

Building Toward Breakthrough: Energizing the Paris 2015 Climate Negotiations and Post-Paris Action Agenda through Broader Engagement

Yale Climate Change Dialogue White Paper
July 2015

EXECUTIVE SUMMARY

Raising the trajectory of the 2015 Climate Change Agreement demands fresh thinking. A truly ambitious outcome needs to launch a framework that emphasizes broader engagement on climate change mitigation and adaptation—and celebrates the real progress that mayors, governors, CEOs, and other civil society leaders are already achieving in this regard.

This white paper presents a portfolio of legal and policy options to link and institutionalize the contributions of cities, states/provinces, civil society, companies, and other non-state actors in order to reinforce the international climate negotiations. Under the auspices of the Yale Climate Change Dialogue, a diverse group of thought-leaders from around the world have framed a set of options and opportunities for delivering a meaningful global response to climate change. This model—which aims to energize the global response to climate change and shift the psychology of the negotiation—would:

1. Highlight the successful commitments of non-state actors in the 2015 Paris Agreement or one of its associated decisions or annexes;
2. Encourage city, state/province, and corporate commitments—and gauge their effectiveness through innovative metrics that capture broader climate action, measure performance across scales, and provide accountability; and
3. Scale up clean energy finance through strategies designed to support wide-ranging action, particularly using limited public funding to leverage private capital.

Together, these three components will invigorate the climate change negotiations, support the “Agenda of Solutions” that the 2015 Paris Agreement needs to advance, and build post-Paris momentum for broadened action to protect and restore the climate system upon which humans depend.

1. Broadening the Engagement of Non-State Actors at COP 21

Climate change success will require moving beyond the 20th century focus on nation-state targets and timetables to emphasize a broader, bottom-up base of *action*. We propose that the COP 21 outcomes provide a mechanism for non-state actors to signal their endorsement of the goals of the 2015 Paris Agreement and formalize their own climate change contributions. This broadened framework of action does not undermine the importance of multilateral leadership within the UNFCCC—instead, it helps to bolster and galvanize the multilateral process by bridging the

efforts of nation states with on-the-ground climate leaders, using real world power to turn the corner on climate change.

To avoid an unwieldy outcome that attempts to incorporate specifics of each non-state contribution, the outcome could list the those entities that have made action pledges or cross-reference a platform that houses the detail of these pledges, such as the Non-state Actor Zone for Climate Action (NAZCA) portal.

2. Encourage and Track Non-Nation-State Contributions Through Innovative Metrics

An “all-hands-on-deck” approach to future climate change action could establish a simple reporting structure within the 2015 Paris Agreement. Such a structure should encourage commitments from non-state actors, provide an easy-to-follow set of metrics, and promote action by all who are positioned to contribute to the global response to climate change.

Whether built upon the existing NAZCA platform or established elsewhere, the 2015 Paris Agreement needs to achieve a delicate balance—establishing a simple reporting and review structure that facilitates contributions from the widest possible range of parties while also promoting robust commitments to mitigation, adaptation, and finance activities. Two methods for achieving this balance include:

- A *tiered approach* towards including non-state actions within a platform like NAZCA that allows actors who may not have the capacity to submit detailed information to be “phased in,” and stricter criteria for inclusion (e.g., emissions information) that could be specified for actors who seek greater recognition for their efforts.
- A *broader suite of metrics* that captures information from both state and non-state actors to allow for better evaluation of ambition, implementation, and progress toward global climate goals.

3. Scale Up Clean Energy Finance Strategies That Support Wide-Ranging Action

To help a new set of players engage in climate change action and build confidence in their own commitments, it is essential to increase the flow of private capital to climate change mitigation and adaptation activities. The scale of traditional public financing is simply too small. The UNFCCC can bring private capital to center stage by making this a goal of the Paris Agreement, and by endorsing and supporting the efforts of development finance institutions, research and policy institutions, and others who are developing and implementing new structures and tools (e.g., green banks, green bonds) to attract new private capital to clean energy investments.

For more information about the Yale Climate Change Dialogue please visit envirocenter.yale.edu/programs/yale-climate-change-dialogue

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Anticipation is building over the prospects of concluding a new Climate Change Agreement at the Paris Conference of the Parties (COP 21) scheduled for Paris in December. The 2015 Paris Agreement presents a real opportunity to ramp up the global response to climate change. However, if the Paris COP falls short it will create even greater disappointment in the international community than the Copenhagen Accord in 2009. Raising the trajectory of the Paris outcome demands fresh thinking and an action agenda that goes beyond the efforts of the past two decades. While it is important to work with the grain of the negotiations, the Yale Climate Change Dialogue also explores the opportunity for innovation outside the UNFCCC. A truly robust and ambitious Paris outcome must launch a new framework for the global response to climate change that emphasizes broader engagement and celebrates the real progress that is already being made around the world by mayors, governors/premiers, CEOs, and civil society leaders.

In the words of Peruvian President Ollanta Humala, tackling climate change and its impacts necessitates the “greatest alliance the world has ever seen.”¹ That alliance requires participation from people and organizations at all levels of society, from government to the private sector. Real success in Paris will require an agreement architecture that both builds on and goes beyond the traditional nation-state-dominated framework of targets and timetables for emissions reductions driven by top-down mandates. An innovative agreement must craft a bottom-up structure that reorients the global response toward on-the-ground climate change solutions.

Implementing this great alliance demands not only a policy framework that provides for broader engagement, but also a new structure of metrics and reporting. An innovative metrics framework encourages action by subnational jurisdictions and other non-state actors while offering structure, accountability, and recognition for city, state, corporate, and civil society mitigation efforts. A commitment to broadened engagement also offers a pathway toward scaled-up clean energy finance that goes beyond reliance on government funds to use limited public resources to leverage private capital.

Formalizing the contributions from a broader set of climate leaders requires fresh thinking and a 21st century policy framework that extends “ownership” of the climate change action agenda to the mayors, governors/premiers, CEOs, and civil society leaders whose everyday decisions can reduce greenhouse gas emissions across scales and sectors. This white paper outlines a set of options and opportunities for delivering a meaningful global response to climate change through broadened engagement. This model includes three core components:

¹ Climate Summit 2014: Catalyzing Action (Sept 23) United Nations, NYC.

1. Launching a new policy framework with flexible options to institutionalize contributions from a broader set of actors including mayors, governors/premiers, CEOs, and civil society leaders;
2. Developing a tiered commitment structure that utilizes innovative metrics to induce broader climate action commitments, track performance across scales, and provide accountability; and
3. Scaling-up clean energy finance strategies designed to support wide-ranging action.

Together, these components can invigorate the climate change negotiations, support the “Agenda of Solutions” that the 2015 Paris Agreement needs to advance, and build post-Paris momentum. While important steps to achieve each of the three components must precede the 2015 Paris Agreement, equally essential are the actions taken to further develop and implement these strategies after Paris.

This white paper lays a foundation for a novel climate change agreement architecture, which the Yale Climate Change Dialogue will further refine with international leaders over the coming months. Part I explains the policy rationale for a broader 2015 Agreement structure that encompasses more fully the work of diverse climate change leaders including mayors, governors/premiers, CEOs, and civil society leaders. Part II provides decisionmakers with several options for formalizing this new policy framework for broader engagement while offering a legal analysis of why and how to structure this framework. Part III introduces a structure of metrics to support initiatives taken by subnational and non-nation-state actors. Part IV identifies mechanisms for mobilizing the private capital needed to support bottom-up climate change policy implementation.

Throughout this document, we use the term “Pillar Four” to refer to non-nation-state actors. This category includes subnational actors such as local governments, and non-state actors such as businesses and non-profits. Borrowing this terminology from Laurent Fabius, the French Minister of Foreign Affairs and President of COP 21, we use it as an umbrella concept to incorporate all actors not traditionally considered by the exclusive focus on nation-states.

I. Climate Change Represents a Policy Challenge that Needs Institutionalized Leadership from a Broader Set of Policy Actors

Climate change poses a systemic problem of global scope that requires solutions across many scales and sectors. Unlike many past issues that have been the focus of international agreements—for example, arms control, navigation, and land mines—national or central governments have no monopoly of control over the actions necessary to address global climate change. Indeed, the actions required to reduce greenhouse gas emissions lie much more within the ambit of mayors, regional leaders including governors/premiers, and CEOs. Thus, the global community needs a 21st century climate change framework that can deliver new mechanisms to connect, aggregate, organize, support, and order crosscutting actions taken by a broad assortment of leaders.

International climate change negotiations have failed to generate a sufficient global response to the threat of climate change despite twenty years of concerted effort. The problem stems, at least partially, from an over-reliance on a 20th century mindset that emphasized a top-down, nation-state-led, “command and control” framework. Moreover, presidents and prime ministers have relatively less direct control over the activities that drive greenhouse gas emissions—transportation, development patterns, building construction, and agriculture, for example—than mayors, local government leaders, and CEOs whose everyday decisions impact greenhouse gas emissions. Delivering climate progress thus requires a new international agreement architecture that builds on national endorsement from presidents, prime ministers, and legislatures, but also engages leaders from cities, states/provinces, business, and civil society.

Incorporation of a broader set of climate change actors will bring a new set of critical decisionmakers to the table, create opportunities to institutionalize their contributions, ground solutions in local knowledge and best practices, cultivate a broader culture of “ownership” of the problem, and increase the potential contributions to innovative action. Building a policy framework to more formally recognize contributions from all of the leaders who are ready and willing to deliver contributions to a changed future can raise ambition and increase effectiveness while reinforcing the existing international process.

In brief, an agreement that institutionalizes or otherwise formalizes subnational actor contributions will:

- *Increase Ambition & Capacity for Addressing Climate Change.* As detailed below, subnational actors are already taking meaningful action that can scale up international ambition and capacity to tackle climate change. A broad set of decisionmakers meaningfully impact capital flows and make everyday choices that can address climate change. Inclusion of these decisionmakers enhances the contribution capacity of nation states by confidently securing essential on-the-ground support. Further, inclusion empowers and strengthens efforts of subnational actors who will receive recognition for their actions and fosters cooperative competition among peers.

- *Positively Influence Negotiating Dynamics.* Concentrating on the contributions already taken or pledged by a wider set of actors will highlight the leadership of subnational actors pursuing cost-effective action. Focusing on all that subnational leaders have and continue to accomplish will create a culture of contribution. Such a culture can change the psychology of the climate change conversation from one of minimalism and disappointment to one of excitement and accomplishment. This shift can help overcome the tendency for international negotiations to lean toward lower ambition and least common denominator outcomes.
- *Effectively Channel the International Climate Regime's Shift to a Bottom-Up Process.* The U.N. process has already begun to lay the groundwork for incorporating bottom-up commitments into its structure. New and effective legal structures can harness transformative bottom-up leadership and deliver meaningful contributions to the 2015 Paris Agreement. This new climate leadership seeks both to support and extend the work of governments by making more visible and more coherent the work of all the other expressions of the collective will to act on climate change.

A. Leadership from Non-Nation-State Actors Already Generate Meaningful Action

Recently, the pace and extent of climate leadership from cities, regions, civil society, and companies has accelerated dramatically. Many actors have reinforced support for the U.N. process by building this upsurge of climate leadership. Among the many wide-ranging efforts, a few illustrative examples of the new wave of climate leadership include:

- At the September 2014 U.N. Climate Summit, the World Bank announced that 74 countries and 23 subnational jurisdictions (state, cities, and provinces) had joined over 1,000 businesses – worth more than U.S. \$24 trillion in assets – to support carbon pricing.
- The C40 Climate Leadership Group, ICLEI-Local Governments for Sustainability, and others established the Global Mayors Compact. With over 1,000 local governments party to the Compact, these cities' existing contributions alone could reduce annual greenhouse gas emissions by 454 megatons in 2020.
- During the World Summit of Regions for Climate, organized by the R20 Regions of Climate Action, subnational networks representing over 3,000 governments committed “to adopt, support and engage in concrete ‘bottom-up’ [actions] ... in partnership with businesses and investors, to complement the efforts of Parties in the framework of the intergovernmental negotiation process of the UNFCCC, to reach a global Climate Agreement in Paris in 2015.”²

² See R20 Regions of Climate Action, available at <http://regions20.org/>

- Ongoing efforts by the World Business Council for Sustainable Development, Sustainia (which has developed a replicable set of climate change solutions), and others have galvanized companies and CEOs. Groups including the Climate Bonds Initiative, Institutional Investors Group on Climate Change, and Climate Trackers perform essential tasks to foster increased investment in climate solutions, including mobilizing debt capital markets and identifying and minimizing climate risks.
- The We Mean Business Coalition is motivating businesses and investors to commit to “innovative and practical climate solutions that already have good momentum.”³
- The Oxford Martin Commission for Future Generations is working to overcome the short-term politics and business as usual mindset of the climate change conversation by focusing on “creative coalitions” and “minilateralism” that includes subnational actors.
- The Galvanizing the Groundswell coalition is bringing together leaders from governments, civil society, and global and regional networks to support, structure, and expand non-national and sub-national climate action.

The 2014 Lima Negotiations further recognized the importance of subnational momentum to increase the ambition of international contributions. The U.N. released the “Non-state Actor Zone for Climate Action” (NAZCA) portal to showcase climate contributions from cities, regions/provinces, companies, and other subnational leaders. The portal draws on trusted data from launch partners including the Carbon Disclosure Project (data on companies and investors), the carbonn Climate Registry (cCR, providing data on cities and subnational regions), the Climate Group (data on regions), and the Global Investor Coalition on Climate Change (data on investors).

The latest version of the streamlined and consolidated negotiation text for Paris includes a paragraph emphasizing subnational leadership in Option 1 of Paragraph 13: “All actors, including civil society, the private sector, financial institutions, cities and other subnational authorities, local communities and indigenous peoples, are encouraged to scale up their actions and provide further opportunities for Parties to reduce emissions and/or to decrease vulnerability and build resilience to the adverse effects of climate change, without prejudice to the provisions of the Convention.”

Non-nation-state actors have already demonstrated their leadership and capacity to take meaningful action. The policy framework proposed in the following section can deepen, strengthen, and institutionalize existing efforts. Subsequently, this white paper outlines how metrics and clean finance mechanisms will enable meaningful implementation. Establishing and implementing broader engagement of climate leaders will both support the U.N process and challenge national governments to pursue the full extent of possible climate progress.

³ See also, We Mean Business Coalition, available at <http://www.wemeanbusinesscoalition.org/>

II. Potential Policy Frameworks: Options for Formalizing the Climate Leadership of Subnational Actors

Many 21st century issues, including climate change, demand an expanded vision of international agreements capable of recognizing and institutionalizing the layered governance structure necessary to bind leaders across scales and sectors. While the exclusively state-to-state model makes sense for certain subjects for which national governments exercise complete control, it poses challenges for issues like climate change in which many decisionmakers drive outcomes. The Paris climate change meeting should generate a new spirit of effective action by highlighting, celebrating, and disseminating the “solutions” demonstrated by cities, states/provinces, regions, companies, investors, religious communities, and others across the world. This broadened framework of action creates a bridge connecting the efforts of nation states with on-the-ground climate leaders using real world power to turn the corner on climate change. Moreover, this framework of broadened engagement seeks to support and extend the work of governments by making their efforts more visible and expressive of the collective will to act on climate change.

This section presents a portfolio of legal and policy options to link and institutionalize the contributions of cities, states/provinces, civil society, companies, and other Pillar Four Parties actors in order to reinforce the international climate negotiations. Such a framework will formalize contributions on all scales to protect and restore the climate system upon which humans depend for survival, prosperity, and well-being. The expanded framework for the Paris Agreement does not undermine the importance of multilateral leadership within the United Nations Framework Convention on Climate Change—instead, it aims to bolster and galvanize the multilateral process by helping translate ambition into the implementation of action.

Existing legal theory and precedent provide foundational guidance for expanding an international climate agreement to integrate leadership from subnational jurisdictions, companies, or other leaders. Examples from international environmental treaties, trade law, private law, and existing carbon trading regimes inform the model proposed by the Yale Climate Change Dialogue. The existing work of Dialogue participants and others establish that leadership from subnational jurisdictions, companies, or other leaders in international agreements or parallel agreements is a recognized and effective technique in multiple arenas.

A growing number of scholars and practitioners have concluded that effective international cooperation requires recasting international law for broader inclusion. In particular, Phillip Allott argues for international law to be grounded where power and resources reside to direct them towards public goods like producing a stable climate.⁴ Other scholars, including Anne-Marie Slaughter, David Victor, Chuck Sabel, Dan Esty, and Ken Abbott have similarly highlighted the value of a more expansive view of international cooperation frameworks for tackling climate change.⁵ Finally, a recent book by Harriet Bulkeley et al. surveys and analyzes the diverse role of

⁴ See PHILIP ALLOTT, *EUNOMIA: NEW ORDER FOR A NEW WORLD* (2001); PHILIP ALLOTT, *THE HEALTH OF NATIONS: SOCIETY AND LAW BEYOND THE STATE* (2002).

⁵ See also E. Ostrom: *A Polycentric Approach for Coping with Climate Change* (2009): World Bank Policy

non-state actors operating from both the public and private sectors.⁶ Collectively, these works underline the importance of a 21st century climate agreement architecture that effectively integrates the roles and contributions of companies, states, cities, investors, regulators, and civil society members who stand ready to direct resources to achieve personal and collective goods for the climate. (See Appendix B: Supporting Legal Theory, Precedent, and Governance Models for further analysis of supporting scholarship and precedent in international law.)

A. Formalizing the Climate Leadership of “Pillar Four” Parties

Across the international community, many have begun considering how to integrate the work of non-state leaders into the 2015 Paris Agreement itself and the broader “Paris Outcome”—a term encapsulating the diverse global efforts within and beyond the core agreement. In particular, the French Minister of Foreign Affairs and President of COP 21, Laurent Fabius, has laid a foundation for engaging diverse climate leaders by describing four components, or “pillars,” necessary to support a new, effective, international climate change agreement. These four pillars are: (1) the formal climate change agreement itself; (2) the national contributions pledged by individual countries to reduce and address climate change; (3) the financial package that will accelerate the implementation of climate actions; and (4) the engagement of non-state actors.⁷ Fabius has described this engagement of non-nation-state actors as the critical “fourth pillar” enabling the Paris outcome to deliver new momentum in the global response to climate change.

The Yale Climate Change Dialogue supports the movement to engage “Pillar Four” Parties—such as mayors, governors, premiers, and CEO’s—in the Paris Agreement through a “bottom-up” policy structure that accelerates actions to protect the climate system. In the discussion that follows, we identify various ways that the actions and commitments of Pillar Four Parties can be recognized and formalized. There are three possible locations for this recognition and formalization. The first option is directly within the core 2015 Paris Agreement itself. The second option is to situate it within the “COP Decision” which adopts the 2015 Paris Agreement and linked attachments, annexes, or tabs—or a political declaration from Parties if a COP Decision is not feasible. The third option is within the broadened “Paris Outcome” encompassing diverse efforts to respond to climate change highlighted and generated by the December 2015 meetings.

We believe that the Paris Outcome, preferably the Paris Agreement or COP decision, should engage Pillar Four Parties through two reciprocal and interlocking “elements”: (1) The Paris Outcome should reflect the climate change actions and leadership of Pillar Four Parties,

Research Working Papers; R. Stewart et al, Building Blocks for Global Climate Protections (2013), 32 *Stan. Envtl. L.J.* 341; D. Victor and R. Keohane, *The Regime Complex for Climate Change* (2010), Harvard Kennedy School, Discussion Paper 10-33, available at: http://belfercenter.ksg.harvard.edu/files/Keohane_Victor_Final_2.pdf

⁶ Harriet Bulkeley et al., *TRANSNATIONAL CLIMATE GOVERNANCE* (2014).

⁷ See French Foreign Minister Fabius Looks Ahead to a Universal Climate Agreement in Paris, 2015, Council on Foreign Relations (Sept. 22, 2014), available at <http://www.cfr.org/france/french-foreign-minister-fabius-looks-ahead-universal-climate-agreement-paris-2015/p35714>

including a way to recognize their city-determined, state-determined, company-determined, or organization-determined contributions to greenhouse gas emissions mitigation, and (2) Pillar Four Parties should have a mechanism to support and endorse the objectives of the Paris Agreement and/or signal their respective contributions, thereby expanding “ownership” of the global response to climate change. These two elements mutually reinforce one another to bridge a connection between the efforts of nation states and the efforts of many other climate change leaders.

We discuss several options for formalizing this structure of “broader engagement” within each of these “elements”:

Element 1: Recognizing Pillar Four Parties in the Paris Outcome

We present four options for how to recognize Pillar Four Parties in the outcome agreements from COP 21. These options range in ambition and level of formality, but create a place for city-determined, state-determined, and corporate-determined contributions to be recognized in the negotiated outcome.

Option 1: Paris Agreement provides Pillar Four Parties with a signature block or mechanism to signal direct support

The Paris meeting could engage Pillar Four Parties in a 21st century agreement structure by providing them with an option to “sign on” to the objectives of the Paris Agreement. By formally signing the Paris Agreement, or some other mechanism that relates back to the Agreement, Pillar Four Parties are able to link their jurisdictions and organizations to the common global goal and collective path to addressing climate change. Such a proposal could work through a separate signature block for each category of signatory, such as cities, states/provinces, regions, companies, investors, religious communities, and others. For example, mayors could be provided a place to sign under a statement that reads: “We the undersigned mayors, to the full extent of our authority, commit our cities to fulfilling the objectives of the 2015 Paris Climate Change Agreement.” The signature block proposal can also be combined with the additional options proposed below.

Option 2: Paris Agreement recognizes Pillar Four Parties

Pillar Four Parties could be recognized in the Paris Agreement itself with text that “recognizes,” “takes note of,” or “welcomes” the contributions from Pillar Four Parties. To avoid an unwieldy outcome that tries to incorporate specifics of each contribution from Pillar Four Parties, the Paris Agreement could cross references to a platform on which contributions are housed, for example, the UNFCCC NAZCA portal. The Paris Agreement may also use language that indirectly applies criteria to the recognition of these Pillar Four Parties to ensure that unmeritorious actions are not being supported. For example, the Paris Agreement recognition could be written in such a way that it recognizes those actions that are *quantified*, *subject to regular reporting*, or whatever other criteria is preferred.

Option 3: COP Decision recognizes Pillar Four Parties in an attachment, annex, or tab

Another way to highlight the contributions of Pillar Four Parties in the Paris Agreement would be through the “Cover Decision” of the COP. Under this option, the Decision would include a 4th attachment, annex, or “tab” highlighting the contributions of Pillar Four Parties. The 4th tab proposal could work as follows:

- First, Parties to the UNFCCC would agree on a Cover Decision, reflecting the COP decision to “adopt” the Paris Agreement. The Cover Decision will likely recall the mandate for the negotiations in its preamble, and then contain an operative provision that formally adopts the Paris Agreement. The cover decision could include four attachments, annexes, or tabs.
- Tab 1 will be the Paris Agreement, which will be universal and will have legal effect on all Parties.
- Tab 2 will be the list of Intended Nationally Determined Contributions (INDCs), which are climate mitigation and possibly other pledges submitted by individual countries.
- Tab 3 will include agreements related to finance and technology, including ways to leverage limited public funds to advance climate change solutions.
- Tab 4 will provide a list of the Pillar Four Parties who have submitted contributions and a cross-reference to where the contributions can be found. The fourth tab could also provide a summary list of the actual contributions from Pillar Four Parties, or group the contributions according to general constituencies. As discussed above in Option 2, the recognition of Pillar Four Parties in the 4th tab could include language that indirectly applies criteria to the recognition to ensure a certain standard of contribution.

Option 4: COP Decision or a political declaration generally acknowledges Pillar Four Parties

Pillar Four Parties could be recognized in the COP Decision, which adopts the Paris Agreement and formally takes other actions as noted above. The text in the Decision would again recognize (or welcome) contributions from Pillar Four actors and reference where the contributions can be found (e.g., NAZCA portal), or attach a list of the entities that have made contributions and cross-reference where the contributions can be found.

Element 2: Options for Pillar Four Climate Leaders to Commit to the Objectives of the 2015 Paris Climate Change Agreement

Element 2 considers how Pillar Four Parties could signal their support for the Paris Outcome through contributions that are either internal to or external to the UNFCCC process. We present four options for how these signals of support could be structured to take actions from Pillar Four Parties to the next level, by tying together and institutionalizing the diverse efforts of mayors,

governors/premiers, CEOs, and civil society leaders who are prepared to commit their jurisdictions and organizations to the goals of the 2015 Paris Agreement. The four options are:

1. Pillar Four Parties formally sign Paris Agreement or directly signal support through another mechanism
2. Pillar Four Parties make contributions through an attachment, annex, or tab to the Paris Agreement
3. Pillar Four Parties make contributions through parallel agreements external to the Paris Agreement and the COP Decision, but recognized by either the Paris Agreement or COP Decision
4. Pillar Four Parties submit contributions through NAZCA+

Option 1: Pillar Four Parties formally sign Paris Agreement or directly signal support through another mechanism

One possibility, noted under Element 1, would be to provide a place for Pillar Four Parties to formally sign on to the objectives of the Paris Agreement—either in the Agreement itself or in an attachment, annex, or tab. We envision a separate signature block for each category of signatory, such as cities, states/provinces, regions, companies, investors, religious communities, and others.

To enhance and build upon the Pillar Four Party signature blocks, a new framework of metrics can track and verify the contributions of subnational jurisdictions and non-national actors. Section III of this white paper explores such a framework of metrics, which leaders can structure to encourage action, reporting, ownership, and accountability of subnational actors in the global response to climate change.

Option 2: Pillar Four Parties make contributions through an attachment, annex, or tab to the Paris Agreement

This option provides a direct mechanism for the Pillar Four Parties who wish to endorse the objectives of the Paris Agreement and/or associated decisions, attachments, annexes, tabs, or registries. It might also make reference to broader contributions that various categories of Pillar Four Parties have made outside of the Paris Outcome, such as the Compact of Mayors uniting leaders whose cities have collectively pledged greenhouse gas emission reductions of 454 megatons in 2020 and 13 gigatons by 2050.

Through a series of signature blocks or another mechanism, mayors, governors/premiers, business executives, and civil society leaders would be invited to signal their support for the goals of the Paris Agreement—and separately commit to a specific set of actions as defined by the group of which they are a part. For example, mayors would put their endorsement in a block for cities that makes reference to a separate document containing a declaration or commitment for cities. CEOs would signal their support in a section for businesses and separately make

commitments related to a framework defined by their industry. Faith leaders could also support the Agreement's goals and separately commit to efforts to reduce emissions in their churches, temples, and other houses of worship, etc. Thus, all of the Pillar Four Party leaders would commit to both the objectives of the core Paris Agreement (through the signature blocks or another mechanism) and also to their own group-specific action contributions (through a parallel negotiation process).

Option 3: Pillar Four Parties make contributions through parallel agreements external to the Paris Agreement and the COP Decision, but recognized by either the Paris Agreement or COP Decision

Functioning on a parallel track to the official state-to-state process, subnational and business leaders could continue to self-organize by various categories (e.g., big cities, small cities, state/provinces, large consumer goods companies, mining companies, faith communities, universities) and offer contributions through separate agreements or declarations. The “Paris Declaration” undertaken by R20 Regions of Climate Action offers a good example of what might be done in this regard.⁸ A network of agreements could link contributions made by respective peer groups, organize entities together, and ultimately tie them in some fashion to the state-to-state process. The network offers a flexible framework that would provide a mechanism for organizing action contributions across governance scales and sectors. The most decentralized level would contain several agreements with frameworks for cities, states/provinces, civil society, and industries. Each cohort of leaders (mayors for the cities, provincial/regional leaders for regions/provinces, CEOs for business, etc.) would arrive at their own agreement. These agreements include the Mayors Compact under clearinghouses such as ICLEI-Local Governments for Sustainability, C40 Climate Leadership Group (C40), and United Cities and Local Government (UCLG). This innovative framework raises the capacity to recognize and institutionalize Pillar Four contributions and creates the option for decisionmakers to undertake contributions through jurisdictionally appropriate legal mechanisms. These initiatives from Pillar Four Parties could then be recognized in the Paris Agreement or through the COP Decision. (A detailed analysis relating to the legal forms, norms, and liability for a network of agreements is provided in Appendix D.)

Option 4: Pillar Four Parties submit contributions through NAZCA+

Option 4 builds on the existing NAZCA platform or similar reporting structures simply to collect the contributions of non-national climate leaders. Such a NAZCA+ platform might offer a formal mechanism for Pillar Four Parties to signal their commitment to the objectives of the 2015 Paris Agreement and record their mitigation contributions. As it currently exists, NAZCA displays contributions from Pillar Four Parties, but with limited capacity to institutionalize contributions and no mechanism to measure and compare contributions for interested actors. A NAZCA+

⁸ See Paris Declaration, R20 Regions of Climate Action (Oct. 11, 2014), available at <http://www.regions20.org/diplomacy-in-action>

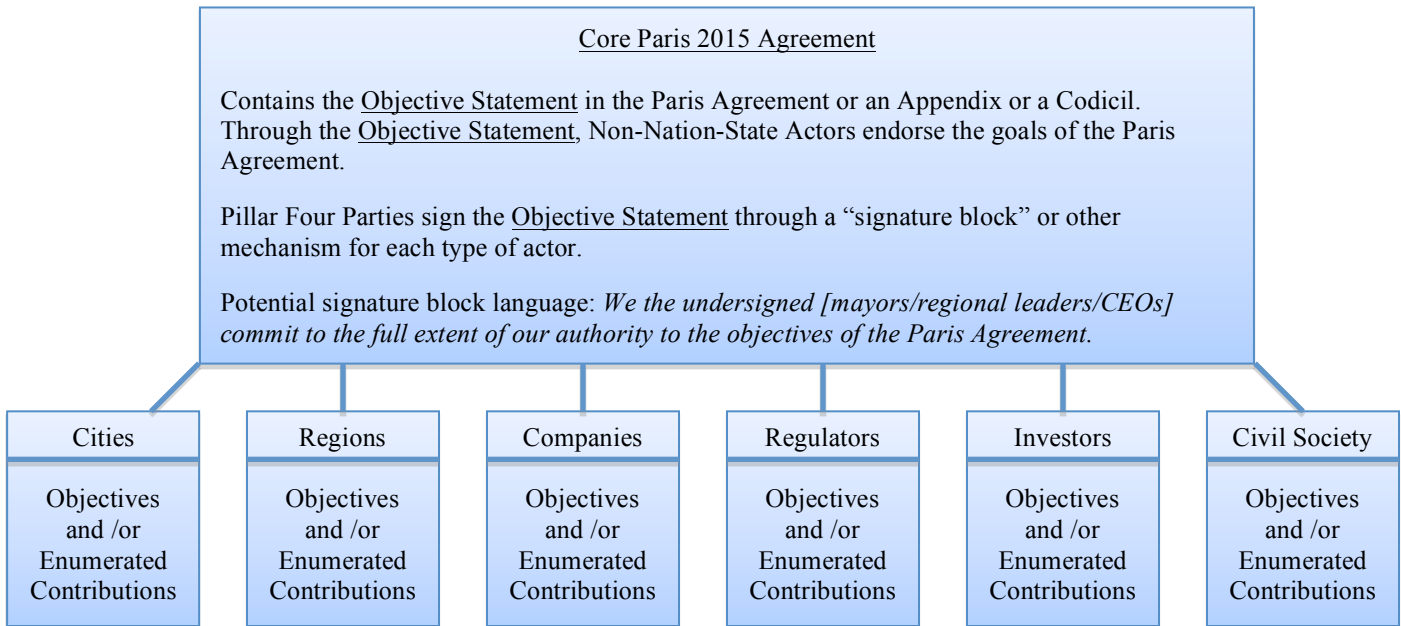
model might offer an opportunity to improve tracking and accountability through innovative metrics, as explored in Part III of this paper, and is a component of the first two “signature” or “linking” options, but on its own would forego significant opportunities to energize and support the state-to-state process.

B. Models for Engaging Pillar Four Parties to the Objectives of the 2015 Paris Climate Change Agreement

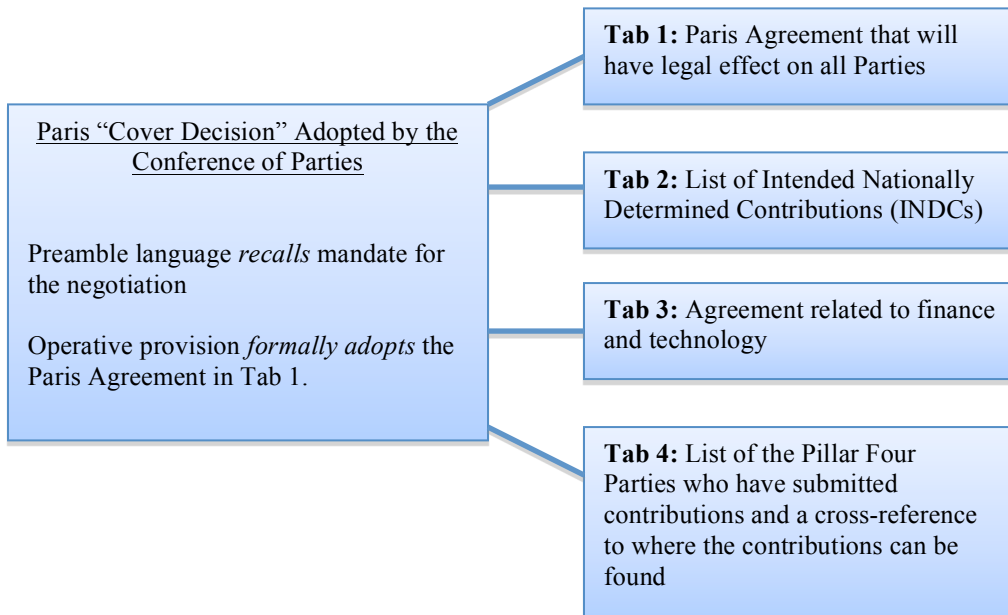
Several structures could link Pillar Four Parties’ contributions to the Paris Outcome. The several layers of agreement provide great flexibility for how and when linkage will occur. For example, over the months leading up to Paris, diverse climate leaders can work through a parallel process (discussed in Element 2, Option 3), to generate cohort agreements and potentially a chapeau text of guiding principles. An objective or endorsement statement can be crafted and implemented at any time should the state-to-state process and parallel process choose to link together. Such a moment could occur during, before, or after the 2015 Paris COP, depending on how circumstances develop. The following diagrams represent how these options can be structured in relation to the Paris Agreement, COP Decision, or Paris Outcome.

Proposed Models for Engagement in the Paris Agreement, COP Decision, or Paris Outcome

Elements 1 and 2, Option 1: Paris Agreement provides Pillar Four Parties with a signature block or mechanism to signal direct support



Elements 1 Option 3, Element 2 Option 2: Pillar Four Parties Recognized in an Attachment, Annex, or Tab to the Paris Agreement



Structuring a Parallel Process of Subnational Leadership Under Element 2, Option 3

Pillar Four Party leaders could also embrace a wider set of common principles or goals outlined in a principles or “chapeau” text under Element 2, Option 3. This text would link the more decentralized agreements among cohorts together under a common purpose. By uniting the different agreements among cohorts, the chapeau agreement enables all of those contributions to be collectively linked to the U.N. state-to-state process without creating new legal liability. The Yale Climate Change Dialogue proposes chapeau text based on the U.N. Charter’s “we the peoples” language. The goal of this language is to provide guiding principles and goals for subnational leader cohorts each determining their own bottom-up contributions. The proposed text for this chapeau is included in Appendix C.

C. Challenges: Strategic Choices Can Maximize Benefits of Framework and Minimize Obstacles

As with any new policy framework, institutionalizing Pillar Four actor contributions will face challenges, but they are manageable. Maximizing the benefits and minimizing the obstacles of the new framework requires careful consideration. The primary anticipated challenges are political, logistical, and legal in nature.

- *Political Challenges:* For over two decades, climate negotiations have struggled to deliver progress through the U.N. process. The framework proposed in this paper faces a delicate task of supporting the U.N. state-to-state process while remaining distinct enough to contribute greater momentum on climate progress. Striking that balance will likely impact the choice of form and linkage structure for institutionalizing Pillar Four contributions. For example, opening the 2015 Paris Agreement directly to Pillar Four signatures could face greater political difficulty than a parallel process of networked agreements.
- *Logistical Challenges:* Institutionalizing climate contributions across scales and sectors presents a variety of logistical challenges, especially around questions of measurement, reporting, and verification. A number of efforts, including the NRDC-Oxford-Stanley Foundation partnership, are exploring how best to aggregate commitments. See Section III of this paper for further insight on an improved metrics and verification that can support a 21st century policy framework.
- *Legal Challenges:* While any new policy framework must anticipate the challenges of implementation, a parallel process of networked agreements can make structural choices to minimize legal challenges.

Additionally, key constitutional issues for U.S. states include: (1) field or conflict preemption concerns; (2) intrusion into foreign affairs, foreign commerce, or compacts; and (3) dormant commerce clause conflicts. Existing scholarship suggests certain structural choices can minimize and avoid these challenges. To avoid any doubt, a savings clause could further clarify that no

actor would take action in conflict with national law. For more detailed analysis, see Appendix E: U.S. Constitutional Issues.

D. Ways Forward

First steps to implement the policy framework in this paper have already begun naturally, but optimal success requires a strategic plan. This paper provides options that give the necessary flexibility to be deployed as strategic concerns demand. While the exact choice of structure need not be finalized now, more immediate choices include setting a tentative timeline, designating a steering committee, and clarifying a contribution submission process.

Cultivating a legal structure for subnational contribution will face interim deadlines for the 2015 Paris Negotiations, but should also lay out longer-term goals over a five-year timeline. The 2015 Paris Negotiations could further provide desirable timing for a parallel process to bring Pillar Four leaders together for signature of a unifying document. Preparation for the 2015 Paris Negotiations should include further work with Pillar Four climate leaders and their representational groups to develop language for the chapeau and specific cohort agreements.

The full five-year period leading up to the start date of 2020 commitments serves as an opportunity to increase the robustness of the process. Conceiving of the process over five years leaves room to work out finer details, receive further contributions, conduct monitoring, provide a venue for peer-learning, and potentially grant funds. In the short time remaining before the 2015 Paris Negotiations, decisionmakers will not iron out all the fine details of contributions and their legal force, but Paris can lay the foundation.

Determining the proper steering committee to shepherd a parallel process containing Pillar Four contributions is an essential task. The proper steering committee can move the process forward over a five-year period, providing monitoring and support. NAZCA provides an initial platform to collect and display contributions, increasing their accountability. However, NAZCA or another steering committee could also assist Pillar Four leaders in fulfilling their contributions and incentivizing them to join any agreement by providing financial, legal, technical knowledge, or other support. Additionally, the work of cohort clearinghouses such as R20, C40, Sustainia, the World Business Council for Sustainable Development, and others, will prove essential for developing agreements among peers.

III. Metrics to Encourage and Structure Non-Nation-State Actions on Climate Change

Through this white paper, the Yale Climate Change Dialogue recommends an “all-hands-on-deck” approach that supports the broader engagement of Pillar Four Parties. In this regard, it will be important to offer a simple reporting structure that encourages contributions, provides an easy-to-follow set of metrics, and promotes action by all who are positioned to contribute to the global response to climate change.

For the contributions advanced through the engagement of new actors to be meaningful within the context of the multilateral climate change framework and formal 2015 Paris Agreement, a new structure of carefully constructed and methodologically rigorous metrics needs to be developed and implemented. Whether defined inside the 2015 Paris Agreement or in a parallel agreement, we believe that a robust structure and methodology for metrics can promote broader climate change action, provide a rigorous way to measure the impact of mitigation efforts undertaken by both subnational and non-nation-state actors, and help to ensure that the world community reaches its ambitious targets in order to avoid dangerous climate change impacts. Tiered approaches that reward rigorous commitments while still making space for less specific contributions can help foster a race to the top without sacrificing broad inclusion.

The framework must be easy enough to navigate so that the broader array of Pillar Four actors are encouraged to take action and to participate in “registering” what they have done. At the same time, the reporting structure must be rigorous enough to ensure that claims made can be backed up, to avoid green-washing. The spirit of this effort centers on creating an expanded sense of responsibility or “ownership” of the climate change challenge – encompassing mayors, governors, premiers, CEOs, and other civil society leaders – and mechanisms to support accountability for progress toward the goals of the 2015 Paris Agreement.

This section discusses some of the critical considerations with respect to metrics to assess actions on climate change and ensure the substance of the contributions made by Pillar Four Parties. Toward this aim, we pose three critical questions central to the design of criteria or metrics:

1. What new modes of engagement, strengthened with fresh accountability mechanisms and “next generation” metrics, can be designed to gauge differences in climate change performance?
2. What specific accounting issues need to be addressed to measure and compare Pillar Four actions on climate change (e.g., avoidance of double-counting)?
3. What framework or platforms for tracking emissions reductions and other measures of progress would support engagement by a broader set of actors and actions for the 2015 Paris climate deal and beyond?



Figure 1. A flow diagram describing how technical considerations outlined in this section can yield new metrics to assess actions on climate change within the global climate regime.

A. Accountability in the 21st Century - Towards ‘Next Generation’ Indicators

The integration of Pillar Four actions in the 2015 Paris Outcome necessitates a re-envisioning of how different actors can participate and do so meaningfully. The September 2014 United Nations Climate Summit represents a potential shift in how new actors can sign-up for and pledge commitments to tackle aspects of climate change mitigation, adaptation, and financing.⁹ Initial analysis demonstrates that these contributions are potentially significant in narrowing the emissions gap between country pledges and what is needed to maintain global temperature rise within 2 degrees Celsius.¹⁰

In striving to engage more actors, 21st century metrics can lend credibility to Pillar Four efforts and shed light on the contributions of these actors toward reaching global climate goals of reducing emissions and securing implementation. In supporting such broader participation, top-down, regulatory-style monitoring and reporting mechanisms may not be appropriate when applied to Pillar Four actors, many of which voluntarily participate and would not engage otherwise.

To encourage ambitious engagement from a wide range of actors, a creative suite of new metrics should encourage, rather than discourage, participation through a sense of healthy competition. New metrics should also make use of modern innovations. The rise of the Information Age and technological advances may redefine accountability in the 21st century. For example, the U.S. National Aeronautics and Space Administration recently announced the launch of a new satellite that will include sensors to measure and map global carbon dioxide emissions,¹¹ and the Global Forest Watch platform aggregates near real-time information on global deforestation.¹²

There are multiple examples from Yale’s Environmental Performance Index (EPI) of how non-binding environmental performance metrics have inspired healthy competition among nations,

⁹ For an overview of the summit, see Ban Ki-moon Final Summary, U.N. Climate Summit (Sept. 25, 2014), available at <http://newsroom.unfccc.int/unfccc-newsroom/un-climate-summit-ban-ki-moon-final-summary/>.

¹⁰ See Angel Hsu et al., *Summing Up the Summit*, 5 NATURE CLIMATE CHANGE (May 21, 2015).

¹¹ Press Release, NASA, NASA Launches New Carbon-Sensing Mission to Monitor Earth’s Breathing (July 2, 2014), available at <http://www.nasa.gov/press/2014/july/nasa-launches-new-carbon-sensing-mission-to-monitor-earth-s-breathing/>.

¹² GLOBAL FOREST WATCH, <http://www.globalforestwatch.org> (last visited Mar. 13, 2015).

encouraging a race to the top.¹³ For instance, despite India's worsening air pollution, policymakers in New Delhi had been denying the extent of its poor air quality. It was not until the 2014 EPI used independent satellite measures to reveal the severity of India's air pollution alongside rival China's that India's policymakers begin to take notice.¹⁴

With the possibility of 21st century technology and data, the design of metrics to gauge climate change performance requires an equally innovative approach. Currently, carbon dioxide emissions (CO₂) and equivalents (CO₂e) are the common currency used to assess whether the world is on track to contain global temperature rise. However, due to our inability to disentangle carbon emissions from other factors, such as economic decline or population, the singular focus on CO₂ muddies the signal for how policies implemented to tackle climate change are performing. It is because of this inability to effectively parse the signal through the noise that several organizations, including the think-tank Germanwatch, have strived to develop alternate indicators to assess performance. The Climate Change Policy Performance Index, for instance, incorporates perception-based data to lend more insights as to the efficacy of national climate policies domestically and internationally. The Climate Action Tracker tool leverages expert evaluation of UNFCCC pledges to profile the ambition and progress of national efforts for a subset of countries.¹⁵ At the latest Lima negotiations, scholars have already begun discussing the need for new metrics to compare and assess the next round of pledges or intended national determined contributions (INDCs). While these efforts are a step in the right direction, they are still applied at the nation-state level and will need significant modifications before they can be used at the more granular levels required.

B. Accounting Issues: Raising Ambition while Ensuring Comparability

Establishing clear criteria for the inclusion of Pillar Four Parties in a multilateral climate framework will ensure the clarity and credibility of their contributions. Without a common definition or standard for impactful climate action, commitments can be diluted by generic statements (e.g., a pledge to take action on climate change) that are difficult to interpret or track (e.g., a net carbon goal without any specific details). The lack of accountability for the more than 700 voluntary commitments at the Rio+20 Summit is one reason why there is a greater call for a stronger framework to prevent “greenwashing” and the subsequent discrediting of efforts that engage players beyond states.¹⁶

¹³ See DAVID VOGEL, *TRADING UP: CONSUMER AND ENVIRONMENTAL REGULATION IN A GLOBAL ECONOMY* 63-67 (1995).

¹⁴ See Angel Hsu & Alisa Zomer, *An Interactive Air-Pollution Map*, THE ATLANTIC, June 11, 2014, <http://www.theatlantic.com/health/archive/2014/06/the-air-we-breathe/372411/>.

¹⁵ CLIMATE ACTION TRACKER (2014), <http://climateactiontracker.org/>.

¹⁶ See U.N. Commission on Sustainable Development (UNCSD), *Rio+20 Voluntary Commitments* (2012), available at <http://www.uncsd2012.org/content/documents/790Summary%20of%20Voluntary%20Commitments%20Registered%20at%20Rio20%20v6.pdf>; see also Sander Chan & Pieter Pauw, *A Global Framework for Climate Action (GCF): Orchestrating Non-State and Subnational Initiatives for More Effective Global Climate Governance* (Ger. Dev. Inst., Discussion Paper No. 34, 2014)..

There is currently no consensus as to how to define the emergence of Pillar Four actions for climate change. Even their designation varies and depends on institutional forms and objectives. Within the academic literature, Chan and Pauw summarize subnational and non-state actions as including a wide array of organizational forms, objectives, and governance objectives that occur outside of strictly governmental or intergovernmental settings.¹⁷ Having some form of definition is critical to understanding their overall impact and establishing a foundation for the subsequent issues (e.g., accounting and metrics) discussed in this paper.

Ensuring Additionality and Avoiding Double-Counting

Once the criteria for non-nation-state and subnational climate actions are determined, the approach to categorizing and accounting for these initiatives is critical to ensuring that they are raising the overall ambition of climate efforts, and do not overlap with existing national pledges.

Although there are requirements and accounting protocols within regulatory frameworks, similar stipulations are adopted ad hoc within the decentralized milieu of Pillar Four initiatives. For example, the new Global Protocol for Community-Scale Greenhouse Gas Emission Inventories, launched at the December 2014 Lima negotiations, will work towards consistent measurement and reporting among its members. Additionally, the World Resources Institute and World Business Council for Sustainable Development, in the late 1990s, following the negotiation of Kyoto, developed the GHG Protocol Corporate Accounting and Reporting Standards for the business sector, which have been widely adopted and used in voluntary reporting programs like the Carbon Disclosure Project.¹⁸ Nonetheless, with the voluntary nature of such programs and reporting mechanisms, the onus is still on cities and companies to decide what to include in baseline inventories and emission reports.

The inclusion of accounting rules is a first step towards developing a set of metrics to address the following areas of concern:

- Comparability of effort between Pillar Four and national actors (to enable the aggregation of climate action across different scales);
- Overlaps between initiatives (e.g., participation in multiple forums or between an initiative and national pledges);
- Assessing overall ambition and progress towards meeting global climate goals.

At the core of these issues are two primary considerations: the question of additionality and the avoidance of double-counting. Additionality—whether the initiative builds upon existing efforts

¹⁷ Chan & Pauw, *supra* note 16.

¹⁸ See WORLD RES. INST., THE GREENHOUSE GAS PROTOCOL: A CORPORATE ACCOUNTING AND REPORTING STANDARD (rev. ed. 2004).

or business-as-usual scenarios—is key to understanding the aggregate impact of actions and could be considered a necessary requirement for a Pillar Four action to be officially recorded or included within a global climate deal.

Defining additionality can also help to avoid the potential double-counting of impacts. Double-counting the initiatives themselves (e.g., in instances when initiatives may cover similar sectors or areas) or double-counting overlaps between initiatives and national pledges could result in an inflation of the overall emission benefits. For example, California’s cap-and-trade system, enacted independently from national legislation, is projected to avoid 16 percent of business as usual emissions by 2020.¹⁹ While the program constitutes a subnational initiative, the emissions reductions will likely be included in the United States’ national reports towards its own goal of reducing emissions 17 percent from 2005 levels by 2020.

As noted above, the new metrics should be designed so as not to be overly burdensome on Pillar Four actors that are being asked to supply data. In fact, considerable valuable information might be derived from data that many governments and firms already collect. For example, carbon emissions data would provide insight into the impact of climate initiatives. Adding production or sales figures, another metric that firms already track, would have the added benefit of allowing for the calculation of energy intensity metrics. Building new metrics by using already available data would strengthen transparency and allow access to a broader group of participants, and avoid concerns around revealing business secrets through this process.

C. Recording Action: Platforms and Registries

Another consideration lies in the more practical challenge of collating information as a means of facilitating and measuring initiatives. Several platforms exist as a first step towards recording the diversity of these decentralized efforts on climate change. The UNFCCC was charged with the task of developing a database to record International Cooperative Initiatives (ICIs) in 2003.²⁰ This online database currently contains approximately 60 ICIs, a “highly heterogeneous” mix of multilateral forums, public-private partnerships, international treaties, and international organizations.²¹ Assessments of ICIs indicate “a high degree of potential effectiveness,”²² and many are “already making an important contribution to emission reductions globally,” with the potential to be scaled up further.²³

¹⁹ See KATHERINE HSIA-KIUNG ET AL., ENVTL. DEFENSE FUND, CARBON MARKET CALIFORNIA: A COMPREHENSIVE ANALYSIS OF THE GOLDEN STATE’S CAP AND TRADE PROGRAM, YEAR ONE: 2012-2013 (2014), available at <http://www.edf.org/climate/cap-and-trade-emissions-reductions-low-cost>.

²⁰ See *International Cooperative Initiatives Database*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (2014), <http://unfccc.int/focus/mitigation/items/7907.php>

²¹ See Oscar Widerberg & Philipp Pattberg, (2014). *International Cooperative Initiatives in Global Climate Governance: Raising the Ambition Level or Delegitimizing the UNFCCC?* 6 GLOBAL POL’Y 45 (2015).

²² *Id.*

²³ NICHOLAS HARRISON ET AL., ECOFYS & UNIV. OF CAMBRIDGE PROGRAMME FOR SUSTAINABILITY LEADERSHIP, NORDIC COUNCIL OF MINISTERS, ENHANCING AMBITION THROUGH INTERNATIONAL COOPERATIVE INITIATIVES (2014), http://mitigationpartnership.net/sites/default/files/norden_ici.pdf.

However, a lack of consistent governing definitions and standards represents key roadblocks to the ICI database's utility.²⁴ While the UNFCCC collects and promotes this work, its mandate does not extend to monitoring, reporting, or verifying submissions. As a result, "the list of ICIs on the UNFCCC homepage is compiled without any guiding principles, resulting in an interpretation of 'cooperative action' to include all kinds of action related to climate change at any level with any type of actor."²⁵

New prospects from Lima?

At the latest Lima negotiations, the Non-State Actor Zone for Climate Action (NAZCA) platform launched as a way to recognize subnational and non-state initiatives. The NAZCA platform signals a possible convergence of these Pillar Four climate actors within international climate governance. To move towards such an inclusive approach, however, several design considerations must be addressed, particularly if a platform like NAZCA is to play a substantial role in assisting with the assessment of Pillar Four actions. As it currently stands, the NAZCA platform does not specify any criteria for what initiatives, partnerships, or commitments it includes. Several limitations in the utility of this database are apparent.²⁶ It lacks common monitoring, reporting, and verification (MRV) standards, a comprehensive list of climate actions, and detailed descriptions of why certain actions were chosen over others.

A critical question with respect to these emergent registries for recording initiatives is how they can be better geared toward policy functions, rather than merely serving as a database or a tool for research. Hale and Chambers argue for a "registry of registries" approach that would link together existing platforms.²⁷ While such orchestration may facilitate an aggregation function of a registry, critical questions of who is charged as a central custodian and which criteria are adopted for inclusion would need to be addressed first. Some suggest that one function of an aggregate database could be a "matchmaking" role that connects initiatives to potential financial backers.²⁸ In any case, the launch of the NAZCA platform at COP 20 demonstrates that the international process can include Pillar Four actions. The ability of this platform to bring together disparate groups and broaden ambition should be further highlighted in the lead up to Paris. At the same time, NAZCA's features and content can be improved in a variety of ways to better support a Paris Outcome that is inclusive for a multiplicity of actors and delivers needed ambition.

²⁴ See Widerberg & Pattberg, *supra* note 21.

²⁵ *Id.*

²⁶ See *About, NON-STATE ACTOR ZONE FOR CLIMATE ACTION (NAZCA)* (2014), <http://climateaction.unfccc.int/about.aspx>.

²⁷ Thomas Hale & Louis Chambers, *Design Considerations for a Registry of Sub- and Non-State Actions in the U.N. Framework Convention on Climate Change* (Univ. of Oxford, Blavatnik School of Government, Policy Memo, 2014).

²⁸ See HARRISON ET AL., *supra* note 23.

D. Next Steps

The imperative for an “all-hands-on-deck” approach to the Paris climate negotiations is clear. How we encourage Pillar Four actors in a broad but rigorous and ambitious way while at the same time allowing for clear assessment of their individual and aggregate impact is a key question to be answered. International experience demonstrates the salience of indicators as policy tools that help motivate both internally and externally. At the same time, a new mode of pledging through mechanisms like the September 2014 U.N. Climate Summit and rise of 21st century big data and technology has ushered in a new possibility for what accountability can mean, distinct from regulatory frameworks and compliance mechanisms that often stifle risk-taking and innovation.

To achieve this delicate balance between inclusion and accountability, we make the following recommendations:

- *A tiered approach* towards including Pillar Four actions within a platform like NAZCA, that allows actors who may not have the initial resources or capacity to submit detailed information on base-year emissions, projected mitigation or adaptation potential, and financing to be phased in. At the same time, stricter criteria for inclusion (e.g., emissions information or other third-party verification requirements) could be specified for actors who seek greater recognition for their efforts.
- *More requirements for national actors’* submissions of INDCs. The Lima Call to Action, while securing a “bottom-up” approach for all Parties to submit actions on climate change mitigation, adaptation and financing according to common but differentiated responsibilities, leaves the door wide open with respect to how countries structure INDCs. Nation-states must remain the primary actors on climate change, with Pillar Four actors complementing and adding to their ambition. However, to incentivize initiatives from Pillar Four actors, more clarity is needed on the part of national INDCs to answer fundamental questions related to their aggregate impact and what gaps remain. In other words, harmonizing the standards that guide INDCs will make it easier for Pillar Four actors to both support and complement these national contributions.
- *A broader suite of metrics that captures a range of information* from state, non-state, and subnational actors, to allow for better evaluation of ambition, implementation, and impact. New technology and modes of accountability, as demonstrated through the experience of international rankings like the Environmental Performance Index, can spur positive competition and engage more actors to tackle climate change. Metrics that can facilitate efforts to aggregate the impact or assess the ambition and likely implementation of pledges will help prompt and evaluate progress toward global climate goals.

IV. Mobilizing Private Capital to Finance a Global Clean Energy Transformation: What Leaders Must Achieve in Paris

A plan for mobilizing clean energy investment capital at a much larger scale is a critical pillar of broadened climate change engagement, success at COP 21, and for the global community's long-term response to climate change. The goal of limiting the impacts of climate change cannot be achieved without vast flows of new financial resources to permit significant new clean energy infrastructure, advances in energy efficiency and low carbon technologies, and climate change adaptation.²⁹

The climate change finance model of the past 20 years – in which governments and other public institutions are the lead sources of capital – has not achieved, and cannot achieve, clean energy investment at the requisite scale. Climate change finance thought leaders³⁰ recognize that this scale of capital can be supplied only if sources of private capital participate robustly in financing clean energy. This scale-up in private finance will occur only if risk-adjusted returns on clean energy investments are sufficiently attractive to private investors. In this section, we propose a refined approach to financing the necessary clean energy transformation that:

- Lifts the level of ambition of investment flows in clean energy;
- Shifts the focus of global clean energy finance efforts toward engaging private capital and unlocking that financing capacity, rather than relying on the model of public subsidy by developed countries that has dominated the thinking of the last two decades; and
- Extends the financing work of development finance institutions and expands the opportunities for green banks, green bonds and other new finance institutions and instruments.

A. The State of Play Today

For 20 years, global efforts to address the funding requirements for climate change mitigation and adaptation have proceeded on a top-down public subsidy model. Governments identify

²⁹ When we refer to clean energy investment in this section, we include investment in energy efficiency.

³⁰ See, e.g., GLOBAL COMM'N ON ECON. & CLIMATE, THE NEW CLIMATE ECONOMY REPORT (2014), <http://newclimateeconomy.report/>; GREEN GROWTH ACTION ALLIANCE, WORLD ECONOMIC FORUM, THE GREEN INVESTMENT REPORT: THE WAYS AND MEANS TO UNLOCK PRIVATE FINANCE FOR GREEN GROWTH (2013), http://www3.weforum.org/docs/WEF_GreenInvestment_Report_2013.pdf [hereinafter GREEN INVESTMENT REPORT]; SHILPA PATEL, INTERNATIONAL FINANCE CORPORATION, CLIMATE FINANCE: ENGAGING THE PRIVATE SECTOR (2011), http://www.ifc.org/wps/wcm/connect/5d659a804b28afee9978f908d0338960/ClimateFinance_G20Report.pdf?MOD=AJPERES; CLIFFORD POLYCARP, ET AL., WORLD RES. INST., MOBILIZING CLIMATE INVESTMENT: THE ROLE OF INTERNATIONAL CLIMATE FINANCE IN CREATING READINESS FOR SCALED-UP LOW-CARBON ENERGY (2013), http://pdf.wri.org/mobilizing_climate_investment.pdf.

projects to pursue in accordance with national priorities, recruit public subsidy capital as the lead funding, and then mobilize as much private capital as is possible to support those projects. The Conferences of Parties, pursuant to the UNFCCC, have focused on raising the level of commitments of public capital from developed countries to support climate finance in developing countries under this public subsidy model. A decision of COP 20, with reference to long-term climate finance³¹:

Recognizes that developed country Parties commit, in the context of meaningful mitigation actions and transparency on implementation, to a goal of mobilizing jointly USD 100 billion per year by 2020 to address the needs of developing countries.

This approach to mobilizing capital for climate finance is certainly useful, but it has become clear that it is inadequate to the task. The Climate Policy Initiative, in a November 2014 report,³² estimates 2013 global climate finance flows at approximately U.S. \$331 billion, of which approximately U.S. \$137 billion, or 42%, was public capital, and U.S. \$193 billion, or 58%, was private capital. The total amount was a decline of U.S. \$28 billion from the prior year, and nearly the entire decline was in private capital. Projected climate finance needs are two to three times greater than total climate finance flows, and five to seven times greater than the public capital portion.³³ The scale of the investment needed to deliver real progress toward a clean energy future thus requires a fundamental shift in the global community's finance strategy for clean energy.

While efforts such as the Green Climate Fund acknowledge the need to use public funds to leverage private capital,³⁴ results demonstrate a continued focus on public sources of capital. At 58% of total finance, the ratio of leverage of private on public capital is less than 1.5 to 1, far below the 4 or 5 to 1 and higher levels that projects can achieve.³⁵ And the leverage is far lower for investments in developing countries. Of the total 2013 global flows of climate finance, 10%, or U.S. \$34 billion, represented flows from developed to developing countries, and 94% of this amount was public capital.³⁶

³¹ UNFCCC Conf. of the Parties Dec. 5/CP.20, Long-term Climate Finance, ¶ 9 (Dec. 14, 2014), <http://unfccc.int/resource/docs/2014/cop20/eng/10a02.pdf>.

³² BARBARA BUCHNER ET AL., CLIMATE POL'Y INITIATIVE, THE GLOBAL LANDSCAPE OF CLIMATE FINANCE 2014 (2014), <http://climatepolicyinitiative.org/wp-content/uploads/2014/11/The-Global-Landscape-of-Climate-Finance-2014.pdf>.

³³ See GREEN INVESTMENT REPORT, *supra* note 37; INT'L ENERGY AGENCY, ENERGY TECHNOLOGY PERSPECTIVES 2012: PATHWAYS TO A CLEAN ENERGY SYSTEM (2012), http://www.iea.org/publications/freepublications/publication/ETP2012_free.pdf.

³⁴ See GREEN CLIMATE FUND, DOC. NO. GCF/B.08/15, OUTCOME OF THE FIRST AND SECOND MEETINGS OF INTERESTED CONTRIBUTORS TO THE INITIAL RESOURCE MOBILIZATION PROCESS OF THE GREEN CLIMATE FUND 17 (2014), http://www.gcfund.org/fileadmin/00_customer/documents/MOB201410-8th/GCF_B.08_15_Outcome_IRM_fin_20101002_reissue.pdf.

³⁵ See GREEN INVESTMENT REPORT, *supra* note 37; PATEL, *supra* note 37.

³⁶ See BUCHNER ET AL., *supra* note 37.

Simply put, the prevailing public subsidy model, in which developed countries and development finance institutions are expected to provide concessional financing for designated clean energy projects in developing countries and private capital is added to the mix only where feasible, has not delivered. As a result, the scale of clean energy finance has been far too small, limited by the willingness and capacity of governments and development finance institutions to provide concessional finance. The focus of public efforts needs to shift from providing capital for clean energy projects to putting in place policies that mobilize the capital markets to provide that financing. The emphasis on private capital for clean energy finance needs to move to center stage.

B. The Role of the UNFCCC

The Global Environment Facility (GEF), following the recently completed sixth replenishment, anticipates making almost U.S. \$3 billion in funds available to support climate finance, which it expects will leverage U.S. \$30 billion from other sources.³⁷ These are important contributions, but the scale of the GEF's efforts is far below what is needed.

The Green Climate Fund (GCF), the most ambitious global mechanism to date for financing climate change mitigation and adaptation projects, is conceived by the UNFCCC as the centerpiece of the effort to realize the commitment of developed countries³⁸ to mobilize U.S. \$100 billion annually by 2020 for climate finance. Through the end of 2014, developed countries have committed U.S. \$10.2 billion to the GCF.³⁹ But the level of commitments made to the GCF thus far, together with ambiguity about the meaning of the 2020 target, suggest that these efforts will be inadequate to the task of long-term climate finance for a number of reasons:

- The 2014 commitments to the GCF appear to be one-time commitments of funding over a multi-year period, rather than annual funding levels.
- Historical levels of leverage of private on public capital suggest that vastly greater commitments of public funding will be required. But the largest developed countries have already made their commitments to the GCF, and few sources of public funding seem likely to emerge that are additional to amounts of public capital provided through other channels.
- Adaptation projects, which generally do not address the infrastructure needs required to mitigate global warming, will absorb one-half of the funds committed to the GCF.
- It remains unclear how the gap between the U.S. \$10.2 billion of one-time commitments to the GCF and the U.S. \$100 billion annual target for climate finance will be bridged. A

³⁷ *Areas of Work: Climate Change*, GLOBAL ENVIRONMENT FACILITY (last visited Feb. 7, 2015), http://www.thegef.org/gef/climate_change.

³⁸ *Supra* note 38.

³⁹ Press Release, UNFCCC, Background Statement on the Green Climate Fund (last visited Feb. 7, 2015), http://unfccc.int/cooperation_and_support/financial_mechanism/green_climate_fund/items/5869.php.

recent Working Paper of the World Resources Institute⁴⁰ considers four scenarios for the types of funding that might be included in the U.S. \$100 billion target: (i) developed country finance only, (ii) developed country finance plus leveraged private sector investment, (iii) developed country finance and multilateral development bank finance, plus leveraged private sector investment on both sources, and (iv) the sources in item (iii) plus climate-related official development assistance. There is no agreement on which of these funding sources should be included, nor is there consensus on whether the U.S. \$100 billion must be new and additional, or may include existing sources of funding.

- Even if the goal of U.S. \$100 billion in annual climate finance is reached by 2020 with funding sources that are new and additional, five crucial years of clean energy investment at that scale will have been lost.

While these and other U.N. sponsored funds (such as the Special Climate Change Fund) are an important part of the mix of clean energy investment sources, they do not have the scale required to address climate change mitigation needs. Nations and organizations in every corner of the globe need to work together to increase the level of ambition of clean energy finance. We envision the UNFCCC shifting its focus away from trying to organize the funding for climate change projects to a new role as a leader in promoting the flow of private capital into clean energy projects across the world. The UNFCCC website recognizes the need for “updated approaches and strategies for scaling up climate finance.”⁴¹ A new climate agreement should take an active role in promoting and facilitating the full engagement of private capital in financing the transformation of the global economy to clean energy.

C. Barriers to Mobilizing Private Capital for Clean Energy Finance

A shift to a new model of climate finance that focuses on private investment from a wide range of sources faces well-recognized barriers. We highlight below some of these barriers⁴²:

- *New technologies.* Implementation of projects that involve technologies new to a specific country or region may face high first mover costs. Some technologies have unproven commercial application, which require demonstration projects. In such cases, public capital needs to take the lead, providing a higher percentage of the required financing and buying down risk for private capital.
- *Support industry.* Projects require engineering capacity, materials and equipment for construction, installation, and servicing and repair, and personnel trained to perform those tasks. Governments must adopt policies that drive development of these support

⁴⁰ MICHAEL I. WESTPHAL ET AL., WORLD RESOURCES INSTITUTE, GETTING TO \$100 BILLION: CLIMATE FINANCE SCENARIOS AND PROJECTIONS TO 2020 (2015), <http://www.wri.org/sites/default/files/getting-to-100-billion.pdf>.

⁴¹ Press Release, UNFCCC, Background Information on Long-term Finance (accessed on Feb. 7, 2015), http://unfccc.int/cooperation_support/financial_mechanism/long-term_finance/items/7405.php.

⁴² See sources cited *supra* note 37.

industries and services, as a key part of fostering investment by private capital.

- *Project developers.* Development of clean energy infrastructure requires project developers who understand the market opportunities, are aware of the availability of renewable resources, and are knowledgeable about doing business in the country in which the project will be located. Particularly for smaller scale projects that may not be economically attractive to international project developers, trained local developers are a key element of broad scale development of clean energy.
- *Public policy support.* Development of clean energy requires supportive government policies, including plans and targets for decarbonization of energy, and tax incentives, subsidies, feed in tariffs, emissions caps, efficiency requirements and similar legal and regulatory tools designed to encourage a transition to clean energy.
- *Lack of carbon pricing.* The costs of carbon emissions from burning fossil fuels are not included in the price of fossil fuels. These externalities allow fossil fuel energy generation to be priced well below its true cost to society, and therefore make investment in fossil fuel sources of energy relatively more attractive than renewables.
- *Fossil fuel subsidies.* The International Monetary Fund (IMF), in a recent working paper,⁴³ estimates annual global pre-tax subsidies for oil, coal and natural gas will be U.S. \$234 billion in 2015. The IMF estimate of post-tax subsidies in 2015, which includes a Pigouvian tax to internalize externalities and a consumption tax, is a stunning U.S. \$5.15 trillion. These subsidies place renewables at a competitive disadvantage, and should be eliminated.⁴⁴
- *Institutional capacity.* Countries need institutions in place to implement public policy, and to provide technical expertise and other resources to foster clean energy development.
- *Stable and knowledgeable financial sector.* Countries require a stable financial sector that can be a source of private capital to finance clean energy, both directly and as financial intermediaries. Local financial institutions must develop the knowledge to understand the clean energy market, experience with the range of financial products to support clean energy, and the expertise to properly underwrite loans in that market.
- *Stable legal system.* Private investors need assurance that property rights will be respected and contracts will be enforced. In countries where this is not the case, investors typically require a large risk premium in projected rates of return.

⁴³ David Coady, et al., International Monetary Fund, How Large Are Global Energy Subsidies? (2015), <http://www.imf.org/external/pubs/ft/wp/2015/wp15105.pdf>.

⁴⁴ The IMF report includes amounts for subsidies of electricity. We do not include these amounts – U.S. \$99 billion pre-tax and U.S. \$148 billion post-tax – in the above figures to avoid the possibility of counting subsidies for electricity produced from renewables.

- *Stable national environment.* Private investors need certainty of the political and economic environment. Risks of nationalization or restrictions on repatriation of profits discourage private capital investment. An uncertain economic environment, lack of access to foreign exchange, and lack of ability to hedge interest rate risk increase rate of return requirements for private capital.⁴⁵
- *Risk/return characteristics.* Private capital seeks investments in which risk adjusted rates of return are at market rates. Allocation of risks to the stakeholders in a project best placed to bear and manage those risks can reduce risk to private capital, thereby making investments more attractive.
- *Education and information.* Wide deployment of clean energy requires awareness and understanding at all levels of the benefits and market potential, from consumers, to suppliers and servicers, to banks and other financial institutions. Education and information campaigns can help to address this need.

D. Overcoming the Barriers – Best Practices⁴⁶

Financiers and policymakers have developed tools and best practices driven by innovation that can be used to overcome these barriers and the risks of financing clean energy projects in developing countries. Some examples of these tools are:

- *Micro lending.* Packaging microfinance products with clean energy solutions can facilitate distribution and adoption for smaller projects.
- *Default risk reduction.* Public funds can be used to reduce default risks, through guarantees, interest subsidies, and margin money financing.
- *Anchor loads for micro-grids.* Linking micro-grids with anchor loads such as hospitals and schools provides consistent financial support for the micro-grid.
- *Loan payments linked to utility or property tax bills.* Linking loan payments to utility bill or property tax collection with advanced technology reduces the risk of payment default.

⁴⁵ See Organisation for Economic Co-operation and Development Investment Division, Directorate for Financial and Enterprise Affairs, *Harnessing Freedom of Investment for Green Growth*, Freedom of Investment Roundtable 14 (2011), <http://www.oecd.org/investment/internationalinvestmentagreements/47721398.pdf>, for a discussion of the interplay between international environmental and investment law, and policies that encourage international investment in support of green growth objectives.

⁴⁶ See generally Richard L. Ottinger & John Bowie, *Innovative Financing for Renewable Energy* (IUCN Academy of Environmental Law Colloquium, 2014), available at <http://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1974&context=lawfaculty>.

- *Soft costs*. Particularly for smaller projects, soft costs such as documentation, permits and regulatory approvals, can reduce potential rates of return on investment. Development of standard templates and best practices can reduce these soft cost and boost rates of return.
- *Power purchase agreements*. Contractual financing mechanisms for grid based power markets, such as power purchase agreements, incentivize investment in clean energy by providing a secure revenue stream and enhanced credit quality making private capital investments much more secure.
- *Subsidies*. Subsidy mechanisms and other incentive policies such as feed-in-tariffs, which require utilities to purchase electricity from renewable energy producers at higher than market rates, facilitate development of renewable energy generation but need to be paired with incentives to reduce costs so as to extend the reach of limited clean energy project finance.
- *Recycling of investment capital for renewables*. Financial structures such as YieldCos, which own diversified portfolios of renewable generation facilities and sell securities backed by the cash flows from those facilities, allow recycling of the investment capital into additional clean energy investments, as well as reducing portfolio risk through diversification.
- *Green Banks, green bonds and other innovative institutions and instruments*. Financial institutions such as Connecticut's Green Bank,⁴⁷ the New York Green Bank,⁴⁸ and the UK's Green Investment Bank,⁴⁹ can catalyze private finance by offering incentives and innovative low-cost financing to encourage homeowners, companies, municipalities, and other institutions to support renewable energy and energy efficiency. Green bonds⁵⁰ provide a means to access the U.S. \$80 trillion bond market for capital to finance climate mitigation, adaptation and other environmentally friendly projects and companies.⁵¹
- *Leveling the playing field*. Public policies that eliminate subsidies for fossil fuels, and place a price on carbon emissions, whether through a carbon tax or a cap and trade

⁴⁷ See CLEAN ENERGY FINANCE AND INVESTMENT AUTHORITY (CEFIA), <http://www.ctcleanenergy.com/> (last visited Mar. 13, 2015).

⁴⁸ See NEW YORK GREEN BANK, A DIVISION OF NYSEERDA, <http://greenbank.ny.gov/>.

⁴⁹ See GREEN INVESTMENT BANK, <http://www.greeninvestmentbank.com/>.

⁵⁰ Green bonds are of several types, including (i) use of proceeds green bonds, for which all of the proceeds must be used for qualifying green projects, (ii) project green bonds, for which the proceeds are used to finance a specific qualifying green project, (iii) asset-backed green bonds, for which a pool of qualifying green collateral is bundled together in a manner similar to mortgage-backed securities, and (iv) pure-play bonds, which are corporate bonds issued by a pure green play company such as Tesla. See Knowledge@Wharton, Financing the Transition to a Low-carbon Economy (April 23, 2015), <http://knowledge.wharton.upenn.edu/article/financing-the-transition-to-a-low-carbon-economy/>.

⁵¹ THE WORLD BANK, GREEN BONDS ATTRACT PRIVATE SECTOR CLIMATE FINANCE (April 28, 2015), <http://www.worldbank.org/en/topic/climatechange/brief/green-bonds-climate-finance>.

system, will make fossil fuels bear their true cost and improve the investment case for private capital in clean energy.

E. The Role for Public Capital

Some of the barriers to private investment relate to the enabling environment in a country, particularly the needs for public policy support, institutional capacity, a stable and knowledgeable financial sector, legal system and national environment, and widespread education and information. Limited public resources should be deployed to support these enabling factors. Where a specific project requires public capital in order to draw in the participation of private capital, the funding of the public capital could be conditioned on specific improvements in the enabling environment, as a means to incentivize countries to make the investment climate more attractive to private capital.

Private capital should be used as the primary tool for selecting and financing projects that have the potential to be economically successful and sustainable in the long term. The investment decision-making process of private capital provides a discipline in selecting projects that have the potential to be economically successful and sustainable in the long term. However, providers of private capital may tend to cherry pick projects where the greatest return may be obtained with the least risk. Countries may have development priorities that are not served by such investment decision-making solely on the basis of risk/return characteristics. In such cases, where a country considers a project to be important as part of its national development priorities, but the risk/return characteristics do not meet the investment standards of private capital, public capital can be used to buy down the risk. The project developer in a specific project can use other risk allocation strategies, which tend to be project specific, to shift risk away from private capital to other parties who are better positioned to bear the risk.

F. Recommendations

Mobilizing private capital will be crucial to achieving the level of clean energy investment needed to fulfill the ambitions of the 2015 Paris Agreement. The GCF, in its contemplated Private Sector Facility, recognizes this need and is taking steps to promote private investment in climate finance.⁵² The risks and barriers to private investment in clean energy projects have been thoroughly explored, and the tools to use and the policies that need to be implemented to overcome the barriers to generating private investment at the scale needed to reach that goal are well understood. There are many development finance institutions that are actively leading in climate finance, and they are achieving a lot. But it is not nearly enough.

⁵² See GREEN CLIMATE FUND, DOC. NO. GCF/B.04/07, BUSINESS MODEL FRAMEWORK: PRIVATE SECTOR FACILITY (2013), http://www.gcfund.net/fileadmin/00_customer/documents/pdf/B-04_07_BMF_PSF_12Jun13_1745s.pdf.

Countries that have aggressively worked to improve their investment enabling environment, and sought to harness private capital resources, have made great strides in reducing poverty and growing their economies while shifting their focus to clean energy. The developing world does not make a development sacrifice by focusing its efforts in energy access on renewables. Old energy is dirty and expensive, particularly in its public health cost. As developing countries build their energy systems, they have the opportunity to leapfrog over old energy solutions that are becoming increasingly costly, directly to clean energy solutions that provide macroeconomic, domestic health, and geopolitical security benefits.

There are large and growing pools of capital in pension funds of emerging economies looking for investments that deliver yields comparable to their counterparts in developed countries. This capital needs to be harnessed to fund clean energy investment in the developing world.

It is time for a global focus on private capital as the primary tool, with public capital viewed as a facilitator, not an end in itself. COP 21, and the new climate Agreement anticipated to be adopted in Paris, can play a key role in effecting a shift to a private finance focus. We recommend that the new Agreement incorporate the following principles:

- Recognize the loud chorus of research and policy institutions worldwide that for several years have advocated a shift in focus from a public subsidy model to a private capital led model of climate finance, and endorse such a shift.
- Endorse the efforts of development finance institutions that have sought to use their limited public resources to mobilize private capital on a leveraged basis.
- Support the efforts of research and policy institutions to compile information and provide consulting resources on sources of private capital, investment requirements, best practices, solutions to investment barriers and risk allocation mechanisms.
- Support the development of green banks, and the growth of green bonds and other innovative climate finance tools.
- State the agreement of the Parties that mobilization of private capital should be the primary method for achieving the scale of clean energy investment needed to address climate change.

World Bank President Jim Yong Kim, in a speech on December 8, 2014, said⁵³:

⁵³ President Jim Yong Kim, World Bank Group, Speech Entitled Sending a Signal from Paris: Transforming the Economy to Achieve Zero Net Emissions (Dec. 8, 2014), *available at* <http://www.worldbank.org/en/news/speech/2014/12/08/transforming-the-economy-to-achieve-zero-net-emissions> (as prepared for delivery).

Paris must be where we make the rallying cry for effective management of local, national and global economies to fight climate change. . . . Unlike treaties of the past, the Paris Agreement needs to speak as loudly of economic transformation as it does of carbon emissions targets . . . [to] bring us to zero net emissions, we will have to find sufficient financing. It is the critical component of a Paris Agreement.

With Dr. Kim, we call for the Paris Conference of Parties to make a major shift in emphasis – to put private capital to the fore, to use limited public resources to leverage the potential of private capital to finance the needed clean energy transformation, and to engage a diverse set of finance institutions across the globe in ramping up clean energy investment in all of the many sectors that must be part of the solution to climate change.

V. CONCLUSION

For decades, the global response to climate change has centered on a nation-state-driven framework of top-down mandates, targets, and timetables. This 20th century approach has not produced the results needed to address the build-up of greenhouse gases in the atmosphere. By focusing on rigid and uniform targets from nation-state actors, the 20th century approach missed a crucial opportunity to capitalize on leadership from a diverse range of actors whose everyday decisions can reduce greenhouse gas emissions.

An innovative, 21st century agreement architecture can deliver faster and more ambitious climate action through three critical changes. First, a 2015 Paris Agreement or one of its associated decisions or annexes should engage Pillar Four actors through two reciprocal and interlocking “elements”: (1) the Paris Outcome should reflect the climate change actions and leadership of Pillar Four leaders, including a way to recognize their city-determined, state-determined, company-determined, or organization-determined contributions to greenhouse gas emissions mitigation, and (2) Pillar Four leaders should have a mechanism to support and endorse the objectives of the Paris Agreement, thereby expanding “ownership” of the global response to climate change. These two elements mutually reinforce one another to bridge a connection between the efforts of nation states and the efforts of many other climate change leaders.

Second, a carefully designed framework of metrics should be developed to support, organize, and encourage contributions from Pillar Four leaders. The Non-state Actor Zone of Climate Action (NAZCA) web-portal, or a new platform, should host and track these sub-national contributions, displaying all the relevant details including specific and standard metrics creating the excitement and accountability that will lift ambition.

Third, climate finance mechanisms should leverage limited public capital to attract the vast sums of private capital necessary to support mitigation and adaptation efforts. The public finance model that currently dominates requires policy innovations to encourage and support private finance that can fill the finance gap. The finance generated through private capital markets is instrumental for the public good of solving the climate problem, and only the private capital markets have the depth to supply the necessary amounts.

Collectively these proposals provide a 21st century framework that can embolden climate action and break through the policy stalemate. COP 21 presents an invitation for world leaders to turn a corner on the global response to climate change and secure effective contributions from national and Pillar Four climate change leaders. Raising the trajectory of the 2015 Climate Change Agreement demands fresh thinking and an action agenda that goes beyond the efforts of the past two decades. The ideas proposed in this document aim to galvanize on-the-ground action and initiate a 21st century framework for a broader and more ambitious global response to climate change.

VI. APPENDICES

Appendix A: Description of the Yale Climate Dialogue Project

The Yale Climate Change Dialogue

The Yale Climate Change Dialogue has convened a team of diverse and dynamic thought leaders from around the world to develop a suite of policy options that can facilitate a more robust global response to climate change. Drawing on the expertise of leaders from business, government, and academia, the Dialogue seeks to deliver action-oriented solutions that have the potential for broad appeal across the world and a capacity to bridge existing political divides.

Yale Climate Change Dialogue Participants⁵⁴

- Kenneth Abbott, Arizona State University (USA);
- Neric Acosta of the Philippine Climate Change Imperative (Philippines);
- Monica Araya of Nivelá (Costa Rica);
- Peter Bakker (with Gail Whiteman and Carina Larsfalten) of the World Business Council for Sustainable Development (Netherlands);
- Camilla Bausch of Ecologic Institute (Germany)
- Daniel Bodansky of Arizona State University (USA);
- Tom Burke of E3G (United Kingdom);
- James Cameron of Overseas Development Institute (United Kingdom);
- Reid Detchon of the U.N. Foundation (USA);
- Dan Esty of Yale University (USA);
- Pascale Giet (with Bertrand de Clermont-Tonnerre) of Rexel Group (France);
- Angel Hsu of Yale University and Yale-NUS (National University of Singapore) College (USA);
- Wang Jin of Peking University Law School (China);

⁵⁴ While every participant may not sign on to each individual idea of this white paper, they have collectively shaped an agenda and 21st century policy framework that will strengthen the global climate response leading up to the Paris 2015 negotiations and beyond.

In addition to the Yale Climate Change Dialogue participants, the following individuals assisted in researching and writing this document: Dena Adler, Joanna Dafoe, Mohammad Aatish Khan, Andrew Moffat, Larry Rodman, Amy Weinfurter; Yale Center for Environmental Law Policy staff - Josh Galperin, Jason Schwartz, Jordan Holsinger.

- Lawrence E. Jones of Alstom Grid Inc. (Liberian-American);
- Andreas Kraemer of IASS and Director Emeritus at Ecologic Institute (Germany);
- Brice Lalonde of the United Nations Global Compact (France);
- Aurélien Lechevallier (with Nicolas de Labrusse) of the office of the Mayor, City of Paris (France);
- Nick Mabey of E3G (United Kingdom);
- Malini Mehra of GLOBE International (India);
- Sascha Müller-Kraenner of Deutsche Umwltthilfe (Germany);
- Christophe Nuttall of R20 Regions of Climate Action (France);
- Amy O’Meara of the Corporate Eco Forum (USA);
- Richard Ottinger of Pace Law School (USA);
- Lavanya Rajmani of the Center for Policy Research (India);
- Teresa Ribera of the Institute for Sustainable Development and International Relations (Spain);
- Michéle Sabban of R20 Regions for Climate Action (French-Tunisian)
- Jacob Scherr, Senior Advisor to the Natural Resources Defense Council (USA);
- Erik Soleheim of the Organization for Economic Cooperation and Development (Norway);
- Laura Storm of Sustainia (Denmark);
- Isabel Studer of the Global Institute for Sustainability, Tecnológico de Monterrey (Mexico);
- Terry Tamminen of R20 Regions of Climate Action (USA);
- Jorge Viñuales of Cambridge University (Argentina);
- Mark Watts of C40 Cities Climate Leadership Group (United Kingdom);
- Patrick Weil of Université de Paris 1 Panthéon-Sorbonne (France);
- Wang Xi of Shanghai Jiao Tong University (China).

Appendix B: Supporting Legal Theory, Precedent, and Governance Models

A growing number of scholars and practitioners have concluded that effective international cooperation requires recasting international law for broader inclusion. For example, Anne-Marie Slaughter, think tank leader and a professor at Princeton University, has analyzed the legality, feasibility, and legitimacy of reinterpreting the U.N. Charter to give regional organizations greater responsibility.⁵⁵ Yale University professor, Dan Esty, has bridged further support for governance restructuring that better integrates non-nation-state and subnational actors in the climate context.⁵⁶ Professor Hari Osofsky, has analyzed how international legal theory can harness the momentum of sub-state action to support an international climate response.⁵⁷ Transnational law scholars add further support by tracing the development of legal norms and the emergence of a distinct body of law from the interactions of public and private actors across state lines.⁵⁸

A. Supporting Precedent

California and Regional Greenhouse Gas Initiative (RGGI) Models Demonstrate Successful Carbon Emissions Reductions Regime Legally Operated by Regional Leaders

California and many Northeastern U.S. states have already taken successful collaborative action to reduce their greenhouse gas emissions. In 2006, California passed the “California’s Global Warming Solutions Act, AB 32,” officially setting a state cap to reduce greenhouse gas emission levels to 1990 by the year 2020.⁵⁹ Shortly after, California joined other U.S. states and Canadian provinces in efforts to reduce carbon emissions through the Western Climate Initiative (WCI).⁶⁰ Based on the cap-and-trade recommendations generated by this initiative, California and Quebec have each crafted regulations for their respective jurisdictions under their individual authorities and signed a collaborative agreement. Additionally, in summer 2014, California and Mexico reached a Memorandum of Understanding to enhance cooperation on climate change.⁶¹

⁵⁵ Anne-Marie Slaughter, *A Regional Responsibility to Protect*, in LESSONS FROM INTERVENTION IN THE 21ST CENTURY: LEGALITY, LEGITIMACY, AND FEASIBILITY (David Held & Kyle McNally, eds., 2014), available at <http://www.princeton.edu/~slaught/Articles/RegionalResponsibilitytoProtect.pdf>.

⁵⁶ Daniel C. Esty, *Bottom-Up Climate Fix*, N.Y. TIMES, Sept. 21, 2014, <http://www.nytimes.com/2014/09/22/opinion/bottom-up-climate-fix.html>.

⁵⁷ Hari M. Osofsky, *The Creation of the International Law of Climate Change: Complexities of Sub-State Actors*, in NON-STATE ACTORS, SOFT LAW AND PROTECTIVE REGIMES: FROM THE MARGINS 179 (Cecilia M. Bailliet, ed., 2012); Hari M. Osofsky, *Multiscalar Governance and Climate Change: Reflections on the Role of States and Cities at Copenhagen*, 25 MD. J. INT’L L. 64 (2010).

⁵⁸ See, e.g., Gregory Shaffer, *Transnational Legal Process and State Change*, 37 L. & SOC INQUIRY 229 (2012).

⁵⁹ *Assembly Bill 32 Overview*, CAL. AIR RESOURCES BD. (2014), <http://www.arb.ca.gov/cc/ab32/ab32.htm>.

⁶⁰ See WESTERN CLIMATE INITIATIVE, DESIGN FOR THE WCI REGIONAL PROGRAM (2010), <http://www.westernclimateinitiative.org/the-wci-cap-and-trade-program/program-design>.

⁶¹ Memorandum of Understanding to Enhance Cooperation on Climate Change and the Environment, Cal. (U.S.)-Ministry of Env’t & Natural Res., Nat’l Forestry Comm’ns (Mex.), July 28, 2014, available at

Though a leader, California is not alone in U.S. efforts. Across the U.S., nine Northeast states have operated a regional cap-and-trade market since 2009 called the Regional Greenhouse Gas Initiative (RGGI). In 2014, the Regional Greenhouse Gas Initiative set a new cap of 91 million short tons of CO₂, which will serve as a regional carbon budget for the power sector.⁶² The cap will decline 2.5 percent each year from 2015 to 2020.⁶³

Neither Congress nor the executive have struck down or otherwise limited these initiatives over the intervening years. In fact, recent regulatory activity has supported these state-led efforts as evidenced by the EPA's proposed Clean Power Plan. As currently envisioned, this national regulation requires each state to reduce greenhouse gas emissions from coal-fired power plants by 2030 and would allow states to collaborate to meet their individual targets.⁶⁴ It even offers states undertaking collaborative efforts additional time to submit their plans to EPA in order to better enable them to sort out the more complicated logistics.⁶⁵

International Corporate Legal Personality

The legal capacity and authorities of corporations in international law provide another source of supporting precedent for a legal structure institutionalizing the climate contributions of non-state leaders. In international law, corporations hold a certain legal personality, meaning they have certain legal rights, duties, protections, privileges, and liabilities. While only nations hold the full spectrum of rights and responsibilities in international law, the role of corporations as “participants” in international law with their own rights and obligations has grown more and more pronounced.⁶⁶

International law has long recognized corporate “personhood” and allowed that corporations can act in their own legal capacity rather than, for example, as a group of shareholders. The landmark International Court of Justice case *Belgium v. Spain* (1970), also known as the Barcelona Traction case, provided diplomatic protections to a Canadian power company doing business in Spain and protected corporate nationality. In this case, the International Court of Justice held that only a country where a company was incorporated could sue on its behalf, rather than the country where the company's shareholders resided. The recognition of corporations' international personhood demonstrates support for institutionalizing corporations' climate commitments. However, the evolving and larger role of multi-national corporations in international law demonstrates even further support for institutionalizing climate contributions beyond the nation state.

http://gov.ca.gov/docs/7.28_Climate_MOU_Eng.pdf.

⁶² *The RGGI CO₂ Cap*, REGIONAL GREENHOUSE GAS INITIATIVE (Mar. 13, 2015),

<http://www.rggi.org/design/overview/cap>.

⁶³ *Id.*

⁶⁴ *Carbon Pollution Standards for Modified and Reconstructed Stationary Sources: Electric Utility Generating Units*, 79 FR 34,830 (2014).

⁶⁵ *Id.*

⁶⁶ See JENNIFER A. ZERK, *MULTATIONALS AND CORPORATE SOCIAL RESPONSIBILITY: LIMITATIONS AND OPPORTUNITIES IN INTERNATIONAL LAW* (2006).

A more recent incarnation of the Barcelona Traction dispute is known as Investor-State Dispute Settlements. These settlements operate as a public law instrument to grant investors the rights to undergo dispute settlement proceedings against a foreign government. The North American Free Trade Agreement's (NAFTA's) Chapter 11 provides an example of Investor-State Dispute Settlements provisions in a trade treaty. Under the chapter, corporations of one of the member nations, (Mexico, Canada, and the United States), can sue another participating nation if that government makes regulatory or other decisions that affect the corporation's investment in violation of the treaty. If a corporation's suit proves successful, the defendant nation pays compensation to the corporation. A number of international arbitral tribunals can govern these cases, including the International Centre for Settlement of Investment Disputes of the World Bank.

The scholarship of Wayne Sandholtz and Alec Stone Sweet further traces the construction of governance developing through triadic dispute resolution, (two parties plus arbiter), for international trade under the General Agreement on Tariffs and Trade (GATT) and World Trade Organization (WTO). As disputes go before the arbiter, they provoke development of further rules and a normative structure to guide future behavior and a more ordered structure evolves. Such construction of a system can inform the evolution of the process by which subnational leaders institutionalize their climate contributions.⁶⁷

Human Rights Theory and Examples

A classic model of international human rights law is focused on states. Treaties are, by definition, an international agreement concluded between states.⁶⁸ Powerful non-state actors have challenged this model in recent decades. Organizations like Amnesty International and Human Rights Watch have impacted the field of human rights by commanding consciousness, raising awareness, developing data, and prosecuting cases.

International human rights law has also evolved to include the potential for more formal participation from Pillar Four actors. For example, in 1969, drafts of the Vienna Convention recognized the potential for non-state actors to enter into treaties with states; then, in 1977, the Geneva Convention created a mechanism for unilateral authorization of non-state liberation movements; finally, the human rights NGO Geneva Call has created a novel mechanism for non-state actors to accept responsibilities from the Geneva Convention.

Vienna Convention on the Law of Treaties (1969)

In preparing a draft of the Convention, the International Law Commission considered “the possibility of various other subjects entering into treaties with states, but ultimately excluded the issue from [the Vienna Convention on the Law of Treaties’] purview.”⁶⁹

⁶⁷ See Wayne Sandholtz & Alec Stone Sweet, *Law, Politics, and International Governance*, in *THE POLITICS OF INTERNATIONAL LAW* 238 (Christian Reus-Smit, ed., 2004).

⁶⁸ See sources cited *supra* note 5.

⁶⁹ Roberts & Sivakumaran, *supra* note 6, at 113-14

Geneva Convention Additional Protocol I (1977), on international humanitarian law
Art 96(3) provides unilateral authorization for national liberation movements to apply the Conventions and the Protocols through a declaration. The Convention “[a]uthorizes the authority representing a people engaged against a State party to the Protocol in an armed conflict of this type to apply the Conventions and the Protocol in relation to it by means of a unilateral declaration addressed to the depositary.”

Geneva Call

This non-governmental organization uses a commitment tool, the *Deed of Commitment*, to support non-state actors (armed groups) in declaring that they are going to abide by the Geneva Conventions. The *Deed of Commitment* allows armed non-State actors (ANSA) to “undertake to respect specific international humanitarian norms.” This approach has been recognized by the U.N. Secretary-General in his reports on the protection of civilians in armed conflict.⁷⁰

Additionally, this year will mark the 70th anniversary of the Nuremberg Trials, creating a powerful moment of reflection and reverence for humanity. The Charter that established rules for the Nuremberg Trials officially recognized Crimes Against Humanity - specifying that individuals hold a right against the state when the state abuses its citizens.

Other Examples of Legal Instruments Involving Non-Nation-State Actors

This appendix turns to configurations for engaging non-nation-state actors established by other treaty agreements and identifies challenges and opportunities for a post-Paris process. Most multilateral environmental negotiations recognize the role of non-nation-state actors. For example, the Vienna Convention, Montreal Protocol, Basel Convention, Aarhus Convention, and others, allow for civil society organizations to participate in meetings as observers.⁷¹ Despite this nominal consideration of non-nation-state actors, few treaties offer functional models for non-nation-state actors to contribute to treaty *objectives*. The International Labor Organization (ILO), United Nations Convention to Combat Desertification (UNCCD), and World Summit on Sustainable Development (WSSD) nevertheless offer innovative models of non-nation-state actor engagement.

The International Labor Organization (ILO)

⁷⁰ *See id.*

⁷¹ The following paragraphs of multilateral environmental treaties recognize the role of civil society organizations and grant their participation in the negotiations: Cartagena Protocol on Biosafety art. 29, ¶ 8, May 15, 2000; Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters art. 10, ¶ 5, June 25, 1998; Kyoto Protocol to the U.N. Framework Convention on Climate Change art. 13, ¶ 8, Dec. 11, 1997; U.N. Convention to Combat Desertification (UNCCD) art. 22, ¶ 7, Oct. 14, 1994; Convention on Biological Diversity art. 23, ¶ 5, June 5, 1992; U.N. Framework Convention on Climate Change art. 7, ¶ 6, May 9, 1992; Basel Convention on the Transboundary Movement of Hazardous Waste and Their Disposal art. 15, ¶ 6, Mar. 22, 1989; Montreal Protocol on Substances that Deplete the Ozone Layer art. 11, ¶ 5, Sept. 16, 1987; Vienna Convention for the Protection of the Ozone Layer art. 6, ¶ 5, Mar. 22, 1985. *See also* ANNE PETERS ET AL., EDS., NON-STATE ACTORS AS STANDARD SETTERS 493 (2009).

Government, employer, and worker representatives are all included in the ILO process. Employer and worker representatives are empowered to vote on substantive issues, such as labor standards, during the annual International Labor Conference.⁷² Other non-nation-state actors, such as business and civil society organizations, have been less successfully integrated into ILO proceedings. Despite the ILO's exclusion of business actors and non-governmental organizations, the ILO tripartite composition serves as the single U.N. model for engaging key stakeholders in all aspects of the governance process.⁷³

The United Nations Convention to Combat Desertification (UNCCD)

The UNCCD is unique among the Rio Conventions for its focus on regional and local implementation, earning it the label of a “bottom-up” process.⁷⁴ Article 10(2) calls for participation at the “local, national, and regional level of non-governmental organizations and local populations” and Article 9(1) calls for the development of national action plans based on lessons from field action.⁷⁵ The UNCCD also allows for civil society organizations to convene a plenary session during each Conference of the Parties. Although the quality of these civil society plenary sessions varies, the UNCCD models contrasts with the UNFCCC approach to constituent engagement, by creating space for civil society organizations to contribute to both the implementation of the UNCCD and its ongoing negotiations.

The World Summit on Sustainable Development (WSSD)

The World Summit on Sustainable Development Plan of Implementation established an official track for non-nation-state actors to contribute to negotiations.⁷⁶ While most international agreements bind governments towards actions for implementation, the WSSD generated a formal partnership model for implementing Summit outcomes.⁷⁷ The WSSD established criteria for acceptable partnerships—such as measurable benchmarks, funding, and local involvement—but the WSSD model also struggled with overly broad partnership standards.⁷⁸

The ILO, UNCCD, and WSSD demonstrate how non-nation-state actor contributions are under realized in the climate regime and stand as a model for UNFCCC negotiations. As the negotiators have already noted, “Action by and among subnational authorities, intergovernmental organizations, civil society, the private sector, and financial institutions and Parties can catalyze and significantly enhance the impact of policy implementation by Parties in reducing emissions.”⁷⁹ The ILO, UNCCD, and WSSD case studies demonstrate that non-nation-state

⁷² *Tripartite Constituents*, INT'L LABOR ORG. (2015), <http://ilo.org/global/about-the-ilo/who-we-are/tripartite-constituents/lang--en/index.htm>.

⁷³ See Lucio Baccaro & Valentina Mele, *Pathology of Path Dependency—The ILO and the Challenge of New Governance*, 65 INDUS. & LAB. REL. REV. 195, 208 (2012); see also JOHN BRAITHWAITE & PETER DRAHOS, *GLOBAL BUSINESS REGULATION* 2 (2000).

⁷⁴ See Corell & Betsill, *supra* note 7, at 92.

⁷⁵ See Bruyninckx, *supra* note 8, at 110.

⁷⁶ Plan of Implementation of the World Summit on Sustainable Development, *supra* note 9.

⁷⁷ See Joyner, *supra* note 10.

⁷⁸ See Abbott, *supra* note 11.

⁷⁹ UNFCCC Conf. of the Parties, Dec. -/CP.20, Lima Call for Climate Action, Annex, sec. A, opt. (d) (proposed text), http://unfccc.int/files/meetings/lima_dec_2014/application/pdf/auv_cop20_lima_call_for_climate_action.pdf

actors can be meaningfully engaged in negotiations and can serve as critical actors in the implementation stage of a post-Paris process.

B. New Models for 21st Century Climate Governance

A multilateral climate process that is centered on consensus and comprehensive outcomes is unable, on its own, to produce an effective and timely response to climate change. This appendix contemplates opportunities for regime innovation in order to adapt to the 21st century realities of climate politics. It asks how the UNFCCC can strengthen the existing transnational regime complex for climate change and whether transnational institutions can be coordinated more closely so they are pursuing common goals and applying common principles.

Transnational Regime Complex for Climate Change

A transnational regime complex for climate change is defined as a group of institutions, including non-nation-state actors, that are loosely connected but still fragmented and working on climate change issues.⁸⁰ The goal of the strengthening the regime complex is two-fold: (1) bypass recalcitrant states by engaging sub-state and societal actors directly, rather than through national governments; and (2) manage the behavior of recalcitrant states through, *inter alia*, advocacy, demonstration effects, norms and values, and political pressure.⁸¹ In order to develop a successful regime complex related to the Paris Agreement, the UNFCCC Secretariat could help to develop a robust framework for orchestration.

Regime orchestration by the UNFCCC would encompass measures that encourage, facilitate, support, coordinate and steer public and private actors to engage in regulatory or operational activity in support of UNFCCC goals.⁸² For example, non-nation-state actors can contribute to climate change regime innovations by setting standards for measuring and reporting emissions and offsets, or helping to finance and manage renewable energy projects.⁸³ In the context of a Paris Agreement, the UNFCCC Secretariat and state actors could also help orchestrate “public, private-sector and civil society actors . . . to engage in various ‘regulatory’ (including self-regulatory) activities.”⁸⁴

(accessed Mar. 15, 2015). Under the Ad Hoc Working Group on the Durban Platform for Enhanced Action, Parties also considered draft conclusions proposed by the Co-Chairs to “provide *meaningful and regular opportunities for the effective engagement* of experts from Parties, relevant international organizations, civil society, indigenous peoples, women, youth, academic institutions, the private sector, and subnational authorities nominated by their respective countries.” UNFCCC Conf. of the Parties, Implementation of All the Elements of Dec. 1/CP.17 (Dec. 12, 2014), <http://unfccc.int/resource/docs/2014/adp2/eng/105.pdf> (emphasis added).

⁸⁰ See Kenneth W. Abbott, *Strengthening the Transnational Regime Complex for Climate Change*, 3 TRANSNAT’L ENVTL. L. 57, 61 (2013).

⁸¹ *Id.*

⁸² See Kenneth W. Abbott & Duncan Snidal, *Strengthening International Regulation through Transmittal New Governance: Overcoming the Orchestration Deficit*, 42 VAND. J. TRANSNAT’L L. 501, 510 (2009).

⁸³ See Abbott, *supra* note 87, at 61.

⁸⁴ Abbott & Snidal, *supra* note 89, at 521.

The following techniques can help direct and facilitate a transnational regime complex:

- Initiating voluntary and cooperative programs;
- Convening and facilitating private collaborations;
- Persuading and providing incentives for firms to make demonstration projects and self-regulate;
- Endorsing high-quality transnational commitments and actions;
- Building the capacities of private actors;
- Negotiating regulatory targets with firms;
- Providing incentives to exceed mandated performance levels; and
- Ratifying or scaling up successful approaches.⁸⁵

As this list of functions is intended to be aspirational, the question remains whether an institution will have sufficient capabilities to perform them. For example, endorsements may be one of the few forms of orchestration available to the UNFCCC. Endorsements define desirable criteria for transnational commitments and then accept only contributions that meet the criteria.

⁸⁵ See *id.* at 510 (citing Jody Freeman, *Collaborative Governance in the Administrative State*, 45 UCLA L. REV. 1, 30 (1997)).

Appendix C: Proposed Chapeau Text of Unifying Principles⁸⁶

Grounded in the sound theory of the U.N. Charter’s “we the peoples” language, this text will provide guiding principles and goals for subnational leader cohorts each determining their own bottom-up contributions. It will serve as an umbrella statement, uniting each cohort’s set of contributions under their respective agreements, and could potentially connect each of those agreements back to the objective statement that endorses the U.N. process. A savings clause embedded in the chapeau text could help clarify that each contribution is made to the capacity possible by the signing actor and no further.

While development of this text will require conversations among many diverse leaders, the Yale Climate Change Dialogue presents this initial example of what such text might look like:

Chapeau Text of Unifying Principles

We the peoples,

Whose individual and collective identity is derived from our common humanity, based on our human rights and dignity,

Hereby express our will to contribute to the stabilization of greenhouse gases in the atmosphere at a level that is safe for succeeding generations, to allow a healthy and productive planet for all;

We agree to come together to act now to achieve a stable climate system while transitioning to a prosperous and resource efficient economic system;

We recognize the need to protect our communities from the impacts of climate change occurring today and tomorrow, clearly acknowledging that both mitigation and resilience-enhancing efforts will be necessary to comprehensively address climate change;

We have organized ourselves in constituencies of interest to ensure the well-being and prosperity of our entire human family, conscious of the risk of serious or irreversible harm posed by human induced climate change;

We possess the power to act individually and in common to implement our contributions;

We assert our capacity to deliver the public goods of reducing emissions, restoring our natural environment, and increasing the resilience of our communities within our respective competences;

⁸⁶ Mary Robinson, Philippe Sands, and Jess Simor contributed greatly to this proposed chapeau text of unifying principles.

We undertake to engage with holders of power, public and private, to make good our contributions and allow a response by community and society that rationally reflects the best scientific understanding and creates an opportunity to increase ambition of action over time;

Through our individual actions we will support the contributions and efforts of national governments and we intend to lift national ambitions by demonstrating existing sustainable solutions;

We understand and expect that the contributions we make will be open, transparent and available to be analyzed, evaluated and assessed for their fairness and effectiveness;

And so, from this moment on,

We will...

Linkage Structure in a Parallel Process

Signing parties could endorse the chapeau language through signature blocks broken down by cohort. For example:

“We the undersigned Mayors commit to the full extent of our authority to the objectives of the Paris Agreement.”

[mayors sign below]

“We the undersigned CEOs commit to the full extent of our authority to the objectives of the Paris Agreement.”

Appendix D: Summary of Legal Forms, Norms, and Liability for a Network of Agreements

Networked agreements would be in different legal forms from one another, providing an appropriate structure of commitments for the various decisionmakers in both public and private realms. For example, regional leaders might agree to pass state statutes or CEOs might agree to take certain actions in their supply chain contracts through private law. In each of these examples, use of jurisdictionally appropriate law would place appropriate legal pressure on each actor. The structure and wording of the agreement could allow decisionmakers ample latitude to choose the correct level of force, from creating commitments to offering non-binding guidance.

A chapeau text in a parallel agreement or a signature block within the 2015 Paris Agreement would be a non-binding, but norm-reinforcing, “soft-law.” While such a “soft law” agreement would not create legal liability, it would still prove sufficient to allow the recognition and engagement of the broadened climate leadership necessary to accomplish the policy rationale of building capacity and ambition in the international process. Even without legally binding force, agreements can enact meaningful shifts in behavior and reinforce positive norms. Take for example the non-binding Memorandum of Understanding between the U.S. states in the Regional Greenhouse Gas Initiative program. Though no state is held liable for its commitments, the participating states have collectively enacted programs projected to prevent 8 million short tons of greenhouse gas emissions.⁸⁷

The agreements among cohorts would have greater capacity to employ liability where desired and legally feasible, but could also easily rely on a soft law, norm-shifting model. For example corporations may choose to articulate their agreements in broad principles or mission statement goals that do not create liability. Companies would be encouraged to uphold such principles for the branding value and to avoid risk of shaming for failing to meet articulated commitments. To encourage greater ambition, sustainability leaders could choose to take on more ambitious action by joining together for binding contributions through private law, such as making commitments to reduce carbon emissions in their supply chains, or through the purchase of renewable power.

Cities face some constraints through the legal principle of ultra vires, limiting legal control to those domains where a municipality has been given express authority.⁸⁸ However, mayors can support supra-national policies, as is the case with the European Covenant of Mayors, or compliment targets set by national governments such as One Less Power Nuclear Plant Initiative of Seoul Metropolitan Government.⁸⁹ Municipal actors can make political commitments or adopt standards related to infrastructure development, service delivery, waste management, procurement, or city investments. They can also initiate or operate urban or subnational structures of emissions trading schemes under their own jurisdictions and enforce compliance of

⁸⁷ See REGIONAL GREENHOUSE GAS INITIATIVE, REGIONAL INVESTMENTS OF RGGI CO2 ALLOWANCE PROCEEDS, 2012 (2014), available at <http://www.rggi.org/docs/Documents/2012-Investment-Report.pdf>.

⁸⁸ Heike Schroeder & Harriet Bulkeley, *Global Cities and the Governance of Climate Change: What Is the Role of Law in Cities?*, 36 FORDHAM URB. L.J. 313, 319 (2008).

⁸⁹ See ICLEI – Local Governments for Sustainability, *One Less Power Nuclear Plant Initiative* (Case Study No. 154, Aug. 2013).

residential, commercial or industrial facilities.⁹⁰ Provided that a mayor or council makes a commitment under its authority, it can consequently incorporate it into local law, giving the commitment a binding value.

Like cities, regions would need to walk a careful line between norm-building and legal liability. As mentioned earlier, the Regional Greenhouse Gas Initiative has carefully adopted a Memorandum of Understanding, which is not legally binding, but has still precipitated action.

⁹⁰ Conversation with Yunus Arian, Head of Global Policy and Advocacy, ICLEI – Local Governments for Sustainability (concerning focal point of local governments and municipal authorities).

Appendix E: U.S. Constitutional Issues

The following section focuses specifically on addressing U.S. constitutional concerns because those have been identified as a particular area of concern for preventing inclusion of subnational climate leaders. Ensuring that a proposed international framework coexists successfully with U.S. constitutional requirements can help secure U.S. support or at the very least minimize opposition.

A. Easy Dismissal of Standard Preemption Concerns

Concerns over conflict between state and federal law is perhaps the most straightforward constitutional question, and likely also the easiest issue to avoid. Due to the Supremacy Clause, federal policies trumps state policies directly if Congress has spoken so thoroughly on the issue as to have effectively “occupied the field.” Given Congress has not offered any federal statute on international climate policy, little if any evidence supports the claim that congress has occupied this field. Assuming Congress ratifies the 2015 Paris Agreement, any support or designation for subnational activities acknowledged by the 2015 Paris Agreement could then be undertaken appropriately by subnational actors.

Though also unlikely to prevent state action, a somewhat more plausible preemption issue concerns conflict preemption, which occurs if a state policy would conflict with a congressional objective. In light of the 2003 Supreme Court Case, *American Insurance Association v. Garamendi*,⁹¹ a conflict with executive policy could also preempt state policy within the context of foreign affairs. This concern required more rigorous attention during the Bush administration when a number of academic analyses on this issue were conducted since President Bush claimed unilateral state action would undermine the international bargaining power of the United States.⁹² These analyses explored the limitations on President Bush issuing constraints without direction from Congress. However, these arguments prove less relevant today under the current administration led by President Obama in which state action arguably supports the nation’s bargaining power.

Today, the situation further tilts in the favor of state action. The Obama administration has explicitly supported the importance of each country “to act vigorously at home” on climate change. President’s Obama’s executive order to the EPA resulting in the Clean Power Plan proposed rule illustrates further support for state action to reduce greenhouse gas emissions, delegating to the states the responsibility to plan their reductions for coal-fired power plants. Further the Lima Call for Action has established that both developed and developing countries must reduce their emissions, undermining the impacts of the Senate Resolution that opposed ratifying the Kyoto Protocol until all countries were required to reduce emissions. The development of NAZCA and the bottom-up nature of commitments anticipated in the 2015 Paris

⁹¹ 539 U.S. 396 (2003).

⁹² See list of sources at the end of this appendix for further analysis

Agreement further create a pathway in which state pledges would support the commitments of their nation state leaders and thus enhance their bargaining power.

B. Mindful Structuring Avoids Unconstitutional Interference in Foreign Affairs, Foreign Commerce, or Treaties

Additionally, the legal structure proposed to integrate action from U.S. states can avoid illegal intrusion into foreign affairs, commerce, or treaty-making. The constitution designates specific authority to congress “regulate commerce with foreign nations,” and courts have subsequently interpreted the federal government holds the authority to govern foreign relations. In addition to the general cases of preemption explored in the above section, the Court has also interpreted a “dormant” foreign affairs preemption. However, only two cases have relied on the dormant commerce clause to strike down a state statute: *Zschernig v. Miller*⁹³ and *American Insurance Association v. Garamendi*.⁹⁴ In *Garamendi*, Justice Ginsburg reads *Zschernig* to apply when “a state action reflects a state policy critical of foreign governments and involves sitting in judgment on them.” Similarly, a chief concern of intrusion into foreign commerce has been that U.S. would interfere with United States’ “one voice” in foreign affairs by judging foreign law or providing incentives for foreign nations. Neither of these issues concerns the legal structure put forward by the Climate Dialogue because this structure asks climate leaders to make pledges only regarding their own jurisdictions. No reciprocal benefits, judgments, or incentives occur within such a structure. However, to steer absolutely clear of intrusion into foreign affairs, legal structure drafters should consciously keep in mind that *Garamendi* subjects areas traditionally under state competence to a balancing test when determining their intrusion into foreign affairs. Such a test would require close attention in linked carbon trading scheme in which states would judge the rigor of other participants’ emissions reduction regimes.

Article I, Section 10, Clause three – know as the Compact Clause – provides that “[N]o State shall, without the Consent of Congress . . . enter into any Agreement or Compact with any other State, or with a foreign Power.”⁹⁵ However, in *Virginia v. Tennessee*,⁹⁶ the Supreme Court has construed the clause to ban only agreements between states that tend “to the increase of the political power in the States, which may encroach upon or interfere with the just supremacy of the United States.” The Court has upheld this stance allowing deliberately parallel states laws and informal agreements between state officers, judging the more important factors to be that the agreement did not create a joint regulatory body, the state statutes were not condition on one another, and were not legally binding.⁹⁷ The criteria further established that the inter-state agreement did not require congressional consent because it did not enhance the power of the involved States at the expense of other state or impact the federal structure.⁹⁸ The Regional

⁹³ 389 U.S. 429 (1968).

⁹⁴ 539 U.S. 396.

⁹⁵ U.S. CONST. art. I, § 10, cl. 3.

⁹⁶ 148 U.S. 503, 519 (1893).

⁹⁷ See Daniel A. Farber, *Climate Change, Federalism, and the Constitution*, 50 ARIZ. L. REV. 879 (2008).

⁹⁸ See *id.*

Greenhouse Gas Initiative has carefully adopted a Memorandum of Understanding observant of these rules and any legal structure crafted by the Dialogue should do the same. The key factors appear to be that states delegate no regulatory authority to an interstate entity or legally bind themselves.⁹⁹ Section 102 of the Clean Air Act entitled “Cooperative Activities” further supports cooperative actions of U.S. state actors.¹⁰⁰

C. Mindful Structuring Avoids Dormant Commerce Clause Violations

Lastly, the proposed structure to include U.S. state commitments should carefully skirt conflict with the dormant commerce clause. The Commerce Clause delegates authority to Congress to regulate interstate commerce. The unwritten, “dormant commerce clause” extends this authority to prevent states from taking actions that infringe on Congress’ domain over interstate commerce. Most importantly, any state statute must not discriminate against those beyond the state or try to control those beyond the state. If either of these conditions are found, strict scrutiny applies, creating a “virtually per se rule of invalidity.”¹⁰¹ Assuming the law “the statute regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits,” as stated in the balancing test of *Pike v. Bruce Church, Inc.*¹⁰²

The Dialogue should carefully structure its language to fall squarely beyond the strict scrutiny test by clearly avoiding having any actor enact a discriminatory or extraterrestrial statute. Further, language of the agreement or resulting state statutes can help tip a balancing test in favor of state action. State statutes should carefully articulate and robustly support the purpose of their statute. Cherminsky et al. suggests that environmental purposes may prove weaker than other interests and states should cast a wide net for their purposes, but not an overbroad one.¹⁰³ States should ideally provide an administrative record indicating how the regulatory measures will specifically address the state interest and legislated purpose. States should be careful not to discriminate or specify actions of out-of-state actors.

D. Summary

Legal arrangements can provide a constitutional avenue for U.S. states to pledge to reduce climate emissions. However, the crafter of the legal arrangement and the state officers

⁹⁹ See Note, *The Compact Clause and the Regional Greenhouse Gas Initiative*, 120 HARV. L. REV. 1958, 1962 (2007).

¹⁰⁰ See 42 U.S.C. § 7402 (2010).

¹⁰¹ *Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978).

¹⁰² 397 U.S. 137, 142-43 (1970).

¹⁰³ Erwin Chemerinsky et al., *California, Climate Change, and the Constitution*, 37 ENVTL. L. REP. 10,653, 10,653 (2007).

constructing parallel state statutes must remain mindful of related constitutional obstacles in order to carefully avoid conflict.

E. Illustrative List of Legal Scholarship on Constitutionality of Efforts Undertaken by U.S. States to Reduce Their Individual Greenhouse Gas Emissions:

Brian H. Potts, *Regulating Greenhouse Gas 'Leakage': How California Can Evade the Impending Constitutional Attacks*, 19 *ELECTRICITY J.* 43 (2006).

Claire Carothers, *United We Stand: The Interstate Compact as a Tool for Effecting Climate Change*, 41 *GA. L. REV.* 229 (2006).

Daniel A. Farber, *Climate Change, Federalism, and the Constitution*, 50 *ARIZ L. REV.* 879 (2008).

David R. Hodas, *State Law Responses to Global Warming: Is It Constitutional to Think Globally and Act Locally?*, 21 *PACE ENVTL. L. REV.* 53 (2003).

Douglas A. Kysar & Bernadette A. Meyler, *Like A Nation State*, 55 *UCLA L. REV.* 1621 (2008).

Erwin Chemerinsky et al., *California, Climate Change, and the Constitution*, 37 *ENVTL. L. REP.* 10,653 (2007).

Kirsten H. Engel, *Mitigating Global Climate Change in the United States: A Regional Approach*, 14 *N.Y.U. ENVTL. L.J.* 54 (2005).

Michael A. Mehling, *Bridging the Transatlantic Divide: Legal Aspects of a Link Between Regional Carbon Markets in Europe and the United States*, 7 *SUSTAINABLE DEV. L. & POL'Y* 46 (2007).

Thomas W. Merrill, *Global Warming as a Public Nuisance*, 30 *COLUM. J. ENVTL.* 293 (2005).

Note, *Foreign Affairs Preemption and State Regulation of Greenhouse Gas Emissions*, 119 *HARV. L. REV.* 1877 (2006).

Yvonne Gross, *Kyoto, Congress, or Bust: The Constitutional Invalidity of State CO₂ Cap-and-Trade Programs*, 28 *THOMAS JEFFERSON L. REV.* 205 (2005).