

The Paris Agreement and the new logic of international climate
politics

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On 12 December 2015, 195 countries reached agreement on a new climate treaty that UN Secretary-General Ban Ki-moon described as ‘a monumental triumph for people and our planet’.¹ The Paris Agreement represented a remarkable reversal of fortune for the UN-sponsored climate negotiations. After adopting the UN Framework Convention on Climate Change (UNFCCC) in 1992, which established the objective of preventing dangerous human-induced climate change by stabilizing greenhouse gas (GHG) concentrations in the atmosphere, the international community spent over two decades negotiating legally binding rules on how to rein in global emissions. But despite the creation of the 1997 Kyoto Protocol and instruments such as the Clean Development Mechanism, emissions of the main GHGs (carbon dioxide, methane and nitrous oxide) rose steadily over this period. The 2009 Copenhagen conference, intended to create a more effective successor treaty to the Kyoto Protocol, collapsed in acrimony, leading many observers to conclude that multilateral climate diplomacy had reached a dead end. Has the Paris Agreement successfully broken the ‘global warming gridlock’?² And does it stand a chance of bringing global GHG emissions under control?

This article reviews and assesses the outcome of the 21st Conference of the Parties (COP-21) to the UNFCCC, held in Paris in December 2015. It argues that the Paris Agreement does indeed break new ground in international climate policy. COP-21 brought to an end over 20 years of UN negotiations focused on a misguided approach of establishing mandatory emission reductions. Instead, the Paris Agreement acknowledges the primacy of domestic politics in climate change and allows countries to set their own level of ambition for climate change mitigation. It creates a framework for making voluntary pledges that can be compared and reviewed internationally, in the hope that global ambition can be increased through a process of ‘naming and shaming’. By sidestepping the

¹ ‘COP-21: UN chief hails new climate change agreement as “monumental triumph”’, UN News Centre, 12 Dec. 2015, <http://www.un.org/apps/news/story.asp?NewsID=52802#.Vx3cdKv87ww>. (Unless otherwise noted at point of citation, all URLs cited in this article were accessible on 11 July 2016.)

² David G. Victor, *Global warming gridlock: creating more effective strategies for protecting the planet* (Cambridge, Cambridge University Press, 2011).

distributional conflicts that were inherent in the post-Kyoto negotiations, the Paris Agreement manages to remove one of the biggest barriers to international climate cooperation. It recognizes that none of the major powers can be forced into drastic emissions cuts. However, instead of leaving mitigation efforts to an entirely bottom-up logic, it embeds country pledges in an international system of climate accountability and a 'ratchet' mechanism. In this sense, the Paris climate summit heralds the beginning of a new era in international climate politics, one that offers the chance of more durable international cooperation.

While the Paris Agreement thus establishes a more realistic approach to international cooperation on climate change mitigation, it is far from clear whether it can actually deliver on the urgent need to decarbonize the global economy. According to analysis by the UNFCCC Secretariat, the national climate policy pledges submitted in the run-up to the Paris conference would result in a global warming of 2.7°C above pre-industrial levels, and this estimate is based on the optimistic assumption that all national pledges will be fully implemented.³ The past record of climate policies around the world suggests that governments have a tendency to express lofty aspirations but avoid tough decisions. For the Paris Agreement to make a difference, the new logic of 'pledge and review' and the subsequent 'ratchet' will need to mobilize international and domestic pressure and generate realistic expectations for more substantial climate policies worldwide. It matters, therefore, whether the Paris Agreement's new approach can be made to work.

This article offers a first-cut analysis of the new global governance approach enshrined in the Paris Agreement, focusing on the mitigation challenge. It begins by examining (in the first section) the changing context of international climate politics between the 2009 Copenhagen Accord and the 2015 Paris conference. The second section reviews the main elements of the Paris Agreement, and the third section analyses how the new logic of the climate regime can work and what its limitations are. The final section sums up the

³ UNFCCC Secretariat, *Synthesis report on the aggregate effect of the intended nationally determined contributions*, FCCC/CP/2015/7, 30 Oct. 2015, <http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf>.

argument and offers an outlook on the next steps in the international climate process.

From Copenhagen to Paris: the changing context of climate politics

The international community agreed in 2010 that it would seek to limit the rise in the planet's average air temperature to no more than 2°C above pre-industrial levels. It has been widely accepted for some time that global warming above that level should be avoided, although some scientists argue that this target does not take into account the much larger heat absorption by oceans and that it should therefore be lowered or abandoned altogether in favour of a broader set of measures.⁴ To have a reasonable chance of staying below the 2°C limit, the world needs to achieve a drastic reversal in current GHG emission trends. With some gases (e.g. carbon dioxide) staying in the atmosphere for a century and future emissions forecast to rise if no action is taken, globally coordinated measures are needed to bring emissions under control. The United Nations Environment Programme (UNEP) estimates that global GHG emission levels, which were at 52.7 gigatonnes (GT) of carbon dioxide equivalent in 2014, should be brought down to 48 GT by 2025, and 42 GT in 2030. Carbon dioxide emissions alone will need to be reduced to net zero—by 2060–2075 (from 35.5 GT in 2014).⁵

The magnitude of the international policy challenge is hard to overstate. Most of the global carbon dioxide emissions, the biggest source of the human-generated greenhouse effect, result from the combustion of coal, oil and gas. It was the harnessing of these fossil fuels that, together with the technological innovations of the industrial revolution, made the modern industrial economy possible. To avert the threat of runaway global warming, the global economy will need to be weaned off carbon-intensive fuels. Unsurprisingly, therefore, global

⁴ David G. Victor and Charles F. Kennel, 'Climate policy: ditch the 2°C warming goal', *Nature* 514: 7520, 2014, pp. 30–31.

⁵ UNEP, *The emissions gap report 2015: a UNEP synthesis report* (Nairobi: UNEP, Nov. 2015). Carbon dioxide equivalent describes the global warming potential for a mixture of GHGs, which includes carbon dioxide, the main source of global warming, but also methane and nitrous oxide. 'Net zero' emissions refers to a balance between carbon dioxide emissions and their reabsorption through sinks (e.g. forests) or technologies that extract carbon dioxide from the air.

warming is a uniquely challenging—some might say ‘wicked’⁶—global policy problem. Whereas other forms of pollution control require only minor changes to industrial processes, the entire industrial system will need to be re-engineered to achieve a decarbonization of the global economy. The good news is that many of the technologies that can bring about this transition to the low-carbon economy already exist, from renewable energy sources (e.g. solar, wind) to improvements in energy efficiency. Some innovations, such as carbon capture and storage, are on the horizon but are yet to be applied on a commercial scale, while others (e.g. high-capacity nanobatteries, synthetic algae) may emerge only after substantial investments. Even so, replacing fossil fuels will prove more difficult in some sectors (e.g. air travel) than others, and the world’s existing energy, transport and urban infrastructures have already locked in decades of future carbon emissions. Despite the potential co-benefits (e.g. improvements in air quality and health) that low-carbon investments are likely to yield,⁷ the cost of taking carbon out of global production, trade and investment is unprecedented in the history of environmental politics.

The political challenges are no less daunting. Although all major emitters have made a public commitment to fighting global warming, it has proved difficult to translate this normative engagement into collective action. One facet of the problem is that while climate change mitigation requires considerable investment in the short run, the benefits of stabilizing the global climate will materialize only in the medium to long run. This makes it difficult for governments to justify significant upfront expenditure, particularly given the brevity of electoral cycles. Furthermore, climate change does not affect all countries equally. Low-lying island states face an existential threat from rising sea levels while others, especially countries near the Arctic Circle, may experience greater agricultural output and easier access to natural resources as a result of the thawing of permafrost. In any case, the high degree of uncertainty in predicting long-term climate change and the costs and benefits associated with it

⁶ Kelly Levin, Ben Cashore, Steven Bernstein and Graeme Auld, ‘Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change’, *Policy Sciences* 45: 2, 2012, pp. 123–52.

⁷ Nicholas Stern, *Why are we waiting? The logic, urgency, and promise of tackling climate change* (Cambridge, MA: MIT Press, 2015), p. 39.

makes it difficult for governments to assess where their national interests lie. For many, then, the most rational line to take may seem the wait-and-see approach. And even if some emitters were to undertake major mitigation measures, they could not be certain that other emitters would reciprocate. Reducing national emissions amounts to the provision of a global 'public good' from which all countries would benefit, with concomitant powerful free-riding incentives. Such uncertainty about the behaviour of other emitters militates against a strong international agreement. The international politics of climate change is further complicated by the longstanding divide between developed and developing countries over how to divide up the mitigation burden, particularly in view of industrialized countries' historical responsibility for the bulk of emissions.⁸

International society originally tried to get around these difficulties by creating an international climate regime with mandatory emission reduction targets.⁹ International institution-building was meant to help build trust between emitters and reduce the threat of free-riding. Following the example of the successful international negotiations on ozone layer depletion, climate negotiators set out in the early 1990s to create the UNFCCC, which established the norm of climate protection. Building on this universal agreement, they then hoped to negotiate a series of regulatory instruments that would set ever-stricter targets for GHG emission reductions. The first such treaty, the Kyoto Protocol of 1997, set relatively modest targets, which required industrialized countries (listed in Annex I) to reduce emissions by an average of 5 per cent against 1990 levels. Critically, Kyoto exempted developing countries from similar commitments, thereby establishing a strong form of differentiation that postponed mitigation action by developing countries for an unspecified time. In theory, the Kyoto Protocol was meant to be only a first step. Much like the Montreal Protocol on substances depleting the ozone layer, it was meant to be revised and strengthened, and the 2009 Copenhagen conference was expected to produce a successor agreement that would also include mitigation efforts by

⁸ J. Timmons Roberts and Bradley C. Parks, *A climate of injustice: global inequality, North-South politics, and climate policy* (Cambridge, MA: MIT Press, 2007).

⁹ On the history of the climate negotiations, see Joyeeta Gupta, *The history of global climate governance* (Cambridge: Cambridge University Press, 2014).

non-Annex I countries, some of which (e.g. China) had seen their emissions increase dramatically in the years since Kyoto. This was not how it worked out, however.

In the end, the Annex I countries were able collectively to comply with the treaty's provisions, but this did little to slow the rise in global emissions. There are several reasons why the Kyoto Protocol does not offer a viable approach to mitigating climate change. First, by setting a static emissions reduction target, the regime failed to create dynamic incentives to decarbonize the economy. While some countries (e.g. Canada) failed to meet the Kyoto targets, others reduced emissions without making any effort: such was the case for Russia and other post-Soviet states that experienced de-industrialization after the collapse of communism. Second, agreeing new targets for a second commitment period after 2012 proved difficult because the focus on legally binding targets had turned the climate negotiations into a distributional conflict over respective shares of the mitigation burden. Industrialized countries that had struggled or failed to comply with Kyoto were reluctant to subject themselves again to another set of rigid targets: as a result, Canada withdrew from the treaty while Japan and Russia declared they would not enter into new commitments. Third, the rigid divide between Annex I and non-Annex I countries had made it difficult to deal with the rapidly rising emissions of emerging economies that did not want to stifle their future economic development by imposing limits on future emissions.

Although seen as a failure at the time, the 2009 Copenhagen conference (COP-15) succeeded in laying the ground for a new approach that has now come to fruition in the Paris Agreement.¹⁰ After two weeks of fruitless negotiations by diplomats and regulatory experts at COP-15, a select group of heads of state hammered out a political compromise deal, the Copenhagen Accord, which foreshadowed many of the elements now contained in the Paris Agreement. Sidestepping the thorny issue of internationally agreed and legally binding emissions targets, Barack Obama for the United States, Wen Jiabao for China,

¹⁰ Robert Falkner, Hannes Stephan and John Vogler, 'International climate policy after Copenhagen: towards a "building blocks" approach', *Global Policy* 1: 3, pp. 252–62.

Manmohan Singh for India and other world leaders agreed to a system of voluntary pledges as the basis for future climate action. For the first time, major emitters from the developing world showed a willingness to contribute to the global mitigation effort without waiting for developed countries to fully implement their existing commitments. The Copenhagen Accord thus finally did away with the Kyoto Protocol's 'firewall' between Annex I and non-Annex I countries, paving the way for a more comprehensive mitigation deal. Copenhagen also saw the beginning of other innovations in climate policy, from the Green Climate Fund and a promise of up to US\$100 billion a year by 2020 of climate finance to fund mitigation and adaptation in developing countries to a system for monitoring, reporting and verification of emissions and financial contributions.

Developments at the subnational and regional level are key to understanding the gradual transformation that has occurred in international climate politics. While concern over climate change was on the rise throughout the 2000s, it was towards the end of the decade that critical momentum was built for a global agreement. Even in countries that had been laggards in the international negotiations, such as the United States, a groundswell of bottom-up initiatives had begun to change the political agenda.¹¹ Around the world, local community groups have sprung up to advance voluntary carbon emission reductions; multinational corporations have increasingly invested in low-carbon business opportunities and adopted corporate social responsibility approaches with an explicit focus on climate change; institutional investors have begun to demand greater transparency on climate risks in business operations; and subnational authorities such as cities and municipal governing bodies have taken it upon themselves to create climate mitigation pledges and policies.¹² Increasingly, these bottom-up initiatives have come together in transnational networks that coordinate their activities and promote diffusion of climate policies throughout the world. The trend towards transnationalization of climate initiatives, which gathered pace particularly from the early 2000s, has embedded

¹¹ Henrik Selin and Stacy D. VanDeveer, 'Climate change regionalism in North America', *Review of Policy Research* 28: 3, 2011, pp. 295–304.

¹² Matthew J. Hoffmann, *Climate governance at the crossroads: experimenting with a global response after Kyoto* (New York: Oxford University Press, 2011), pp. 7–8.

climate policy more deeply in the domestic agenda of leading emitters, has helped spread low-carbon policy approaches and technologies around the world, and is stimulating a growing interest in innovative global solutions.¹³

The growth in transnational initiatives has gone hand in hand with strengthened domestic policy commitments to climate change mitigation. The first comprehensive review of climate legislation found that the number of climate change laws and policies worldwide doubled every five years since 1997, with 426 climate change laws and policies in place by the time of the 2009 Copenhagen conference, rising to 804 by the end of 2014.¹⁴ Interestingly, this applies not just to Annex I countries, which have traditionally led the way in climate legislation, but also to non-Annex I countries.¹⁵ The effects of this change in domestic politics can be seen in China, which became the world's largest emitter of carbon dioxide in 2006. Not least in response to growing domestic concern over extreme air pollution, but arguably also in response to external pressure, China's political leadership established the reduction of the economy's energy intensity and climate intensity as key targets in the 12th Five Year Plan (2011–2015), in line with commitments made at the 2009 Copenhagen summit. The 13th Five Year Plan (2016–2020) is set to expand the range of policy instruments aimed at controlling emissions.¹⁶ In 2014, China made the largest investment in renewable energy sources of any country in the world, estimated at US\$83.3 billion—more than double the United States' investment of US\$38.3

¹³ Harriet Bulkeley, Liliana Andonova, Michele M. Betsill, Daniel Compagnon, Thomas Hale, Matthew J. Hoffmann, Peter Newell, Matthew Paterson, Charles Roger and Stacy D. VanDeveer, *Transnational climate change governance* (Cambridge: Cambridge University Press, 2014).

¹⁴ Michal Nachmany, Sam Fankhauser, Jana Davidová, Nick Kingsmill, Tucker Landesman, Hitomi Roppongi, Philip Schleifer, Joana Setzer, Amelia Sharman, C. Stolle Singleton, Jayaraj Sundaresan and Terry Townshend, *The 2015 global climate legislation study: a review of climate change legislation in 99 countries. Summary for policy-makers* (London: Grantham Research Institute on Climate Change and the Environment, 2015), p. 12.

¹⁵ Nachmany et al., *The 2015 global climate legislation study*, p. 20.

¹⁶ Fergus Green and Nicholas Stern, 'China's changing economy: implications for its carbon dioxide emissions', *Climate Policy*, forthcoming in print but available online: <http://www.tandfonline.com/doi/abs/10.1080/14693062.2016.1156515?journalCode=tcpo20>.

million that year.¹⁷ The groundswell of domestic climate action has made it more likely that major emitters will contribute to a collective international effort, even if most continue to oppose mandatory emissions reductions.

One important factor behind this shift is the growing recognition among major polluters that the obstacles to a low-carbon energy transition are not as high as had been previously thought. As more and more emission-reducing and energy-saving policies have been put in place, gradual technological improvements, market competition and greater economies of scale have pushed down the costs of low-carbon technologies. Solar photovoltaic energy, for example, has become a cost-effective energy source in many parts of the world. The cost of photovoltaic modules has fallen by an average rate of about 10 per cent per year since 1980,¹⁸ and the fall in solar energy prices has speeded up more recently as China has ramped up solar-cell production from 50 megawatts of generation capacity in 2004 to 23,000 megawatts in 2012.¹⁹ Thanks to falling unit costs and rising overall investment, renewable energy sources contributed almost half of the new power generation capacity added worldwide in 2014.²⁰ Achieving a rapid reduction in emissions is still perceived by many states as a costly affair, but major emitters have grown more confident that a gradual shift towards a low-carbon economy will not necessarily harm their long-term growth strategies. This shift in attitudes was clearly visible in the run-up to the 2015 Paris climate summit. Having already agreed at the Copenhagen summit to reduce the carbon intensity of its economy, the Chinese government now signalled that it was willing to commit to no further rise in GHG emissions after 2030.²¹ The United States, too, has indicated a greater willingness to work with

¹⁷ UNEP, *Global trends in renewable energy investment 2015* (Frankfurt am Main: Frankfurt School–UNEP Collaborating Centre for Climate and Sustainable Energy Finance, UNEP and Bloomberg New Energy Finance, 2015), http://fs-unep-centre.org/sites/default/files/attachments/key_findings.pdf.

¹⁸ J. Doyne Farmer and Francois Lafond, 'How predictable is technological progress?', *Research Policy* 45: 3, 2016, pp. 647–65.

¹⁹ Ed Crooks and Lucy Hornby, 'Sunshine revolution: the age of solar power', *Financial Times*, 5 Nov. 2015, <http://www.ft.com/cms/s/2/488483ca-8334-11e5-8e80-1574112844fd.html#slide0>.

²⁰ International Energy Agency, *World Energy Outlook 2015: executive summary* (Paris, 2015), p. 1, <https://www.iea.org/Textbase/npsum/WE02015SUM.pdf>.

²¹ Green and Stern, 'China's changing economy'.

the international community to achieve significant emissions reductions. Benefiting from a switch towards shale gas and a reversal of previous emissions trends, the US administration under President Obama is now using existing regulatory authorities to shift energy production away from coal.²²

It was in the context of these domestic political and economic shifts that the preparations for the 2015 Paris climate conference gathered momentum. The French presidency sought to keep expectations comparatively low to avoid any repetition of the emotional rollercoaster that the 2009 Copenhagen conference produced. Could Paris produce the breakthrough compromise the world was waiting for? The next section provides a brief review of the agreement that was reached at COP-21, and the subsequent section then examines whether the new logic of internationally coordinated national action can bring about the required push for reduced GHG emissions.

Phoenix from the ashes: the 2015 Paris Agreement

Scarred by the experience of the 2009 Copenhagen conference, negotiators entered the COP-21 talks with a clearer sense of purpose and determination to reach an agreement. The Danish presidency having been widely blamed for mishandling the negotiations in Copenhagen,²³ the French presidency prepared the ground with a more inclusive approach, skilfully reaching out to a wide range of actors—governments, business leaders and NGOs—in the preparatory meetings for COP-21. When the conference itself opened on 30 November 2015, most negotiators and observers were optimistic about reaching an agreement, despite a long list of critical issues that still needed to be resolved. The presence of over 100 heads of state at the beginning of the summit underlined just how much climate change had gained in salience on the international agenda; and

²² Guri Bang, 'The United States: Obama's push for climate policy change', in Guri Bang, Arild Underdal and Steinar Andresen, eds, *The domestic politics of global climate change: key actors in international climate cooperation* (Cheltenham: Edward Elgar, 2015), pp. 160–81.

²³ For an analysis of the role of negotiation management in the Copenhagen conference, see Kai Monheim, *How effective negotiation management promotes multilateral cooperation: the power of process in climate, trade, and biosafety negotiations* (London: Routledge, 2014).

when French Foreign Minister Laurent Fabius brought down the gavel late on Saturday, 12 December, one day later than scheduled, there was a strong sense of historic achievement in the hall. In all, 196 parties, comprising 195 countries and the European Union, had agreed to the deal.

To be sure, the Paris negotiations benefited from skilled diplomacy. However, they would not have been such a success had the parties not aimed for a decentralized, bottom-up process of voluntary pledges. Because of the shift away from Kyoto-style top-down regulations, major emitters that had previously blocked progress in the negotiations were now prepared openly to support the new agreement. This new unity in purpose was already on show in November 2014, when the United States and China, the world's two biggest emitters of GHGs, signed a bilateral agreement on climate change that foreshadowed their later pledges in the run-up to the Paris summit.²⁴ Other major emitters likewise came forward to make their own pledges. No responsible Great Power wanted to be left out of the newly emerged climate consensus.

One of the positive outcomes of this new approach was the transformation in the international process that allowed the parties to achieve important breakthroughs such as the inclusion of a more ambitious temperature target. The Paris Agreement commits parties to 'holding the increase in the global average temperature to well below 2°C' (article 2(1)a).²⁵ It was only after Pacific island states demanded a reduction in the target to 1.5°C, a demand that civil society groups also supported, that an additional clause was added stating parties' commitment 'to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels'. The Paris Agreement thus goes beyond the previously agreed 2°C target, even though 1.5°C remains an aspiration rather than a prescription.

²⁴ Lenore Taylor and Tania Branigan, 'US and China strike deal on carbon cuts in push for global climate change pact', *Guardian*, 12 Nov. 2014, <http://www.theguardian.com/environment/2014/nov/12/china-and-us-make-carbon-pledge>.

²⁵ Paris Agreement, FCCC/CP/2015/L.9/Rev.1, <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>.

Significantly, the Paris Agreement also includes a long-term emissions goal, a key demand by civil society groups and developing countries.²⁶ Article 4(1) states that ‘Parties aim to reach global peaking of greenhouse gas emissions as soon as possible’ and to achieve ‘a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century’. The notion of emissions balance, which was referred to in an earlier draft of the treaty as ‘emissions neutrality’, suggests that GHG emissions will need to come down to a ‘net zero’ level between 2050 and 2100; UNEP had previously called for this to be achieved for CO₂ emissions by 2070.²⁷ In contrast to the Kyoto Protocol, which lacked long-term targets, the Paris Agreement thus sends an important signal to global markets, and especially to institutional investors, though it is weakened by the lack of a specific timetable and uncertainty over the future use of carbon sinks. Achieving the Paris goals will require global investment in carbon sequestration programmes, but large-scale afforestation is bound to create food security concerns, while the technical and economic viability of carbon capture and storage remains uncertain.

In order to achieve long-term emissions reductions, the Paris Agreement obliges parties to submit pledges—so-called ‘nationally determined contributions’ (NDCs)—on a regular basis. It is this reliance on countries’ voluntary climate policy ambition that marks the most significant departure from the Kyoto Protocol approach. Rather than establishing a set of quantitative emissions reductions that are internationally agreed, the Paris Agreement sidesteps the distributional conflict inherent in the Kyoto Protocol negotiations by leaving it to individual countries to determine how much they wish to contribute to the collective mitigation effort. NDCs are to be submitted at regular intervals of five years (article 4(9)), and the agreement expects new pledges to exceed the ambition of existing ones so as to raise the climate ambition overall. That such a progression of climate policy ambition will be needed is clear from the 160 ‘intended’ NDCs that were submitted as part of the effort to create political momentum behind the Paris negotiations. According to Climate Action

²⁶ Michael Jacobs, ‘High pressure for low emissions: how civil society created the Paris climate agreement’, *Juncture* 22: 4, 2016, pp. 314–23.

²⁷ UNEP, *The emissions gap report 2014: a UNEP synthesis report* (Nairobi: UNEP, 2014), p. xv.

Tracker estimates, these pledges are insufficient to prevent global temperatures from rising beyond 2°C; indeed, they are projected to lead to global warming of 2.7°C or more.²⁸

The main mechanism for raising the level of ambition in the climate regime will be a regular review of progress made towards the agreement's temperature goal. A first interim review, known as the 'facilitative dialogue', will take place in 2018, prior to the agreement's expected entry into force. The first formal review, referred to in the agreement as the 'global stocktake' (article 14(1)), is scheduled for 2023, with subsequent iterations every five years thereafter. The outcome of these reviews is meant to inform parties as they formulate future NDCs, with a view to 'updating and enhancing' their pledges (article 14(3)). By establishing a system of mandatory national reporting, which includes information on national emissions by sources and removals of GHGs by carbon sinks, the Paris Agreement makes transparency a key regulatory instrument aimed at building trust between the parties and enabling them to review the implementation of national pledges (article 13).

In a second major break with the regulatory approach of the Kyoto Protocol, the Paris Agreement includes all countries in its mitigation effort. Whereas the Kyoto treaty placed obligations to reduce emissions only on the Annex I (industrialized) countries, the new agreement obliges all emitters to take nationally determined action to limit global warming. First foreshadowed in the Copenhagen Accord of 2009, this new inclusiveness represents a major advance in the international climate negotiations, which have hitherto been characterized by a deep North–South divide over how to interpret the UNFCCC principle of 'common but differentiated responsibilities and respective capabilities'.²⁹ The Paris Agreement still retains a degree of differentiation, which helped secure the

²⁸ 'INDCs lower projected warming to 2.7°C: significant progress but still above 2°C', Climate Action Tracker, 1 Oct. 2015, <http://climateactiontracker.org/news/224/indcs-lower-projected-warming-to-2.7c-significant-progress-but-still-above-2c-.html>. UNEP estimates a higher global warming trajectory of 3.5°C (UNEP, *The emissions gap report 2015*, p. xviii).

²⁹ Lavanya Rajamani, 'The changing fortunes of differential treatment in the evolution of international environmental law', *International Affairs* 88: 3, May 2012, pp. 605–23.

support of developing countries. Whereas developed countries ‘shall continue taking the lead by undertaking economy-wide absolute emission reduction targets’, developing countries ‘should continue enhancing their mitigation efforts’ and are only ‘encouraged’ to move over time towards the kind of emissions reduction or limitation targets that apply to the industrialized countries (article 4(4)). Individual countries can take their economic circumstances into account in deciding where on this sliding scale from ‘mitigation efforts’ to ‘absolute emission reduction targets’ their NDCs should be located. This means that, in principle, emerging economies whose emissions rise in line with economic growth can no longer hide behind their official developing country status and are expected to make a bigger contribution to global climate change mitigation—a key demand made by the United States and other leading industrialized countries.³⁰

Developing countries succeeded in their demands that the Paris Agreement establish adaptation to climate change alongside mitigation as a ‘global goal’ (article 7(1)). The provisions in article 7 strengthen the existing adaptation framework, among other means by subjecting national adaptation policies to the five-yearly review mechanism. The new agreement thus reinforces the growing recognition that climate change increasingly poses a challenge especially to poorer societies, as failure to reduce emissions quickly is locking in dangerous global warming for decades to come. The parties also recognize that ‘support for and international cooperation on adaptation efforts’ is needed (article 7(6)), thereby underlining the importance that international climate finance will play in helping developing countries to adapt to a warming climate. Developing countries scored a further victory in having the concept of ‘loss and damage associated with the adverse effects of climate change’ established alongside adaptation (article 8).³¹ However, developed country governments were adamant in their opposition to the creation of any legal

³⁰ Andrew Hurrell and Sandeep Sengupta, ‘Emerging powers, North–South relations and global climate politics’, *International Affairs* 88: 3, May 2012, pp. 463–84.

³¹ COP-19 in 2013 had already established the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts.

liability or rights to compensation arising from this provision, thereby blunting the practical effect that this new provision in the climate treaty is likely to have.

As in previous negotiation rounds, the provisions on finance proved to be one of the most contentious issues in the Paris conference. Developing countries demanded clear rules and firm commitments on financial aid for climate change mitigation and adaptation. Developed countries, having already promised up to US\$100 billion annually in climate finance by 2020, were keen to ensure that wealthier emerging economies would also contribute to climate finance and to avoid entering into legally binding commitments to specific funding flows. The Paris outcome is based on a broad compromise, calling upon developed countries to provide finance that ‘should represent a progression beyond previous efforts’, setting a floor of US\$100 billion annually to be mobilized after 2025, and including a new bi-annual requirement for developed countries to ‘communicate indicative quantitative and qualitative information . . . including projected levels of public financial resources to be provided to developing country Parties’ (article 9(5)). At the same time, the agreement does not include any legally binding figures on financial assistance but continues to refer to ‘mobilizing climate finance from a wide variety of sources, instruments and channels’ (article 9(3)). It also encourages ‘other Parties . . . to provide such support voluntarily’ (article 9(2)), thus opening the door for greater financial contributions from China and other emerging economies.

One of the key reasons why it was possible to establish broad support for the Paris deal was the carefully crafted legal structure for the agreement, which leaves important provisions either in a state of imprecision, or unenforceable, or out of reach of domestic courts. That the Paris Agreement would be an international treaty, in accordance with the Vienna Convention on the Law of Treaties, had become clear in the preparatory meetings leading up to the Paris summit.³² However, not least to satisfy longstanding demands by the United States, the Paris Agreement leaves it open to individual countries to decide whether ratification by parliament or executive decision by government is

³² Daniel Bodansky, ‘The legal character of the Paris Agreement’, *Review of European, Comparative, and International Environmental Law*, p. 6, forthcoming in print but available online: <http://onlinelibrary.wiley.com/doi/10.1111/reel.12154/abstract>.

needed for them to accede to the treaty (article 20). Furthermore, the careful wording of key provisions ensures that only some create legal obligations ('shall') while others merely express recommendations ('should') or create expressions of intent or opinion ('will', 'recognize').³³ Thus, once the agreement has entered into force, parties will be legally obliged to submit NDCs and report on them every five years, but failure to comply with their own national climate plans will not constitute a breach of international law. In any case, the agreement's compliance mechanism is explicitly designed to 'be expert-based and facilitative in nature and function in a manner that is transparent, non-adversarial and non-punitive' (article 15(2)). Even where parties are in breach of treaty provisions, they will not face punitive sanctions as they might in other international agreements such as those of the WTO.

The question, therefore, is not whether the Paris Agreement is legally binding or not, as some observers have argued.³⁴ The issue is whether, given its peculiar legal structure, which restricts legal obligations primarily to procedural questions and leaves decisions on how much countries contribute to the global climate effort in their own hands, it can make a difference to the global effort to avert dangerous climate change. In the next section, I examine the logic of nationally determined climate action in an effort to shed light on what is bound to be the critical question for international climate policy: how can the Paris Agreement stimulate more ambitious, and effective, mitigation efforts by all major emitters?

Can it work? The new logic of domestically driven climate action

³³ Bodansky, 'The legal character of the Paris Agreement', pp. 6–7. As was widely reported, last-minute wrangling over the use of the word 'shall' instead of 'should' in a single clause of the draft text nearly derailed the adoption of the treaty, until the French presidency declared that a 'typo' was to blame for the erroneous use of 'shall': see John Vidal, 'How a "typo" nearly derailed the Paris climate deal', *Guardian*, 16 Dec. 2015, <http://www.theguardian.com/environment/blog/2015/dec/16/how-a-typo-nearly-derailed-the-paris-climate-deal>.

³⁴ Anne-Marie Slaughter, 'The Paris approach to global governance', *Project-Syndicate*, 28 Dec. 2015, <https://www.project-syndicate.org/commentary/paris-agreement-model-for-global-governance-by-anne-marie-slaughter-2015-12>.

The Paris Agreement represents a significant departure from the regulatory approach of the Kyoto Protocol and the beginning of a new phase in international climate politics. To be sure, the key elements of the Paris deal had been in the making for some time, including at the 2009 Copenhagen conference and the 2011 Durban conference. But given the relative novelty of the Paris Agreement's approach—not to mention the vagueness of many of its key provisions—it is difficult to assess at this point what effect it is likely to have. That some observers have already written off the new treaty is unsurprising, not least when we consider the unprecedented complexity of the task of decarbonizing the global economy.³⁵ But if we accept that most global governance offers only second-best or 'good enough' solutions,³⁶ certain innovative elements of the agreement can be identified that hold the promise of improving on regulatory practice to date. It will be important to understand, therefore, under what conditions the new regulatory logic can work.

In assessing the Paris Agreement, it is important to bear in mind the nature of the global policy challenge. More than two decades after the adoption of the UNFCCC, it is becoming much clearer that effective climate policy is not about finding quick fixes to an emissions problem but putting in place the structure for a long-term technological and economic transformation. Averting dangerous global warming will require major investment in low-carbon technologies and a redesign of existing transport and urban infrastructures. To add to the complexity of the task, all of this will need to be achieved on a global scale and sustained over decades. Any expectation, therefore, that a single international summit or treaty could provide the breakthrough solution, was always illusory.³⁷ The question now is not whether the Paris Agreement will 'fix' global warming, but whether it provides a robust yet adaptable framework for

³⁵ Tom Bawden, 'COP-21: Paris deal far too weak to prevent devastating climate change, academics warn', *Independent*, 8 Jan. 2016, <http://www.independent.co.uk/environment/climate-change/cop21-paris-deal-far-too-weak-to-prevent-devastating-climate-change-academics-warn-a6803096.html>.

³⁶ Stewart Patrick, 'The unruly world: the case for good enough global governance', *Foreign Affairs* 93: 1, 2014, pp. 58–73.

³⁷ Robert O. Keohane and David G. Victor, 'Cooperation and discord in global climate policy', *Nature Climate Change* 6: 6, 2016, pp. 570–75.

developing and sustaining long-term political commitment to an effective global response. The Paris conference will therefore be judged to have been a success if it creates the right mix of incentives to make a transition towards a low-carbon global economy more likely.

The first thing to note is that the Paris Agreement promises a more realistic path towards globally coordinated emissions reductions, mainly because it has managed to better align international climate *policy* with the realities of international climate *politics*. The Paris Agreement gets out of the cul-de-sac of the Kyoto Protocol approach by removing two major structural barriers to international cooperation. First, it accepts that most major emitters are reluctant to tie themselves into a rigid set of predetermined emissions reductions that are legally binding. This reluctance was at the heart of the US decision not to ratify the Kyoto Protocol; it was also evident in emerging economies' disinclination to take on quantified targets for mitigation measures. Second, it sidesteps the distributional conflict that is inherent in any attempt to negotiate mitigation targets as part of a comprehensive international agreement. The difficulty of devising a fair burden-sharing arrangement is one important reason why the negotiations on a post-Kyoto climate treaty ended in failure.

While this transformation of the international process on climate change mitigation lies at the heart of the COP-21 outcome, it is worth reminding ourselves that Paris did not invent the new logic of climate politics as such. It merely rationalizes an already emerging system of domestically driven climate policy. For several years, a gap had been growing between the inertia and gridlock that characterized the multilateral negotiations and the increasingly active field of climate policy experimentation at national level. Although the Kyoto Protocol created legally binding obligations for major industrialized countries when it entered into force in 2005, in reality it failed to play a significant role in driving most of these countries' domestic climate policies.³⁸ For some (e.g. Russia, Canada and Australia), Kyoto had next to no effect on national emissions paths, while others (e.g. Japan) gradually drifted away from the treaty. The EU was arguably the only group of major emitters that remained

³⁸ See the contributions on major emitters' climate policies in Bang et al., eds, *The Domestic politics of global climate change*.

committed to implementing its commitments under the treaty; but even in Europe's case it is difficult to argue that international treaty obligations rather than domestic pressures and concerns were the main driver of climate policy. In any case, with Canada, Russia and Japan having withdrawn from the treaty's second commitment period, the Kyoto Protocol now covers no more than 15 per cent of global GHG emissions. Yet, paradoxically, while the Kyoto Protocol has gradually fallen out of favour, most major emitters have if anything stepped up domestic efforts to bring emissions under control. The key difference is that they have chosen policies that reflect domestic, rather than international, priorities and circumstances.

To some extent, therefore, the Paris Agreement offers a more realistic chance of governments implementing their NDCs because climate change has become a firmly established part of public policy around the world. Nearly all major emitters of GHGs have established laws and regulations dealing with emission controls, energy efficiency standards, forestry management and low-carbon technological innovation. In total, nearly 500 laws related to climate change have been introduced since 1990.³⁹ However, while there is a uniform trend towards greater legislative action on climate change, the drivers behind countries' climate policies vary considerably. To some extent, material factors provide a reliable proxy explanation of a country's stance on climate change. Differences in countries' level of economic development, resource endowment and exposure to climate impacts explain why relatively poor, low-lying, island states without fossil fuel reserves (e.g. the Maldives) favour strict international mitigation policies and international financing of local adaptation measures, while relatively wealthy countries whose economies depend on the exploitation of fossil fuels (e.g. Saudi Arabia) tend to oppose global curbs on GHG emissions. For most other countries, which find themselves in between these two extreme cases, the situation is more complex. The costs resulting from climate change impacts and mitigation measures tend to be unevenly distributed within most societies, which makes it difficult to apply straightforward calculations of aggregate cost and benefit to explain national climate policy stances. Significant roles are played by other factors too, such as societal perceptions of climate risk,

³⁹ Nachmany et al., *The 2015 global climate legislation study*.

environmental values, sectoral business interests and political institutions. Increasingly, climate policies are also driven by so-called 'non-climate co-benefits', as in the case of Chinese restrictions on coal-fired energy production owing to domestic concern over high levels of urban air pollution.

The Paris Agreement follows this trend in soliciting domestically determined mitigation pledges, but adds an important international dimension to this groundswell of domestic climate action. As Keohane and Oppenheimer argue, Paris is designed to create a peculiar 'two-level game' logic that connects domestic climate politics with the strategic interaction between countries.⁴⁰ By subjecting domestically determined mitigation pledges to the international review mechanism, the Paris Agreement ensures that the gap between the required level of action and the total sum of national measures becomes the subject of international policy deliberation and coordination. Paris turns what would otherwise be a decentralized, bottom-up policy-making approach into a hybrid system that combines bottom-up with top-down elements.

For this hybrid system to work, the Paris Agreement needs to put in place a transparency regime that makes national policies internationally comparable. Transparency is a key condition for making national pledges credible and building trust between major emitters. In this respect, the Paris conference delivered mixed results at best. While it brings us one step closer to comparable mitigation pledges and policies, laying down principles for an integrated reporting system that has been in the making for some time under the auspices of the UNFCCC, it did not deliver the specific rules that will govern the monitoring, reporting and verification of emissions and national implementation of those pledges and policies. Given that many countries have been wary of ceding control over what and how they report to the UNFCCC, it will take considerable effort at future COPs to negotiate the modalities of the new transparency regime.

Getting transparency right will be of critical importance to the Paris Agreement's review mechanism, which is the central tool for driving up ambition

⁴⁰ Robert O. Keohane and Michael Oppenheimer, 'Paris: beyond the climate dead end through pledge and review?', *Politics and Governance*, forthcoming Aug. 2016, available at <http://www.cogitatiopress.com/ojs/index.php/politicsandgovernance/index>.

within the UNFCCC regime. The review mechanism is likely to generate pressure on states in two ways. The first is peer pressure among states. At the five-yearly review sessions, the parties to the Paris Agreement will ideally be able to establish which countries have delivered on their previous pledges and whether new and more ambitious pledges are needed to meet the temperature target. The formalized review process will create regular moments for 'naming and shaming' strategies to be deployed against those countries that fall short of international expectations. Given that mitigation pledges will be determined independently by each party and cannot be enforced through the regime's compliance mechanism, international review and peer pressure will be the main multilateral tools for parties to strengthen the credibility of their pledges. In an ideal scenario, leaders in climate policy will use the review mechanism to signal high ambition and exhort laggards to raise their game, in the hope that successful implementation of voluntary pledges will create a positive spiral of strengthening trust and enhanced cooperation. A more pessimistic scenario is also possible, however. Regular reviews may reveal wide gaps between countries' mitigation pledges and national implementation, creating a downward spiral of weakening trust and lower ambition.

It is not unusual for global governance to combine a transparency regime with peer pressure. Such an approach rests on the idea that, as Ian Johnstone argues, 'states care about collective judgment of their conduct because they have an interest in reciprocal compliance by and future cooperation with others'.⁴¹ Naming and shaming mechanisms operate within diverse global governance contexts, from the International Labour Organization to human rights bodies and corporate social responsibility institutions.⁴² They are usually seen as a fallback mechanism where formal compliance and enforcement mechanisms are unavailable or fail to work.

⁴¹ Ian Johnstone, 'The power of interpretative communities', in Michael Barnett and Raymond Duvall, eds, *Power in global governance* (Cambridge: Cambridge University Press, 2005), p. 187.

⁴² Emilie M. Hafner-Burton, 'Sticks and stones: naming and shaming the human rights enforcement problem', *International Organization* 62: 4, 2008, pp. 689–716.

In the case of climate change as in other areas, the effectiveness of peer pressure will depend on two factors: first, the degree to which governments are sensitive to international opprobrium and reputational loss; and second, the number of countries that are non-compliant or fail to live up to international expectations. Unfortunately, the past record of international climate politics offers little comfort in this respect. Time and again, major emitters have shown themselves willing to accept a loss in international reputation when domestic economic priorities have been at stake. The United States, the world's largest emitter of carbon dioxide until 2006, was the only industrialized country that refused to ratify the Kyoto Protocol. Having withdrawn its signature from the treaty in 2001, the US stood firm in its opposition to mandatory emissions reductions despite facing universal condemnation.⁴³ Canada likewise ignored international protests when it became the first country to withdraw from the Kyoto Protocol in 2012. And at the Copenhagen conference in 2009, emerging economies such as China and India successfully resisted international pressure to subject their economies to internationally agreed mitigation targets. It should be noted, however, that in all these instances major emitters not only chose domestic priorities over international concerns but actively challenged the idea of internationally agreed and legally binding emissions reduction targets. The Paris Agreement provides a different context in which major emitters can set their own targets but need to account for their actions internationally. With all major emitters having committed to making the Paris deal work, the enhanced legitimacy of the agreement should, therefore, increase most countries' sense of obligation and responsibility, though it is unlikely that this alone will override conflicting domestic interests.

The second mechanism on which the Paris Agreement's review system relies is naming and shaming by civil society. When reporting on their national emissions and implementation of international pledges, governments also face scrutiny by environmental campaign groups and media organizations. Much of this scrutiny happens in a domestic context, but it is also exercised by NGOs

⁴³ Robyn Eckersley, 'Ambushed: the Kyoto Protocol, the Bush administration's climate policy and the erosion of legitimacy', *International Politics* 44: 2-3, 2007, pp. 306-24; Robert Falkner, 'American hegemony and the global environment', *International Studies Review* 7: 4, 2005, pp. 585-99.

operating transnationally. After all, NDCs have an important signalling effect to domestic constituencies, indicating a government's green credentials at home and environmental leadership internationally. Some governments will also move to enshrine international pledges in domestic legislation, thereby exposing themselves to more systematic domestic scrutiny through parliaments and courts. Some NGOs already perform a quasi-monitoring role in climate politics. Environmental organizations such as the World Resources Institute, Climate Action Tracker and Civil Society Review already provide important data and analysis on global emissions trends and national performance. In the run-up to the Paris summit they highlighted the gap between what countries had pledged in their INDCs and the level of collective action that would be consistent with the 2°C target.⁴⁴ Once the Paris Agreement enters into force, civil society organizations can be expected to continue to scrutinize national policies and their implementation, and to calculate the world's remaining carbon budget and the additional efforts states will need to make to stay within this budget. As in other contexts, civil society can therefore be expected to take on the role of informal monitor of the climate agreement, using naming and shaming tactics to target those governments that shirk their responsibilities.⁴⁵

Despite the important role that non-state actors can play in this area, the outlook for accountability at the hands of civil society is uncertain and highly uneven. Domestic monitoring of national policies depends on the capacity of civil society to organize and exert pressure on governments and the degree to which civil society enjoys a permissive environment domestically. Research on domestic environmental politics reveals starkly divergent fortunes for environmental NGOs, for example between those operating in democratic states with open, pluralistic political cultures and those that face tight political control by autocratic regimes. As Bailey and Tomlinson point out, the 'safe operating space' for independent monitoring is shrinking in many countries, and especially

⁴⁴ Oxfam, 'Fair shares: a civil society equity review of INDCs', Oct. 2015, <https://www.oxfam.org/en/research/fair-shares-civil-society-equity-review-indcs>.

⁴⁵ Christopher L. Pallas and Johannes Urpelainen, 'NGO monitoring and the legitimacy of international cooperation: a strategic analysis', *Review of International Organizations* 7: 1, 2011, pp. 1–32.

'in precisely those countries where [it is] most needed'.⁴⁶ There are also important differences in levels of domestic mobilization, engagement and financing of NGO activities, with the dividing line often falling between richer and poorer societies. To some extent, transnational campaign groups can substitute for domestic activism in countries that lack a vibrant civil society.⁴⁷ Even so, we should not expect the monitoring ability of civil society to be equally distributed around the world.

Finally, given that the decarbonization of the global economy will be down to decisions by economic actors, the Paris Agreement will ultimately be judged by the effect it has on global markets. International regimes and governmental regulation can provide a supportive regulatory framework, but it is companies that decide on the direction of technological innovation, R&D expenditure and investment flows. In this context, an international treaty such as the Paris Agreement can hope to shape business decisions in three ways: it can send a signal to markets about the international community's long-term political objectives; it can put in place governance mechanisms that create incentives for low-carbon business decisions; and it can encourage and support voluntary efforts by private actors.

With regard to signalling, global business leaders had encouraged governments to create an ambitious climate agreement that would produce certainty for long-term investment decisions.⁴⁸ By strengthening the temperature target and adopting carbon neutrality as the long-term goal, the Paris Agreement does indeed send a clear signal to global markets, marking out the long-term direction of travel for the global economy. However, the lack of detail on the timeframe for and pathway towards long-term carbon neutrality has weakened the strength of the signal. Furthermore, the Paris Agreement put

⁴⁶ Rob Bailey and Shane Tomlinson, 'Post-Paris: taking forward the global climate change deal', briefing (London, Chatham House, 2016), p. 10.

⁴⁷ Amanda Murdie and Johannes Urpelainen, 'Why pick on us? Environmental INGOs and state shaming as a strategic substitute', *Political Studies* 63: 2, 2015, pp. 353–72.

⁴⁸ Madeleine Cuff, 'Global CEOs issue rallying call for "ambitious" COP-21 deal', *businessGreen*, 23 Nov. 2015, <http://www.businessgreen.com/bg/news/2435987/global-ceos-issue-rallying-call-for-ambitious-cop21-deal>.

in place a framework for creating governance mechanisms, but postponed the tricky task of agreeing specific rules. The parties renewed international support for developing and expanding carbon markets, endorsing the creation of a new type of carbon asset, so-called 'internationally transferred mitigation outcomes'. They also established an UNFCCC-governed mechanism that will support international transfers of emission reductions, but without agreeing the specific rules and procedures that will govern it; these will need to be agreed by future COPs. And finally, the Paris conference became a catalyst for the creation of a wide range of voluntary initiatives that engage business actors and others in collaborative efforts to reduce emissions, promote best-practice models and encourage technology transfer.⁴⁹ In this way, the Paris accord can become an 'orchestrator' of climate action well beyond the realm of traditional international governance, drawing on the governance capabilities of other actors that the climate regime itself lacks.⁵⁰

Notwithstanding all these positive elements, it is clear that the within the new logic of nationally determined climate action, the Paris Agreement cannot be expected to 'fix' the climate problem; it can only provide a supportive framework within which states and other actors can achieve the required emissions cuts.

Conclusions

The COP-21 outcome has been rightly welcomed as a major breakthrough in international climate diplomacy. After years of fruitless efforts to strike a global deal on mandatory emissions reductions, the new regulatory approach adopted by the Paris Agreement managed to transform the international negotiations from a distributional conflict over legally binding targets into a bottom-up process of voluntary mitigation pledges. By allowing countries to determine their mitigation efforts independently, it removed a key barrier that had held back the post-Kyoto negotiations. At the same time, the new climate treaty obliges

⁴⁹ Angel Hsu, Andrew S. Moffat, Amy J. Weinfurter and Jason D. Schwartz, 'Towards a new climate diplomacy', *Nature Climate Change* 5: 6, 2015, pp. 501–03.

⁵⁰ Kenneth W. Abbott, Philipp Genschel, Duncan Snidal and Bernhard Zangl, *International organizations as orchestrators* (Cambridge: Cambridge University Press, 2015).

emitters to report on the implementation of their pledges and review their actions at regular intervals, with a view to creating political momentum for a strengthening of mitigation efforts. In this way, the Paris Agreement hopes to create what might be called 'soft reciprocity', whereby leading states initiate ambitious climate policies that encourage others to reciprocate by raising their own level of ambition. In a context where national mitigation pledges are not legally binding and cannot be enforced, the main currencies of international climate politics will thus be political leadership, financial assistance and moral suasion.

Whether the Paris Agreement can produce the desired effect of boosting the global mitigation effort remains to be seen. This critically depends on whether its core mechanism of five-yearly reviews can be made to work. For this to happen, a robust transparency framework for the reporting and verification of emissions reduction pledges and their national implementation will be needed. COP-21 established the principles for this framework, but future negotiations will need to create specific transparency rules and mechanisms. It also remains to be seen whether peer pressure between states and 'naming and shaming' strategies by NGOs can nudge recalcitrant states into greater ambition. The Paris negotiations managed to produce a high level of political mobilization and support on the part of civil society and business, which in itself is a major achievement. But it would take only a small number of large emitters to derail global efforts to stay within the temperature target of below 2°C. Given that the world is currently on course for a global warming trend of 3°C or more, the margin of error for the new climate regime is worryingly small.

In the context of the new logic of domestically determined climate policy, much will depend on whether climate leaders are willing and able to push for more ambitious policies, invest in green technologies and chart the way into a low-carbon economic future. Such leadership could be provided by states that seek to move faster and further with decarbonization plans than their peers. Small groups of states, acting in 'coalitions of the willing' or 'climate clubs', may emerge to create regional carbon trading schemes or promote technology

transfer schemes.⁵¹ Leadership could also be provided by non-state actors, most notably business organizations and NGOs that come together to establish transnational climate actions and voluntarily cooperate to pursue low-carbon strategies. The Paris Agreement will benefit from such forms of climate leadership, and it can play an important role in providing a supportive environment in which innovative initiatives can be encouraged and nurtured.

As should be clear from the above discussion, much of the Paris Agreement's potential contribution remains to be developed in future COP negotiations. Paris was a breakthrough event, but it did not 'fix' the climate problem. Nor could it have hoped to do so. International climate diplomacy has finally caught up with the reality of the global warming problem, which requires a long-term political effort to steer global investment in the direction of a low-carbon economic future. Paris provides a more realistic approach to achieving this vision, but it is not the end of this journey; in many ways it is only the beginning.

⁵¹ Robert Falkner, 'A minilateral solution for global climate change? On bargaining efficiency, club benefits and international legitimacy', *Perspectives on Politics* 14: 1, 2016, pp. 87–101.