not advance past the demonstration stage.

This can be a barrier in developed nations as well. Following the recession, a number of U.S. states scaled back many energy and environmental programs. The drop-off in state capacity halted implementation of numerous discretionary programs that lacked line-item funding, and prevented some states from even seeking federal grant funds due to the limited physical capacity to process grants or to meet even matching requirements.[29] While the situation has improved with economic recovery, it remains a barrier in many places.

Funding (the combination of financing and investment from public and private sources) has been a consistent topic of UNFCCC discussion and is a top action item. Yet, existing funding streams are not yet fully deployed, and forecasts of long-term need are well beyond expected government contributions. Private funding is critical and requires stronger systems and capacities to enable it, particularly the integration of public policy and financing requirements (risk and return conditions and components). Even captive public funds for climate change (such as the GCF) are difficult to access by recipient nations at present, and will require significant investments of time and technical know-how by public agencies and third parties. As a result, funding is not yet flowing at the levels required to induce policymakers to take on new climate change actions.

### C. *Improvement of Public Support and Collaboration*

Political support for climate action is directly related to public support, which is in turn related to the availability of public information and opportunities for direct and genuine public involvement in policy development.[30] Climate change vulnerabilities and solutions are not necessarily well understood by the public or key constituencies in many nations, making it difficult to seek public approval for proposed policy or legal actions. Attempts to implement law and policy without such approval can result in strong opposition to public initiatives and high levels of political risk.

The resolution of insufficient public support requires more than one-way flow of information from governments and climate policy advocates (i.e., communications).[31] Group decision processes involving governmental and nongovernmental representatives engaged in joint fact-finding and joint policy development are needed. Open collaboration and consensus-building processes for climate policy development between public agencies, the private sector, and civil society are critical to structuring two-way information flow and supporting joint decisionmaking (collaboration), and have succeeded where implemented but have not been mainstreamed.[32] As a result of gaps in education and participation by citizens in the development of law and policy, public and political support is typically not high enough to inspire policymaker confidence and public support for difficult decisions related to climate change. This is a further impediment to expansion of national willpower and is linked to other key conditions for success.

Changes in law and policy can significantly rearrange the power dynamic within nations, particularly for high-stakes issues like climate change mitigation that require a modification of current practices in many sectors of the economy. Even in countries with relatively stable governments, this shift can be difficult to manage and carries personal and institutional risk for policymakers. In the United States, state elected officials were very active from 2003-2008 in the formulation of comprehensive climate action plans using bottom-up stepwise stakeholder consensus-building processes.[33] The agreement by governors and state legislators to launch such processes depended significantly on the ability of the policy development process to build support among diverse stakeholders and reduce inherent conflicts between vested interests. The control of political discord and disruption was a critical part of the consensus-building design and management of these processes.

From 2004-2009, CCS facilitated more than 20 state stakeholder processes convened by governors or authorized by state law, involving more than 1,500 stakeholders and dozens of high-ranking state officials, and using formal consensus-building procedures, including voting by stakeholders on policy priorities.[34] These initiatives resulted in a series of detailed, comprehensive, multiobjective, sector-based action plans and implementing measures.[35] The level of consensus on specific proposed policy options averaged

28. Interview by Tom Peterson with agency leadership (June 2014).
29. CCS experience from 2008 through 2010 with Ohio, North Carolina, and other states potentially interested in federal energy assistance grants.
30. USAID refers to this concept and practice as a Public Private Dialog (PPD), for instance.
31. For an example of the shortcomings of communications as a solution to the need for climate change consensus building, see the note by Chris Mooney, *If Scientists Want to Educate the Public, They Should Start Listening*, Wash. Post, June 27, 2010, *at* http://www.washingtonpost.com/wp-dyn/content/article/2010/06/25/AR2010062502158.html.
32. For a broader discussion of stakeholder-based consensus-building issues and efficacy, see David Booher, *Collaborative Governance Practices and Democracy*, 93 Nat'l Civic Rev. 32 (2004); Judith Innes, Consensus Building: Clarifications for the Critics, Planning Theory (Sage Publications 2004); and National Policy Consensus Center, Integrating Collaborative Activities: Public Deliberation With Stakeholder Processes, http://www.policyconsensus.org/publications/reports/integrating_activities.pdf.
33. For a listing of U.S. state climate action plans, see CCS, *State and Local Climate Blackboard*, http://www.climatestrategies.us/policy_tracker/state/index (last visited Oct. 21, 2016). See also the specific procedures used for formal consensus-building in each of the state reports and details of results of group decisions in the appendices that include specific documentation in policy options documents.
34. *See* John C. Dernbach et al., *Making the States Full Partners in a National Climate Change Effort: A Necessary Element for Sustainable Economic Development*, 40 ELR 10597 (June 2010); Robert B. McKinstry Jr. et al., *The New Climate World: Achieving Economic Efficiency in a Federal System for Greenhouse Gas Control Through State Planning Combined With Federal Programs*, 34 N.C. J. Int'l L. & Com. Reg. 102 (2009); Thomas D. Peterson et al., *Developing a Comprehensive Approach to Climate Change Policy in the United States That Fully Integrates Levels of Government and Economic Sectors*, 26 Va. Envtl. L.J. 219 (2008).
35. See also LEDS Action Planning and Analysis, *supra* note 20, which describes this procedure as it is now used in the EC-LEDS program.

higher than 90% following the use of stepwise, iterative procedures for group decisionmaking. By forging specific, open, collaborative agreements, participating state stakeholders were able to expand policymaker confidence in the enactment of policy enhancements and expansions that otherwise would not have been possible. The successful integration of macroeconomic needs (jobs, growth, income) with energy and economic needs in a fair and equitable manner played a key role.[36]

In a worst-case situation, changes in law and policy can increase national security risk due to disruption of the ties between underlying drivers of national economic security (such as prices for energy and food) and current management of energy and natural resources. In the DRC, for instance, a presidential advisor concluded a briefing on the potential for launching a green-growth program with the simple question, "How can we do this without starting another Civil War?"[37] In Ukraine, significant sensitivity exists regarding possible trade offs between GHG reductions from fossil fuel cuts (such as coal) and shifts toward further dependence on imported Russian natural gas, as well as related sensitivity on the impacts of reduced coal use on economic recovery in highly industrialized regions. Given the reality that so many global conflicts are driven, at least in part, by resource competition and conflict, national security is a possible risk that must be taken seriously.[38]

### *D. Provision of Free and Open Choice Within Nations on Preferred Low-Carbon Policy Approaches*

The Kyoto Protocol was successful in establishing new global standards for environmental ambition in terms of GHG emissions reductions. It was not equally successful in establishing standards for free and open policy decisionmaking procedures that build the necessary willpower to match this environmental ambition. As noted, the period following the adoption of the Kyoto Protocol and its rejection by the Senate included a progressive evolution toward approaches to expand national willpower. One of the key shifts has been the movement toward bottom-up approaches that enable nations to identify their preferred approaches to goal-setting and legal and policy response actions rather than accepting international programs and standards that would dictate outcomes.

The carefully chosen language of the INDCs speaks volumes to this reality. Today, nations are actively encouraged to identify and design customized actions to meet national and local needs through the INDC mechanism. Implicit in this process is the opportunity to align such actions with national priorities, capacity needs, public participation, and support systems that expand national willpower. This stands in contrast to top-down international programs that may not fit country needs. Highly informed and organized group decision procedures, such as those discussed above, present a golden opportunity for countries to systematically and strategically identify, design, test, and implement customized actions that meet a variety of national needs.[39] The LEDS and LCD programs and procedures are particularly well-suited for the purpose.

One of the common limits on standardized policy adoption programs offered to countries is that they are designed to meet limited objectives, such as environmental protection, instead of multiple objectives that include economic and energy development. This can be influenced by the reluctance of international donors to support self-determined actions, such as active use of forest, energy, and agricultural resources, even though such pathways can be sustainable and are a national priority in the view of recipient countries.

Another mismatch can occur in the administration of a one-size-fits-all approach to policy mechanisms used for local implementation. The choice and design of such mechanisms is notoriously sensitive to local conditions and requires local customization to receive high levels of public support. Experience by CCS in the facilitation of state climate action plans in the United States indicates that the level of ambition that can be achieved through stakeholder-based decisions is correlated with the level of local control that is allowed in the selection, design, and implementation of policy actions.[40]

To enable customization of policy choice and design, some degree of consistency of methods and guidelines is necessary to foster comparable commitments between countries, global and regional goals, joint actions, and regional or global funding programs. The UNFCCC could aid this capability by expanding standards and guidelines for INDC implementation such as methods for forecasting and baselines, policy impact analysis, and decisionmaking procedures.

### *E. Access to Effective Tools for Low-Carbon Policy Development and Implementation Decisions*

Successful development of GHG reduction or climate vulnerability reduction policies requires advanced technical tools and techniques that are often lacking to the degree needed to meet requirements of ambition and willpower. Climate change is an altogether new challenge for

36. *See, e.g.*, results of climate action planning processes for Michigan at CCS, *Michigan*, http://www.climatestrategies.us/library/library/index/58 (last visited Oct. 21, 2016), and Florida at Adam Rose & Dan Wei, The Economic Impact of the Florida Energy and Climate Change Action Plan on the State's Economy (2009), *available at* http://www.climatestrategies.us/library/library/download/1146.
37. Interview by Tom Peterson with DRC presidential advisor (June 2014).
38. For a broad treatment of the linkage between natural resources and national security, see Michael T. Klare, The Race for What's Left: The Global Scramble for the World's Last Resources (2012); the documentary Extreme Realities (PBS 2014), http://www.pbs.org/video/2365380402/; and The CNA Corp., National Security and the Threat of Climate Change (2007), *available at* https://www.cna.org/cna_files/pdf/national%20security%20and%20the%20threat%20of%20climate%20change.pdf.
39. *See* LEDS Action Planning and Analysis, *supra* note 20.
40. Tom Peterson facilitated and directed over 20 U.S. state climate action planning processes.

most governments. This is particularly true for new and complex decisionmaking in a participatory and implementation-oriented decision environment that requires consensus-building among diverse interests and new funding and governmental authority for implementation.[41] Governments everywhere require additional assistance in implementing the increasingly challenging responses to climate change. A new generation of tools and techniques and self-implementing capacities is required to successfully integrate the policies and mechanisms that address all of the specific conditions needed to expand willpower and ambition.

Third parties play a key role in providing such capacity, but sometimes do not do so in a manner that supports self-determination or self-administration of such tools. This is a common problem associated with the use of external consultants or advisors who may not provide the necessary transparency or involvement of local parties in conducting studies, or provide tools that cannot be adopted for local use. The end result, too often, is the production of consultant or agency-driven, generic, and/or "off-the-shelf" documents that are not fully useful to decisionmakers. For instance, a World Bank study on green growth for Macedonia was not fully utilized by the government due to its perceived lack of applicability to national and local conditions and lack of local involvement.[42] Ideally, assessments should be conducted in a manner that enables indigenous decisionmaking on critical framing, procedures, and inputs to analysis.

The provision of tools and techniques for country-level use can be done in a manner that involves local decisionmakers and builds capacity. One approach is through a combination of upfront training and "learning by doing" applications by local experts supported by technical assistance. This enables partnership-based learning and avoids potential dependencies and risks of unreliable assistance or bias from third parties.[43] A representative of the DRC president put the point more plainly in terms of the need for indigenous technical decisions at the beginning of a briefing by an international expert on policy impact modeling when the representative asked, "Are you just one more foreigner come to trick us with your math?"[44] Though pointed, it was a fair question because of widespread experience and dissatisfaction with consultant and donor-driven modeling as a substitute for indigenous capacity-building, planning, and analysis of legal and policy options.

To build national willpower, nations, subnational governments, and their stakeholders need constructive control of their policy assessment processes and capabilities. The development of INDCs as well as LEDS, LCD, and green growth plans is less effective when done externally rather than directly by countries through appropriate public-private partnerships. This underscores the need for implementing mechanisms of the UNFCCC, and independent initiatives such as those funded by international donors, to approach technical assistance and capacity-building in a manner that supports self-determination and avoids excessive controls by assistance providers.

## III. Legal Issues

The need for policy and law to incorporate conditions needed to build national willpower increases as ambitions are raised within the UNFCCC and as nations become stricter about compliance. This could include future imposition of domestic mandates driven by international law through legal forcing actions. Although the Paris Agreement does not include mandatory requirements under international law, its definition of the goals of the UNFCCC can create mandatory obligations under the laws of many nations, as well as states within the United States, that might support such forcing actions. These mechanisms, including those applicable in the United States, will be discussed in our next Comment in the context of the need for future applications of law to more effectively address both willpower and ambition.

By way of example, the U.S. president has ratified the Paris Agreement as an executive, self-executing agreement without the advice and consent of the Senate because, in the view of the president, the Paris Agreement does not require additional legislation in the United States, and it defines the existing requirements of the UNFCCC without adding new enforceable requirements.[45] As will be discussed in our next Comment in this series, the definition of dangerous anthropogenic climate change and the commitments of other nations to reduce emissions under the Paris Agreement create the conditions that should also trigger a mandatory duty to implement economywide measures either pursuant to §115 of the Clean Air Act (CAA)[46] or through the establishment of a national ambient air quality standard.[47]

From the perspective of building national willpower to meet the ambitions of the Paris Agreement, the bottom-up structure of the CAA, coupled with a sufficiently ambitious national goal, provides opportunities to develop the type of integrative, participatory, capacity-oriented, self-determined process that is aligned with top-level priorities and

41. In Ukraine, for example, CCS created a 1,000-page curriculum and module-based training system covering all concepts, tools, templates, and training needs to support the EC-LEDS process implementation for an advisory group of agency and stakeholder representatives, including many highly knowledgeable parties that needed technical assistance to enhance current capacities.
42. Interview by Tom Peterson with Macedonian officials (June 2016).
43. The implementation of EC LEDS and LCD programs by the CCS has involved this two-step approach.
44. Personal Communication by Tom Peterson with a DRC presidential advisor (June 2014).
45. *See, e.g.*, Emily C. Barbour, International Agreements on Climate Change: Selected Legal Questions (Cong. Res. Service 2010) (R41175), *available at* http://fpc.state.gov/documents/organization/142749.pdf.
46. 42 U.S.C. §§7401-7671q, ELR Stat. CAA §§101-618.
47. *See* Michael Burger et al., Legal Pathways to Reducing Greenhouse Gas Emissions Under Section 115 of the Clean Air Act (Sabin Center for Climate Change Law, Columbia Law School Jan. 2016), *available at* https://web.law.columbia.edu/sites/default/files/microsites/climate-change/legal_pathways_to_reducing_ghg_emissions_under_section_115_of_the_caa.pdf.

can build the necessary willpower. Laws in other nations can trigger similar forcing actions and provide similar opportunities. For example, even before the Paris Agreement, in *Urgenda Foundation/State of the Netherlands*,[48] a Dutch court invoked a constitutional provision to require that the Netherlands adopt nationwide policies to achieve emissions reductions consistent with the commitments formalized in the Paris Agreement.

Processes such as those described in this Comment will be crucial in meeting new legal mandates successfully. To do so, they must be used strategically and systematically through the lens of national willpower and country-specific conditions. This Comment suggests an integrative approach to environmental law and policy that does not necessarily require legal forcing events, but could improve the willpower to design and move forward with ambitious actions that meet national interests under either existing or stronger new mechanisms.

## IV. Conclusions

Ambition is unlikely to succeed without matching willpower, and the two should be jointly considered if implementation of policy is a goal. These parallel needs of the Paris Agreement require integrative approaches to law and policy that can be systematically and strategically applied with a laser focus on the specific conditions needed to achieve both willpower and ambition. Specific drivers of willpower include: alignment with national vision and priority; assurance of manpower and money; improvement of public support and collaboration; provision of free and open choice of policy alternatives; and ready access and adoption of the tools, techniques, and templates needed to support problem solving and complex legal and policy questions inherent in the global transition to a low-carbon future.

At present, the focus on willpower is less formal and less developed than the focus on ambition within the UNFCCC and its implementing activities. This situation requires significant change if the goals of the Paris Agreement are to become a reality. A successful path toward the full expression of the requirements of willpower and ambition may require rethinking traditional approaches to environmental law and policy, and repositioning climate change action to play a more integrated role in national vision and priorities. While flexibility mechanisms help in this regard, they are not sufficient for addressing all of the specific components needed for expanded willpower. Instead, the specific conditions needed for willpower must be incorporated in all facets and phases of climate law and policy development.

The requirement for INDCs under the Paris Agreement presents the unique opportunity to enact a highly strategic and systematic approach to expanding willpower. Steps available to nations to accomplish this include:

- Planning and evaluation processes should be convened at the highest levels and involve high-level participants and partners.
- Climate change goals need to be fully integrated with national goals across economic sectors and institutions in every country.
- Virtually all sectors, agencies, and levels of government should be included, and all potential policy options and mechanisms available based on open choice.
- Baseline assessments must be expanded beyond performance metrics that only track GHG emissions and include economic energy, resources, and equity as well in order to address high-level priorities of government.
- Tools, training, and technical assistance need to be deployed through a combination of upfront development and training followed by learning by doing procedures that are adequately supported with technical assistance and ensure local empowerment and application by government and nongovernmental collaborators.
- Modeling should not substitute for informed and organized collaboration during planning processes, and it should be open and detailed in terms of its application to specific decisions to enable transparency and quality control.
- The process for screening and selecting climate policy options needs to be sophisticated enough to identify multiple objective approaches that avoid trade offs and maximize synergies of high-level priorities.
- Communications programs by governments, donors, and advocates cannot substitute for open and transparent policymaking procedures that encourage collaborative choices within countries by stakeholders and government officials through group decisions
- Implementation of climate policy should include periodic updating in addition to monitoring to ensure that it is up to speed with the conditions needed to continuously generate willpower and focused on current manifestations of it.

The UNFCCC would do well to establish robust guidelines for INDCs that enable widespread and immediate use of a standardized but customizable approach that promotes willpower at the same time as ambition. Traditional approaches to environmental law may not be adequate, particularly if they confuse flexibility with addressing the fundamental conditions needed to expand willpower.

The opportunity and the need to get willpower and ambition on the same page in the post-Paris Agreement

48. Urgenda Found./State of the Netherlands, Rechtbank Den Haag [Hague District Court], 24 June 2015, C/09/456689, HA ZA 13-1396, *available at* http://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2015:7196 (under appeal).

era through new and better legal and policy mechanisms are imperative and, if done successfully, can be attractive to policymakers in terms of workable solutions on climate change that also advance critical national interests such as security and sustainability. The second Comment of this series will explore more clearly how legal avenues might accomplish this based on the foundations provided here.