COMMENTARY:

Towards a new climate diplomacy

Angel Hsu, Andrew S. Moffat, Amy J. Weinfurter and Jason D. Schwartz

A new kind of climate politics is emerging, as national actions prove insufficient to address the changing climate. Subnational actors — ranging from provinces and cities, to civil sector organizations and private companies — are acting alongside nation states, making up for lost ground and missed opportunities.

The Lima climate negotiations solidified this new paradigm, with a Call to Action declaring subnational and non-state actors suited to "catalyse and significantly enhance" national efforts to reduce greenhouse- gas (GHG) emissions and vulnerability to climate change[1]. The Lima Conference also introduced the Non-state Actor Zone for Climate Action (NAZCA), a new platform that officially recognizes climate mitigation initiatives distinct from national pledges. The platform marks a symbolic step towards considering subnational and non-state actors within the political sphere of the UN Framework Convention on Climate Change (UNFCCC). Expectations are building for the upcoming Paris talks, with hopes that new actors will help 'wedge' the emissions gap between national 2020 pledges and what is needed to limit global warming to 2 °C (refs 2,3).

Scholars debate the overall impact of non-state and subnational actions within the global climate governance regime[4-7]. New actors' largely uncoordinated participation further fragments an already dispersed climate governance movement[6,8]. California, for instance, adopted a cap-and-trade programme in 2012 to limit state-level emissions, despite the lack of similar national legislation (http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm).

On the one hand, such programmes can exceed national efforts; non-state actors may be better positioned or willing to commit to more ambitious climate policies[9]. Multiple regime complexes allow for actor flexibility in ascribing to institutions or agreements, increasing the likelihood of climate mitigation and beneficial redundancy[4]. Networks of cities, including ICLEI–Local Governments for Sustainability, C40 Climate Leadership Group, and the Carbon Disclosure Project, are all similar initiatives, but are perceived to have different advantages in engaging cities to reduce emissions.

On the other hand, the elevation of non-state and subnational initiatives into formal negotiation processes endangers a cohesive global climate treaty in Paris. Sceptics note that these changes to the international climate regime could enable governments to side-step their own obligations, lowering the overall ambition of mitigation and adaptation goals[10]. Many point to the past to support these claims, suggesting that an over-reliance on a coalition of prominent environmental non-governmental organizations (NGOs) and big-industry executives stymied US national cap-and-trade legislation, by diverting attention away from securing political support[11].

Critics also raise fundamental concerns about the ability of non-state initiatives to achieve what they pledge. Business engagement often draws criticism because of 'greenwashing' or passing off business-as-usual efforts as additional. Other coalitions have failed owing to insufficient financial backing. Sixty-five per cent of the more than 300 partnerships that emerged at the 2002 World Sustainable Development Summit were still seeking funding and had yet to be operationalized in 2012[5].

Emblematic of this new style of diplomacy, UN Secretary Ban Ki-Moon convened a major summit during the 2014 General Assembly, to elevate climate change to greater global prominence in advance of the 2015 Paris negotiations. Engaging over 100 heads of state and government as well as over 800 business and civil society leaders, the New York Climate Summit (the Summit) was the largest climate meeting outside the official UNFCCC negotiations[12].

Because the Summit is a key event in this new form of diplomacy that engages many non-state actors alongside governments, we analyse what the Summit actually achieved. This assessment helps to reveal just how large a gap remains in the emissions cuts needed to avoid the catastrophic effects of climate change. Our analysis also brings attention to the need for better data and metrics to understand how all of these many state and non-state efforts interact.

Summing it up

The partnerships announced at the Summit were captured in 29 action statements and plans (commitments), spanning sectors from forestry to finance, and involving diverse coalition[12]. In total, 111 national governments, 22 subnational governments, 85 cities, 358 NGOs, intergovernmental organizations and civil society organizations, 481 private companies and investors, and 16 groups of indigenous peoples signed up to a commitment. The geographic scopes of these commitments vary widely: some were focused on specific regions (for example, Africa), while others targeted cities. Broad ranges of timelines (2015 to 2050, for example) for implementation and delivery also occur within and across plans. Eighteen commitments included provisions for monitoring and evaluating progress, although very few identified specific indicators to track performance.

To determine the collective potential of the Summit's commitments to help narrow the emissions gap, we reviewed each commitment for details on emissions reduction goals, target and base years, sectors included, and mentions of financial backing (Supplementary Table 1). Just one, the New York Declaration on Forests, included both an explicit financial pledge, of US$450 million, and a stated, measurable goal — to halve global deforestation by 2020. Just two included specified financial commitments. Only eight plans included
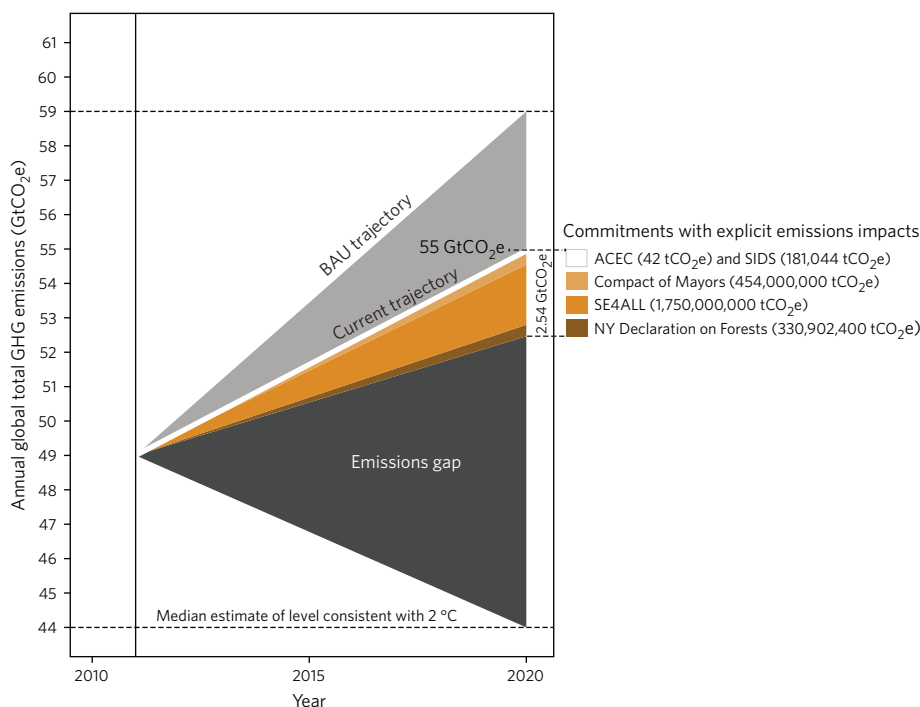
Figure 1 | Five of the 29 commitments made at the NY Climate Summit could result in a 2.54 GtCO$_2$e reduction in annual global total GHG emissions in 2020. These efforts could potentially narrow the gap between the projected business-as-usual (BAU) emissions (59 GtCO$_2$e in 2020 is the median BAU estimate according to the Fifth Assessment Report[17] of the IPCC) and the median estimate of emissions needed to limit global temperature rise to 2 °C (44 GtCO$_2$e in 2020). The current trajectory case (55 GtCO$_2$e in 2020[3]; shaded light grey) represents the gap between the projected BAU emissions in 2020 and the reductions made from national pledges and commitments prior to the Summit. ACEC, Africa Clean Energy Corridor; SE4ALL, Sustainable Energy for All Global Energy Efficiency Accelerator Platform; SIDS; Small Island Developing States Lighthouse Initiative.

explicit emissions mitigation targets tied to a particular year.

In some of these eight commitments, little information on emissions impacts was provided, requiring our team to use external sources to establish assumptions (Supplementary Information). For instance, the Small Islands Developing States (SIDS) Lighthouse Initiative pledged to deploy 100 MW of new capacity from solar photovoltaic units and 20 MW of new wind power by 2020. To translate the emissions reduction benefits of these renewable energy commitments, we used emissions factors from the International Energy Agency (ref. 13) and capacity factors from the National Renewable Energy Laboratory (ref. 14) to calculate the proposal's carbon emissions savings.

We considered the commitments' potential overlap when estimating their combined emissions impact, to avoid double counting reductions. We assumed that, for the most part, the Summit commitments made by non-state and subnational actors are additional to 2020 national pledges made

through the UNFCCC (for example, the Kyoto Protocol and Copenhagen Accord; see also ref. 3 for analysis of UNFCCC pledge scenarios) and therefore have little overlap between them. Where commitments were pledged prior to the Summit or overlapped with one another, we made individual decisions as to whether the emissions reductions should be included. The International Association of Public Transport commitment, for example, was assumed to overlap 100% with the Compact of Mayors, which also counts on reductions in the transport sector. Taking these redundancies into consideration, the total number of commitments with additional (that is, non-overlapping) emissions reductions is five.

There was one exception — the NY Declaration on Forests — for which we were able to demonstrate another method for addressing overlaps. Forests, unlike cities or cross-sector partnerships, comprise an established sector within the UNFCCC. Therefore, many countries report emissions from land-use and forestry,

which allowed us to estimate whether pledges by the NY Declaration on Forests were additional to national commitments made previously through the UNFCCC (Supplementary Information).

Narrowing the gap

The pledges offered at the Summit have the potential to achieve significant results. Five of the Summit's commitments together are capable of producing a 2.54 Gt reduction in CO$_2$ equivalents (CO$_2$e) to the annual global total GHG emissions in 2020. The Summit's pledges amount to roughly the same magnitude of emissions reductions as national pledges that are currently proposed for 2020 (see ref. 3 for a description of the 'current trajectory' case, and Fig. 1 for a visualization of the respective emissions impacts of national pledges and the Summit's commitments). The Summit's work, however, still falls short of what is needed to completely close the emissions gap and put the world on track to stopping warming at 2 °Cs. All told, they could span around a fifth of the gap.

Towards more concrete action

Our analysis of the Summit commitments reveals major challenges that must be addressed for a multi-stakeholder climate governance system with non-state and subnational pledges to proceed meaningfully, helping to bridge the emissions gap and complement national actions on climate change. For such efforts to truly count, we make the following recommendations:

Specify clear criteria for what constitutes a climate commitment. Defining what comprises a significant commitment to climate change mitigation, adaptation, or financing is a first step in understanding the impact of potential actions. The Rio+20 Summit, for instance, generated more than 700 voluntary commitments that lacked any accountability, due in part to a lack of common standards for inclusion. We call for a stronger framework to help prevent greenwashing and the discrediting of efforts that engage players beyond states[15,10].

Require emissions information and metrics in national pledges. Questions about the impact of sub- and non-state actions highlight the need for clear national-level metrics. As we have shown, efforts between subnational, non-state, and state actions often overlap. As countries prepare to submit their new climate pledges, or intended nationally determined contributions (INDCs), there is wide latitude in terms of their content, and so far no requirements for metrics have

been made. While such flexibility helped secure participation from all countries, the lack of detailed emissions information is problematic for understanding the impact of INDCs towards meeting global climate goals. Without this information, determining overlap between national, non-state, and subnational actions could become more difficult. Vague metrics may also provide cover for low ambition. Early analysis of the INDCs shows that current pledges are only half of what is needed to limit global temperature rise to 2 °C (ref. 16).

Leave room for innovation. At the same time, the criteria for inclusion should not be too strict. Some proponents argue for the integration of subnational and non-state actions into the UNFCCC. Others caution that this integration would prevent innovation and risk-taking among new actors. A major contributor to the Summit's success in engaging a diversity of participants was the flexibility afforded to the content of commitments. The Summit's openness brought in businesses and other actors who would have been otherwise hesitant to commit at such a high-level forum. Meetings like this could play a key role in fostering new thinking and ideas for addressing climate change, as they have lower costs of failure than a formal process such as the UNFCCC. Any framework that includes non-state and subnational

participants must achieve a delicate balance between establishing a bar that boosts ambition but is not so high as to deter critical actors from joining.

States are no longer the only actors tackling climate change. The Summit represents a new mode of elevating the groundswell of non-state and subnational action into official political channels. This integration is crucial to making a fragmented climate governance system effective. Tenuous financing and uncertain implementation, however, mean that the Summit's commitments have a high risk of failure, potentially damaging the credibility of future non-state and subnational efforts. To avoid such a pessimistic conclusion, new methods of pledging and accountability, as well as innovative modes of governance, are needed to seriously engage new actors. ❏

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COMMENTARY:

Socio-economic data for global environmental change research

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Subnational socio-economic datasets are required if we are to assess the impacts of global environmental changes and to improve adaptation responses. Institutional and community efforts should concentrate on standardization of data collection methodologies, free public access, and geo-referencing.

There is a scalar mismatch between social scientists focusing on the nation-state and climate scientists operating at the global level[1]. From the natural science perspective, climate change is an egalitarian and cross-border phenomenon, and research results are

routinely analysed beyond national borders. The social sciences, however, have evolved historically within nation-states, and the production of data is mostly framed according to nation-state boundaries; this includes international comparisons. Overcoming this 'methodological

nationalism' requires both cosmopolitan and subnational data[2].

Cosmopolitan data are needed to grasp the interconnectivity and interdependence of global, national and local issues. To obtain data at a subnational scale, for example on water use in different sectors