

# From Copenhagen to Paris: Climate Change and the Limits of Rationality, Multilateralism, and Leadership

---

PENNY WONG  
Leader of the Opposition  
Australian Senate

---

268

MY MOST POIGNANT MEMORY OF the Copenhagen Climate Change Conference in December 2009 is of a crowded and airless room.<sup>1</sup> I sat behind Australian Prime Minister Kevin Rudd in a room filled with world leaders. Opposite us was U.S. President Barack Obama, flanked by Secretary Hillary Clinton. To my right was President Luiz Inácio Lula da Silva of Brazil, with Dilma Rousseff behind him, German Chancellor Angela Merkel, Swedish Prime Minister Fredrik Reinfeldt, and French President Nicolas Sarkozy. Also spread around the room were British Prime Minister Gordon Brown, Indian Environment Minister Jairam Ramesh, Chinese negotiator He Yafei, South African President Jacob Zuma, and Mexican President Felipe Calderón. Next to me sat the Bangladeshi delegation, whose Prime Minister made an impassioned plea for action in the late hours of that night.

I thought to myself, this room could do anything. The combined political, economic, and strategic power assembled here could deliver transformational change. But it failed to do so. Among these leaders, dispute deepened and ambition for change lessened. The conference dissolved in a wave of recriminations and disappointment. The political agreement struck that year, the Copenhagen Accord, took some initial steps that have subsequently proved useful, but it fell far short of both what was expected and what was needed.

---

SENATOR PENNY WONG is Leader of the Opposition in the Australian Senate and the Australian Labor Party's Shadow Minister for Trade and Investment. She served as Australia's first Minister for Climate Change and Water between 2007 and 2010, and Minister for Finance and Deregulation between 2010 and 2013.

---

Copyright © 2015 by the *Brown Journal of World Affairs*

268

Since that time, some progress has been made. But by any reasonable assessment, we are yet to achieve a sufficient response to climate change. In fact, given the mathematics of the problem, the gap between what we need to do and what we are doing is widening. Without additional efforts to reduce emissions of greenhouse gases, the world is facing high to very high risks of severe, widespread, and irreversible climate change impacts by the end of this century.<sup>2</sup>

In 2015, the world will try again to achieve an international agreement that effectively responds to climate change. The Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) will meet in Paris in December 2015. It will seek to create a new international agreement on emissions reductions after 2020, when the Kyoto Protocol's second commitment period comes to an end. If Paris fails to establish a path that enables us to contain temperature increases to within 2 degrees Celsius above pre-industrial levels, climate impacts will be devastating, and for many unmanageable.<sup>3</sup>

Greenhouse gas emissions from human activities, such as the burning of fossil fuels and deforestation, have risen in lock-step with industrialization and economic development. This means that the climate change problem—in both its genesis and mitigation—has significant implications for equity. Put simply, the world's richest countries caused the bulk of the problem, and they are now asking the world's poorest countries to contribute to the emissions reductions needed to avoid dangerous climate change. In the eyes of developing countries, they are being asked to curtail the economic growth that is lifting their people out of poverty. That perceived inequity was one of the reasons for the breakdown at Copenhagen.

Yet, a failure to act effectively to mitigate the risk will also have fundamentally inequitable impacts. The impact of climate change will be particularly severe on the world's poorest and most vulnerable people, from the small island states of

**In the eyes of developing countries, they are being asked to curtail the economic growth that is lifting their people out of poverty.**

the Pacific and the Caribbean to countries like Bangladesh, where millions of people live in regions susceptible to rising sea levels and more frequent storm surges and flooding. As Australia's Andrew Charlton—another occupant of

that airless room in Copenhagen—has written, the global challenges of poverty and the environment are the twin imperatives of the twenty-first century: "One ravages billions of people alive today; the other threatens billions yet unborn."<sup>4</sup>

Ahead of the Paris Climate Change Conference, it is worth considering what can be done to achieve an effective global agreement. More broadly, we should be asking what can be done to construct a global response commensurate with the risk climate change presents. A sensible starting point is to consider why humanity has responded so poorly to this problem. That fact flies in the face of our post-Enlightenment preconceptions that science and reason will lead to sound decisions. This has not held true in relation to climate change. Humanity's collective response has been irrational. The scale of the risk requires far-reaching action. Instead, we have a multilateral process that consistently delivers far less than is required, inconsistent and inadequate domestic policy, and a lack of political leadership. So why have international and domestic political institutions struggled to devise and implement solutions commensurate with the scale of the environmental challenge?

Various answers have been advanced.<sup>5</sup> I shall posit three: human behavior, the limits of multilateralism, and national economic imperatives. My argument is that cultural factionalization, the limitations of multilateralism, and the primacy of immediate economic interests are the main barriers to progress. To achieve a more proportionate response, we must reframe our current assumption of burden-sharing, utilize a range of negotiating fora in the lead-up to Paris and beyond, and identify and implement options for low-carbon economic growth, including generating financing opportunities.

270

## HUMAN BEHAVIOR AND COGNITION

As Andrea Liverani points out, the drivers of human behavior are relevant to climate policy in three ways: in decisions around private consumption, in individual and collective support for institutional and political change, and in relation to key decision makers.<sup>6</sup> Even in developed nations, with relatively high levels of education and economic resources, public demand for action and support for real change have been uneven. Another researcher who has examined cognitive and behavioral challenges to action on climate change, Kari Marie Norgaard, traverses four broad recurring explanations: first, that people do not know enough to realize the danger; second, that people do not care enough to take action; third, that there is a hierarchy of needs in which people focus on resolving immediate problems first and defer action on long-term needs; and fourth, that there is a belief that all will be well because the government will act, technological solutions will be found, or the risks are less severe than argued.<sup>7</sup> None of these provide a comprehensive answer.

For example, the limitations of awareness-raising as a sustained reform driver can be seen in the non-linear relationship between the weight of scientific evidence and action.<sup>8</sup> An “information deficit” account might explain some choices but not the approach of those of us who understand the risk involved yet still fail to adjust either our personal behavior or our support for policy change.<sup>9</sup> The “hierarchy of needs” model provides some assistance in understanding our individual and collective tendency to focus on near-term, identifiable needs rather than on longer-term risks. This bias has more logic for some than others: it is entirely explicable from the perspective of a Least Developed Country (LDC) climate negotiator, less so for those from affluent nations. The “all is well” hypothesis goes some way to explaining the inaction, or the antagonism to action, of climate skeptics or vested interest groups. It is less helpful in the context of collective decision making. Faith in governments has been declining, so it seems unlikely that an expectation by the general public that governments will handle the problem is a satisfactory explanation for inaction.<sup>10</sup>

The juncture of psychological explanations of individual behavior and broader sociological reasons for collective choices provides useful insights. Dan M. Kahan demonstrates that cultural values have a larger impact on perceptions of climate risk than scientific literacy or numeracy. The belief systems of individuals correlate significantly with their cultural group, even as their scientific literacy improves.<sup>11</sup> This contributes to “socially organized denial” as people deny, resist, or reshape information that confronts cultural values and identity.<sup>12</sup> Most citizens are not able to evaluate the empirical evidence of every policy issue. Instead, they use cultural commitments as heuristic devices, and this leads to cultural factionalization. People take the word of those they trust, and they trust those who share their values—a process that aligns citizens into competing cultural factions on public policy questions.<sup>13</sup> The implications for communication of the climate challenge are clear: information per se is insufficient. Further, communications by advocates and decision makers should look to form and content that are salient to the audience and that bridge rather than support cultural factionalization.

These cultural impediments might also be shifted by encouraging practical action. A variation of learning by doing is required at the international, national, and local levels. In Australia, for example, a study of adaptation behavior among irrigators in the Murray-Darling Basin river system explored the relationship between farmers’ attitudes to climate change and their farm management decisions.<sup>14</sup> The Murray-Darling Basin, one of Australia’s most important farming regions, has experienced severe drought conditions in the recent past. Climate

change is expected to increase the frequency of drought and water shortages in the future. Researchers analyzed irrigator responses to surveys conducted over a 12-year period from 1998–99 to 2010–11, enabling farmers' stated plans for the future to be compared with their actual behavior. The study found that there was not only a correlation between belief in climate change and farmers' adaptation behavior, such as changing crop mix or buying and selling water rights, but that some adaptation behaviors, such as investing in more efficient irrigation infrastructure, also positively influenced belief. This suggests a feedback loop whereby attitudes influence behavior and behavior influences attitudes.

### THE LIMITS OF MULTILATERALISM

The UNFCCC was adopted at the Rio Earth Summit in 1992 and came into force in 1994. Today, it has near universal membership with 195 parties. Decision making is by consensus, with all parties having to agree. The limitations of the Convention as the defining international treaty on climate change, along with the progression of both scientific and political understanding, have led to a myriad of subsequent complementary agreements and decisions.<sup>15</sup> Over the past two decades, there have been innumerable meetings; reams of draft text; hours, days, weeks, and months of negotiation; engagement from political leaders; and most importantly, consistently worsening scientific evidence on the risk of climate change. Yet, we still do not have an international agreement with the capacity to deliver even a 2 degrees Celsius outcome.

It is important to distinguish between multilateral climate governance—based on a model of top-down, international treaties with near-universal coverage and legally binding commitments—and what has been called aggregate climate governance, the sum of all the parts of regional, national, subnational, and local policies; intergovernmental cooperation and agreement; and the actions of businesses, households, and civil society.<sup>16</sup> Radoslav S. Dimitrov has characterized the latter as a “vibrant multilevel policy realm” in contrast to the “stagnant” UN process.<sup>17</sup>

In part, the UNFCCC is limited by constraints similar to those that have impaired the capacity of the World Trade Organization to gain progress in global trade negotiations in recent years.<sup>18</sup> Nothing is agreed until everything is agreed, and everyone must agree with everything. In the context of a contested, difficult, and complex challenge such as climate change, the consensus-based approach risks creating insufficient space to build an agreement. In addition, it exacerbates the risk of disruption by a small number of actors. Thus, as with global trade

negotiations—where the multilateral process is in danger of stagnating—there may be greater potential for progress at the plurilateral, regional, and bilateral levels.

Enabling negotiation among a reduced number of parties appears vital to resolve current stand-offs, or at least to minimize disagreement.<sup>19</sup> Additional negotiating forums have the potential to augment the UNFCCC negotiations. They must respect, and be widely perceived as respecting, the primacy of the UN process. Although bilateral and plurilateral processes in and of themselves will not resolve some of the roadblocks, they have the potential to create a different and potentially more constructive space for agreement. Certainly, this was my experience as Australia's Climate Change Minister in bilateral engagement with China and other partner nations, as well as in plurilateral settings such as the Major Economies Forum.

Making use of the Major Economies Forum—comprising the world's largest emitters, and including both developing and developed nations—remains a priority for such negotiations.<sup>20</sup> In addition, it is essential that there be bilateral engagement between parties whose positions are critical for the multilateral negotiations. In this context, the November 2014 joint announcement between China and the United States is potentially game-changing. In this announcement, President Obama pledged that the United States would cut emissions by 26 to 28 percent below 2005 levels by 2025, a significant undertaking that would ramp up the rate of emissions reductions by the world's largest economy. China's President Xi Jinping simultaneously committed his country to achieving a peak in its greenhouse gas emissions by 2030 and to making its "best efforts" to achieve a peak earlier than 2030.<sup>21</sup>

As the world's largest emitter, China's actions are critical to the world's ability to avoid dangerous climate change. The joint approach by Washington and Beijing also has the potential to ameliorate the developed–developing country divide that has bedeviled international climate negotiations. Beijing's pledge at this stage of China's economic development is analogous to the United States having made a pledge in 1974 to cap its emissions by 1990.<sup>22</sup> Libo Wu has shown that, if China pursues an economic and emissions growth pathway comparable to that of Germany, it is feasible for its emissions to peak at a level and time that will help limit global temperature increases.<sup>23</sup> Fei Teng and Frank Jotzo assert that a scenario in which China's emissions peak in the 2020s would not only be in the world's environmental interests but could also be in China's economic interests. This is because investment by China in energy efficiency, decarbonization of energy supplies, and restructuring of its economy away from

heavy industries can bring productivity gains and benefits for air pollution and energy security.<sup>24</sup>

A focus on the legal form of any new multilateral agreement in the context of the consensus model of decision making can operate as an impediment to both agreement and concurrent action. This recognition lay behind Australia's proposal for national schedules made in the lead-up to Copenhagen. Its benefits included setting aside the form of the agreement, at least temporarily, to enable a focus on substantive national action. This thinking has progressed to the current framework, wherein nations are to submit their Intended Nationally Determined Contributions—commitments on actions to meet the Convention's objective of avoiding dangerous climate change—in the lead-up to the Paris conference. However, there is still the potential for arguments about the legally-binding nature of such commitments to derail progress.

The ambition and scale of domestic action is what drives the emissions trajectory in which all states have an interest. The form of the agreement should not distract us from this simple fact. Arguments surrounding whether or not an agreement is legally binding have the potential to divert from the discussion on its content. Indeed, at the UNFCCC's Lima COP at the end of 2014, the focus of the Australian political delegation on demanding a legally-binding agreement stood in stark contrast to the current Australian government's decision to repeal Australia's emissions trading scheme, the only domestic policy mechanism imposing a legally enforceable cap on Australia's net emissions.

Proponents of a legally-binding agreement argue that enforcement of commitments is required. But top-down coercion in the context of international agreements is largely theoretical. For example, the Kyoto Protocol's compliance mechanisms are difficult to enforce in practice and can be avoided by a party by simply withdrawing from the agreement, as Canada did in 2011. Most nations ratifying Kyoto have met their obligations under its first commitment period. Yet, as Fergus Green points out, the fact that Kyoto's compliance mechanisms lack credibility suggests that the legally binding form of the agreement has not been the primary factor motivating countries to live up to their commitments.<sup>25</sup> In any case, a requirement that the Paris Agreement be legally binding would ensure that the world's two largest economies, the United States and China, are unlikely to join. China has resisted making binding commitments under the UNFCCC process, while observers believe President Obama would struggle to win support in the U.S. Senate for binding treaty action.<sup>26</sup>

Rather than debating degrees of legal bindingness, it should be sufficient to recognize that international undertakings can and do have a significant effect on

national behavior, whether through normative or simply reputational impacts. Accordingly, considerations about the form of a Paris Agreement should prioritize the widest possible participation of members, lifting the level of current ambition and promoting the upward revision of emissions reduction commitments. These priorities imply a decentralized approach, consistent with the currently agreed-upon framework; a dynamic agreement that provides an incentive to update and improve national contributions in identified timeframes; and a greater focus on substantive accountability, in particular, “measurement, reporting and verification” as described in the UNFCCC.<sup>27</sup> The UNFCCC and the Kyoto Protocol require parties to establish national systems for estimating emissions, use agreed methodologies, and submit annual greenhouse gas inventories that are then subject to expert review. In light of the disagreement at Lima about the extent of transparency and accountability under the measurement, reporting, and verification rubric, bilateral negotiations could usefully focus on building agreement around these issues. This would improve confidence in the extent of national action, which, in turn, would improve the prospects for agreement on internationally coordinated action.

#### **ECONOMIC INTERESTS ARE PARAMOUNT**

275

The politics of climate change negotiations are fundamentally defined by global inequality and by the economic burden of reducing greenhouse gas emissions. The UNFCCC’s focus on common but differentiated responsibilities reflects this, as do the fault lines that have characterized the negotiations over the past decades. Discussions about mitigation objectives, emissions reduction commitments, adaptation, and finance repeatedly revert to a debate about past and present economic justice.

At the UNFCCC’s 2007 Bali COP, I co-chaired the Ministerial Working Group tasked with developing agreed text for consideration by the plenary. Disagreement could not be bridged on one final paragraph dealing with mitigation actions by developing countries. Both in that room and, ultimately, in the somewhat messy discussion in the plenary, disagreement was grounded in the economic disparity between developed and developing nations.<sup>28</sup> In Copenhagen, one developing country’s negotiator reportedly said, “For centuries your countries have prospered by exploiting the world’s resources. How can I tell the slum dwellers they must stay poor to clean up your mess?”<sup>29</sup> Five years later at the Lima COP in December 2014, a Malaysian negotiator stated, “We are in a different stage of development. Many of you colonized us, and we started from

a completely different point. Those red lines were not addressed in the text.”<sup>30</sup>

A global response to climate change remains defined as a contest between economic development and the environment. The presumption that higher carbon intensity equates to development drives the positions of nation states, and the problem is constructed as one of burden sharing. These are understandable assumptions given humanity’s experience of economic development. However, as long as these precepts endure, we will never achieve an effective global response to climate change.

For agreement to be achieved, the frame underpinning the negotiations must be shifted. This is not a new proposition. Environmental groups and the UNFCCC itself have for some time advanced a “green growth” agenda: making the case for fostering economic growth and development in environmentally sustainable ways. But shifting this frame is not a purely rhetorical or political task; it is a substantive one. Unless decision makers of both developing and developed nations perceive a genuine pathway for economic advancement that is consistent with global emissions reduction, they will not take the decisions that are required. Vague assertions about “green jobs” do not suffice when political leaders are confronted with the realities of poverty, employment, housing, and health needs. Credible research, modeling, and scenario planning are needed to demonstrate how investments in renewable energy, low-emissions technologies, and energy efficiency improvements can reduce emissions while maintaining economic growth. Such work needs to assess the impact on growth, incomes, and employment of moving to a low-carbon economy, and to evaluate policies designed to bring forward invest-

ment and to assist communities affected by the economic transition. As Michael Liebreich observes, “one of the main reasons that Copenhagen failed was that, when it came to looking down

the barrel of an emissions cap, too many leaders realized they had no idea how they would meet any commitment they made.”<sup>31</sup> This observation is as true of many developed nations as it is of developing nations. Witness the arguments in the United States, Canada, or Australia that emphasize the erosion of international competitiveness if measures to limit emissions are implemented.

Ultimately, achieving an effective global agreement requires more than political will. It requires a pathway for low-carbon development that is not only tangible but also perceived as being so by decision makers. The work of

**A global response to climate change remains defined as a contest between economic development and the environment.**

the Global Commission on the Economy and Climate has demonstrated what can be achieved. The Commission's brief is to enable "governments, businesses and society [to] make better-informed decisions on how to achieve economic prosperity and development while also addressing climate change."<sup>32</sup> The possibility of concurrently managing climate risk and fostering strong and sustainable growth is persuasively detailed in its *Better Growth, Better Climate: The New Climate Economy Report*.

This report and Nicholas Stern's analysis focus on the opportunity presented by the coincidence of two "vital transitions in world history:" one, the profound transformation of the world's economies, which is being driven by the shift in economic activity to the developing world, structural changes such as the shift from manufacturing to services, population growth, and urbanization; and two, the time-limited opportunity to move to a low-carbon economy. Stern's perspective is worth emphasis: "The first transition will happen come what may. The second is a fundamental choice of our generation. The central argument of this report...is that if we manage the first transition well, we will have made great strides towards success in the second."<sup>33</sup>

Accordingly, the report makes the case that better economic management can deliver both growth and reduced climate risk. Detailed studies of three key systems—land use, cities, and energy—bring together experience and theoretical possibility. The report also emphasizes the unexpectedly rapid falls in the costs of renewable energy as a result of technological innovation and large-scale deployment. This trend offers the prospect of larger and more cost-effective emissions reductions than previously considered feasible.<sup>34</sup>

How can insights like these contribute to an effective global climate agreement and, more broadly, to effective global action? The routine approach of proselytizing among policymakers will yield some return, but the key to change is operationalizing policy. Enabling decision makers to collaborate, understand relevant models of reform, and support projects that deliver low-carbon development outcomes is critical.

The need for such collaboration is two-fold. Not only will it achieve specific outcomes but it also has the potential to prompt further action. This goes beyond a simplistic learning-by-doing notion and the possibility of behavior influencing attitudes. It addresses the necessity of enabling political leaders and decision makers to own vital policy solutions. The global cooperation needed to respond to climate change will not arise if policy outcomes are perceived or constructed as external impositions. In an environment in which multilateral negotiations struggle to achieve breakthroughs, identifying opportunities where

emissions reductions are in the national self-interest is a promising approach. For example, the New Climate Economy project has demonstrated how low-carbon development would be in China's interests through stimulating technological innovation and productivity, rendering its economy less vulnerable to energy price volatility, improving air quality, and delivering environmental and health benefits.<sup>35</sup>

Multilateral institutions and voluntary initiatives have highlighted such cooperation. The UNFCCC, UNEP, and World Bank have provided pathways and resources.<sup>36</sup> There also exists a range of international initiatives that provide cooperative opportunities, such as the Deep Decarbonization Pathways Project and the C40 Climate Cities Leadership Group.<sup>37</sup> However, there remains a risk that these initiatives have insufficient influence on the UNFCCC negotiations, whether through lack of scale or of engagement with key decision makers. Ahead of the Paris Climate Change Conference, how can we add weight to the Commission's objective of "Better growth, better climate"?

#### FINANCING A LOW-CARBON FUTURE

278 For years, a key point of debate in the negotiations has been the issue of finance. Deeply connected to the development and burden-sharing notions discussed earlier, the financing of both mitigation and adaptation initiatives has been a point of contention. At Copenhagen, developed countries pledged "Fast Start Finance" of \$30 billion by 2012 and committed to "mobilizing" a further \$100 billion in long-term finance by 2020.<sup>38</sup> To date, the Green Climate Fund established under the UNFCCC has garnered just over \$10 billion in pledges.<sup>39</sup>

The precise meaning of "mobilize" in this context remains unclear—or at least, there is not yet a definition on which everyone can agree.<sup>40</sup> Just as important, the role of private finance and the means by which it could be leveraged remain opaque or disconnected from the negotiations. In a range of discussions I had with counterparts in international climate change negotiations, reference to private finance was regarded as yet more evidence of the refusal by developed countries to provide the funds required.

The public component of climate finance for developing countries is vital, and so too is the role of development institutions. But the scale of economic transformation we need is beyond the capacity of governments alone to fund. What governments and an international framework can do, in addition to providing predictable public finance, is establish the right signals and incentives to enable more private finance to be directed toward a low-carbon transition.

The Global Commission on the Economy and Climate estimates that population and demographic change will require around \$89 trillion of global infrastructure investment to 2030. Moving the world to a low-carbon growth pathway will require additional investment and a shift in the composition of investments, especially in the energy sector. However, the Commission's estimates suggest that the net incremental investment costs of making this low-carbon transition could be just \$4.1 trillion, an increase of less than 5 percent on baseline investment levels.<sup>41</sup>

Business models that could reduce financing costs for low-carbon opportunities, in addition to public finance provision, could significantly impact long-lived infrastructure investment decisions. For example, Australia's Clean Energy Finance Corporation (CEFC) utilizes public funds but operates as a largely market-based financier for the clean energy sector.<sup>42</sup> Its primary focus is reducing impediments to private sector finance. In its first year of operation, each dollar of CEFC investment was matched by more than \$2.20 in private sector investment. To date, the anticipated financial yield of its investments is around 7 percent, well above the government's prevailing cost of funds.<sup>43</sup> Other examples include new investment vehicles, climate bonds, and the role of national development institutions such as the China Development Bank. The former mayor of New York City, Michael Bloomberg, points out that simply ensuring that a city has an enhanced credit rating could enable low-carbon investment that would otherwise not proceed. Lima, which hosted the UNFCCC's 2014 COP, secured an enhanced credit rating with technical assistance from the World Bank—enabling access to finance to upgrade its public transport system, an investment that will help lower its carbon emissions.<sup>44</sup>

Enabling access to finance for investments that are consistent with a low-carbon development path is critical to building an effective global climate agreement. It is a tangible answer to a familiar problem for decision makers. Demonstrating this pathway would not only benefit particular projects or particular nations, but could significantly and positively impact the scope and success of the negotiations.

One of the challenges is ensuring that there is strong cooperation and coordination between negotiating personnel and those with expertise in financial flows that could bring the requisite perspective to the debate. If not, reversion to predictable disputes around public finance will not only dominate but also risk inhibiting discussion and progress of alternative modalities.

## CONCLUSION

The scale of climate risk, the necessity of maximizing global action, and the limits of multilateralism compel us to consider not only negotiating architecture but how we can best strengthen the international norms that drive climate action. The current likely framework for an agreement at the Paris COP, with its emphasis on Intended Nationally Determined Contributions, represents an opportunity as well as a risk. The risk is that low levels of ambition could prevail. In fact, the likely

**The China–United States announcement shows that the world’s two largest economies have grasped the possibility of low-carbon development.**

outcome of the sum of the INDCs is a global trajectory well short of containing temperature rise to within 2 degrees. However, there is the opportunity for a dynamic framework that enables continued upward revision of commitments. This requires strengthening of the international norms that drive climate action.

Some pathways for strengthening these norms have been suggested in this paper. These include utilizing alternative plurilateral and bilateral negotiations to address key matters ahead of consideration at the UNFCCC, such as a greater focus on accountability, including a stronger measurement, reporting, and verification framework.

In addition, making low-carbon development a more real prospect for states is critical. In this context, the China–United States announcement is a potent opportunity. One of the central propositions underpinning this development is that the world’s two largest economies have grasped the possibility of low-carbon development. If the articulated position of both nations can reflect this fact, this could have profound implications for the progress of negotiations.

Finally, a focus on operationalizing finance, in particular a deeper engagement with the private sector, has the potential not only to drive concrete outcomes, but also to provide decision makers with experience to create a space for more global cooperation and potentially more ambitious action.

Humanity cannot afford another Copenhagen. It is often said that failure is not an option when it comes to climate change. Regrettably, recent experience suggests that failure is all too real a prospect. It is an outcome that humankind would rue for generations—and it is an outcome we can choose to avoid. Our efforts in the lead-up to Paris and beyond must be directed at delivering both the potential of mitigated risk and the opportunity for economic advancement. 

## NOTES

1. I would like to thank Associate Professor Frank Jotzo and Adjunct Professor Howard Bamsey, both at the Australian National University, for their helpful comments on a draft of this article. The Australian Parliamentary Library provided research assistance. The article has also benefited from comments by the editors of the *Brown Journal of World Affairs*. Any shortcomings are my responsibility.

2. IPCC, *Climate Change 2014: Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. R.K. Pachauri and L.A. Meyer (Geneva: Intergovernmental Panel on Climate Change, 2014), 18.

3. IPCC, "2014 Summary for Policymakers," in *Climate Change 2014: Impacts, Adaptation and Vulnerability, Part A: Global and Sectoral Aspects, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. Christopher B. Field et al. (Geneva: Intergovernmental Panel on Climate Change, 2014), 12–4.

4. Andrew Charlton, "Man-Made World: Choosing Between Progress and Planet," *Quarterly Essay* 44 (2011): 7.

5. Fergus Green, Warwick McKibbin, and Greg Picker, "Confronting the Crisis of International Climate Policy: Rethinking the Framework for Cutting Emissions," in *Lowy Institute Policy Brief* (Sydney: Lowy Institute for International Affairs, 2010); Fergus Green, "It's the Ethics Stupid! Why Climate Action Needs a New Moral Basis," in *Climate Change and Equity: Gavin Mooney Memorial Essays 2013* (Sydney: Sydney School of Public Health, University of Sydney, 2014); Eric Knight, *Why We Argue About Climate Change* (Collingwood, Australia: Redback, 2013); Rory Smead et al., "A Bargaining Game Analysis of International Climate Negotiations," *Nature Climate Change* 4 (2014): 442–5; Michael Liebreich, "Climate Change Talks—the Rocky Road to Paris," *Bloomberg New Energy Finance*, August 26, 2014.

6. Andrea Liverani, "Climate Change and Individual Behavior: Considerations for Policy," (Policy Research Working Paper 5058, World Bank, September 2009); see also: Paul M. Kellstedt, Sammy Zahran, and Arnold Vedlitz, "Personal Efficacy, the Information Environment, and Attitudes Toward Global Warming and Climate Change in the United States," *Risk Analysis* 28, no. 1 (2008): 113–26.

7. Kari Marie Norgaard, "Cognitive and Behavioral Challenges in Responding to Climate Change," (Policy Research Working Paper 4940, World Bank, May 2009).

8. For example, see: Dan M. Kahan et al., "The Polarizing Impact of Science Literacy and Numeracy on Perceived Climate Change Risks," *Nature Climate Change* 2 (2012): 732–5; Ottar Hellevik, "Beliefs, Attitudes and Behaviour towards the Environment," in *Realizing Rio in Norway: Evaluative Studies of Sustainable Development*, ed. William M. Lafferty, Morten Nordskog, and Hilde Annette Aakre (Oslo: University of Oslo, 2002).

9. Liverani, "Climate Change and Individual Behavior"; Kellstedt, Zahran, and Vedlitz, "Personal Efficacy."

10. "Public Trust in Government: 1958–2014," Pew Research Center for the People and the Press, November 13, 2014; European Commission, "Public Opinion in the European Union, First Results," *Standard Eurobarometer* 82 (2014): 8.

11. Kahan et al., "The Polarizing Impact," 732–5. This insight is consistent with my own experience while Australian Minister for Climate Change. The extent of the reaction to the then-Australian government's proposed emissions trading scheme from some stakeholders went beyond an expression of economic self-interest. In hindsight, the perceived affront to their cultural values and sense of self-worth is obvious.

12. Liverani, "Climate Change and Individual Behavior," 6; Norgaard, "Cognitive and Behavioral Challenges."

13. Dan M. Kahan and Donald Braman, "Cultural Cognition and Public Policy," (Faculty Scholarship Series Paper 103, New Haven, CT: Yale Law School, 2006), 149.

14. Sarah Wheeler, Alec Zuo, and Henning Bjornland, "Farmers' Climate Change Beliefs and Adaptation Strategies for a Water Scarce Future in Australia," *Global Environmental Change* 23 (2013): 537–47.

15. These include the Kyoto Protocol (1997), the Bali Road Map (2007), the Copenhagen Accord (2009), the Cancun Agreements (2010), the Durban Platform for Enhanced Action (2011), the Doha Climate Gateway (2012), the Warsaw Outcomes (2013), and the Lima Call for Climate Action (2014).

16. Matthew J. Hoffmann, *Climate Governance at the Crossroads: Experimenting with a Global Response after Kyoto* (Oxford University Press, 2011).

17. Radoslav S. Dimitrov, "Inside Copenhagen: The State of Climate Governance," *Global Environmental Politics* 10, no. 2 (2010): 18.

18. For a discussion of challenges facing the multilateral trading system and proposed reforms to the WTO, see: World Trade Organization, *World Trade Report 2013: Factors Shaping the Future of World Trade* (Geneva: World Trade Organization, 2013), 279–86.

19. Marco Grasso and J. Timmons Roberts, "A Compromise to Break the Climate Impasse," *Nature Climate Change* 4 (2014): 543–9; Smead et al., "A Bargaining Game Analysis."

20. Grasso and Roberts, "A Compromise," 544.

21. "US-China Joint Announcement on Climate Change," The White House, Office of the Press Secretary, November 12, 2014.

22. China's GDP per capita in current U.S. dollars stood at \$6,959 in 2013, a level reached by the United States in 1974. GDP data is from International Monetary Fund, World Economic Outlook Databases. If the comparison is made on the basis of constant international (purchasing power adjusted) dollars, the United States reached China's present-day GDP per capita in 1950. "The Conference Board Total Economy Database," The Conference Board.

23. Libo Wu, "China's Emissions: Glimpsing the Peak," *Global Change* 83 (2014): 16–9.

24. Fei Teng and Frank Jotzo, "Reaping the Economic Benefits of Decarbonisation for China," *China & World Economy* 22, no. 5 (2014): 37–54.

25. Fergus Green, "'This Time is Different': The Prospects for an Effective Climate Agreement in Paris 2015," (Policy Paper, Grantham Research Institute on Climate Change and the Environment, London Centre for Climate Change Economics and Policy, 2014). The Kyoto Protocol's compliance mechanisms include requiring a party that exceeds its assigned emissions amount to make up the difference, with a 30 percent penalty, in the Protocol's second commitment period. Parties may also be required to submit a compliance action plan and may have their eligibility to participate in international emissions trading suspended. See: "An introduction to the Kyoto Protocol Compliance Mechanism," UNFCCC Secretariat, 2014.

26. Emily C. Barbour, "International Agreements on Climate Change: Selected Legal Questions," (Washington, DC: Congressional Research Service, April 12, 2010).

27. Nicholas Stern, "Growth, Climate and Collaboration: Towards Agreement in Paris 2015," (Policy Paper, Grantham Research Institute on Climate Change and the Environment, London Centre for Climate Change Economics and Policy, December 2014), 19–21.

28. Discussion in plenary session also focused on the position taken by the United States.

29. Charlton, "Man-Made World," 5.

30. Coral Davenport, "Nations Plod Forward on Climate Change Accord," *New York Times*, December 13, 2014.

31. Liebreich, "Climate Change Talks."

32. Global Commission on the Economy and Climate, *Better Growth, Better Climate: The New Climate Economy Report, Global Report* (Washington, DC: Global Commission on the Economy and Climate, 2014), 2.

33. *Ibid.*, 10; see also: Stern, "Growth, Climate and Collaboration," 15.

34. Global Commission, *Better Growth, Better Climate*, 42, 131, 141–2. This is a point also made by Liebreich: "Technological development, the economics of experience curves and financial innovation are doing more each month to reduce emissions than the UNFCCC has achieved in 20 years," in Liebreich, "Climate Change Talks."

35. Global Commission on the Economy and Climate and Tsinghua University, "China Case Study—Executive Summary," in *China and the New Climate Economy: The New Climate Economy Report* (Beijing: Global Commission on the Economy and Climate and Tsinghua University, 2014). I am indebted to Associate Professor Frank Jotzo for the observation about the importance of identifying national self-interest.

36. "Clean Energy," United Nations Framework Convention on Climate Change; "UNEP-Coordinated Coalition Aims to Support Climate Change Fight through Measuring Emission Reductions from Energy

Efficiency, Renewable Energy Projects,” UNEP News Centre, December 10, 2014; “Climate Change Knowledge Portal,” World Bank.

37. “Pathways to Deep Decarbonization,” Deep Decarbonization Pathways Project; “C40 Cities Climate Leadership Group,” C40. For further examples of cooperative initiatives, see: Global Commission, *Better Growth, Better Climate*, 286.

38. UN Framework Convention on Climate Change, *Report of the Conference of the Parties at its fifteenth session, Addendum, Part Two: Action taken by the Conference of the Parties at its fifteenth session* (Geneva: UN Framework Convention on Climate Change, March 2010), 7.

39. “Total Pledges nearing USD 10.2 billion: New Pledges from Peru, Colombia and Austria,” Green Climate Fund, December 11, 2014.

40. Global Commission, *Better Growth, Better Climate*, 282.

41. Ibid., 210–12; Global Commission on the Economy and Climate, *New Climate Economy Technical Note: Infrastructure Investment Needs of a Low-Carbon Scenario*, (Washington, DC: Global Commission on the Economy and Climate, 2014).

42. The mandate of the CEFC is directed at investment in renewable energy, energy efficiency and low emissions technologies. See: “What We Do,” Clean Energy Finance Corporation.

43. “CEFC Investments Lower Costs for Business and Improve Energy Productivity,” Clean Energy Finance Corporation, July 22, 2014.

44. Michael Bloomberg, “Lima Climate Talks: Helping Cities with Credit Ratings Can Foster Low Carbon Progress,” *The Age*, December 10, 2014.

Copyright of Brown Journal of World Affairs is the property of Brown University and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.