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Financing Climate Mitigation and Adaptation

Charles Di Leva*

The promise of climate finance has been a fundamental challenge within the UNFCCC regime since its inception. While the Parties agreed on a Financial Mechanism, and that developed countries would provide 'new and additional resources', developed and developing countries have often been at odds over this commitment, and more fundamentally, what constitutes 'climate finance', how much should be provided, and whether there has been adequate balance between mitigation and adaptation. Just when Paris seemed to show signs of momentum toward climate finance targets, the new US Administration reversed course on the prior administration's commitment to the Green Climate Fund. This article looks at the possible impacts of the US decision on climate finance, including the efforts of other countries and international organizations to address the potential funding gap.

I. Introduction

The United Nations Framework Convention on Climate Change (UNFCCC) states that in accordance with the principle of 'Common but Differentiated Responsibilities' developed countries are to provide 'financial resources' to help developing countries meet their UNFCCC obligations, and help them implement the treaty's objectives.¹ The US supported the creation of the UNFCCC's financial mechanism to help developing countries achieve those objectives² and the launch of the mechanism's first operating entity, the Global Environment Facility (GEF).

In what now seems strikingly rapid, the US ratified the UNFCCC in the fall of 1992. At that time, however, the US may not have foreseen the dramatic growth and accompanying industrial emissions from China and other emerging economies. Thus, by mid-1997, just ahead of the Kyoto Protocol, the US Senate resolved 95-0 that the US should not sign any protocol or other agreement under the UNFCCC without reciprocal emission reduction commitments of developing countries and unless the agreement would not cause the US serious economic harm.³

While President Clinton went forward and signed the Kyoto Protocol, the Senate Resolution carried over to the Bush Administration's decision in 2001 not to send the Protocol to the Senate for ratification and to remain absent in the Protocol's market-based mechanisms, even though such mechanisms had

originally been proposed by the US. Years of negotiations followed, in large part to address US concerns and bring it back as a full-fledged participant in the UNFCCC regime. By 2015, negotiators at the Paris COP assumed they had addressed US concerns via the emission reduction commitments of emerging economies and the pledge of developed and developing countries to fulfil their own nationally determined contributions (NDC). For developing countries, these commitments were tied to a financial pledge by developed countries to provide them with \$100 billion per year of climate finance by 2020. Moreover, with the Paris Agreement entering into force in 2016 ahead of schedule, momentum seemed to be moving toward this climate finance goal. Toward the end of the 2016, the Obama Administration

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1 United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107 (UNFCCC) art 3(1) 4(1) (3) (4) and (5).

2 art 11 UNFCCC.

3 S Res 98 105th Cong (1997) (known as 'Byrd-Hagel Resolution') <<https://www.congress.gov/bill/105th-congress/senate-resolution/98/text>> accessed 3 October 2017.

sought to support this momentum by contributing the first \$500 million of its' \$3 billion pledge to the UNFCCC's Green Climate Fund.

Today, however, the US relationship with the UNFCCC regime and the promise of climate finance are again at risk, threatened by President Trump's decision to withdraw from the Paris Agreement, claiming it would harm the US economy and that '[t]he Green [Climate] Fund would likely obligate the United States to commit potentially tens of billions of dollars....'⁴ As well, he issued an Executive Order⁵ which, *inter alia*, effectively rescinded US support for its NDC, and revoked guidance that reviews under the National Environmental Policy Act consider what would make communities more resilient to climate change be taken into account.⁶ Nevertheless, several weeks later, leaders of the world's other largest economies reiterated support for the Agreement, calling it 'irreversible'⁷ and that they 'stand behind their [financial] commitments.' In an accompanying 'G20 Hamburg Climate and Energy Action Plan for Growth' they pledged to 'strengthen' financial resources under the Paris Agreement and provided details for doing so.⁸ These and other remarks at the G20 meeting demonstrate that, even without the US, other leaders have pledged to adhere to the financial commitments set out in Paris and, moreover, are open

to innovative forms of finance for climate mitigation and adaptation.

II. What is Climate Finance?

There are different views on what constitutes 'climate finance'.⁹ In part, this is because the funds originally foreseen from governments under the Article 11 Financial Mechanism have been inadequate to meet the needs of developing countries, and it was understood early on that 'very large amounts of private capital must be mobilised.'¹⁰ Indeed, the UNFCCC Secretariat reported over a decade ago that, 'it is important to focus on the role of private-sector investments as they constitute the largest share of investment and financial flows (86%).'¹¹

Thus, 'new and additional' finance was to be mobilised via the Kyoto Protocol's market-based mechanisms. Developing countries had expected the Clean Development Mechanism (CDM) to play a large part, including through the innovative channelling of a 2% levy on CDM projects into an Adaptation Fund. The Fund is governed by a Board with majority developing country representation and was anticipated to generate up to \$2 billion per year. Instead, since 2010 it has only generated in the range of \$100 million per

4 The White House, Office of the Press Secretary, 'Statement by President Trump on the Paris Climate Accord' (1 June 2017) <<https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-paris-climate-accord>> accessed 16 July 2017.

5 The White House, Office of the Press Secretary, 'Presidential Executive Order on Promoting Energy Independence and Economic Growth' (28 March 2017) <<https://www.whitehouse.gov/the-press-office/2017/03/28/presidential-executive-order-promoting-energy-independence-and-economic-growth>> accessed 16 July 2017.

6 President Trump's criticism was echoed in Republican controlled Congressional committees opposed to the Obama Administration pledge of \$3 billion to the Green Climate Fund, and that \$1 billion of that amount was disbursed to the GCF before Trump came into office. This contribution went beyond the Senate Foreign Appropriations bill, which recommended not more than \$500 million in fiscal year 2017. The US House of Representatives Subcommittee went even further with its proposal to zero out funding. Mary Laurie, 'International Affairs Budget Update' (US Global Leadership Coalition, 5 May 2017) <<http://www.usglc.org/the-budget/congress-finalizes-fy17-spending-slight-boost-total-international-affairs-budget>> accessed 16 August 2017.

7 G-20 Leaders' Declaration, 'Shaping an interconnected world' (7/8 July 2017) <https://www.g20.org/Content/EN/_Anlagen/G20/G20-leaders-declaration.html?nn=2186554> accessed 24 July 2017. The statement tried to inject a positive tone that the US 'affirms its strong commitment to an approach that lowers emissions while supporting economic growth and improving energy

security needs.' It also noted that the US 'will endeavour to work closely with other countries to help them access and use fossil fuels more cleanly and efficiently and help deploy renewable and other clean energy sources, given the importance of energy access and security in their nationally-determined contributions.'

8 The Action Plan states that 'The United States is currently in the process of reviewing many of its policies related to climate change and continues to reserve its position on this document and its contents.' Annex to G-20 Leaders' Declaration 'G20 Hamburg Climate and Energy Action Plan for Growth' (8 July 2017) <https://www.g20.org/Content/EN/_Anlagen/G20/G20-leaders-declaration.html> accessed 24 July 2017.

9 'Summary of Bonn Climate Meetings' (2010) 12(701) Earth Negotiations Bulletin <<http://enb.iisd.org/vol12/enb12701e.html>> accessed 24 July 2017. See also Shally Venugopal and Shilpa Patel, 'Why is Climate Finance so Hard to Define' (World Resources Institute, 8 April 2013) <<http://www.wri.org/blog/2013/04/why-climate-finance-so-hard-define>> accessed 24 July 2017.

10 Richard B Stewart, Benedict Kingsbury, and Bryce Rudyk, 'Climate Finance for Limiting Emissions and Promoting Green Development', in Richard Stewart et al (eds) *Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development* (New York University Press 2009).

11 The United Nations Framework Convention on Climate Change (UNFCCC) Secretariat, 'Investment and Financial Flows to Address Climate Change (Executive Summary) (2007)' <https://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/background_paper.pdf> accessed 24 July 2017.

year.¹² As well, the CDM failed to deliver on its promise.¹³ Illustrative of such failure was widespread criticism of the purchase by developed countries of a disproportionately high volume of CDM emission offsets from just a few middle-income countries, including from projects with questionable climate impact, such as industrial gas projects in China.¹⁴

At the Copenhagen COP in 2009, to encourage emerging economies to undertake reduction obligations, and advance beyond the Kyoto impasse, President Obama and Secretary of State Clinton proposed a target of \$100 billion of climate finance to be mobilised annually by 2020 for developing countries, accompanied by fast-start finance until that time.¹⁵ This proposal attained institutional form at the Cancun COP (2010) with the establishment of the GCF, and the mobilisation of climate finance at multilateral and bilateral levels, including from Multilateral Development Banks (MDBs) disbursing about \$25 billion per year in climate-related finance. Developed country donors also pointed to several billion dollars in contributions to MDBs, to be administered via the Climate Investment Funds (CIF). The CIF represents a precedent-setting partnership of MDBs, developed and developing countries and other development partners to enhance collaboration among MDBs and provide concessional and other funds for climate mitigation and adaptation until, in accordance with its

'Sunset Clause', the CIF decides to 'conclude its operations once a new financial architecture is effective'.¹⁶

Indeed, at the Paris COP in 2015, an OECD-CPI report¹⁷ showed developed countries were already providing close to \$62 billion a year for climate finance. Prior to COP 22 in Marrakech, developed countries also pointed to the 'Roadmap to \$100 Billion',¹⁸ a report that showed them to be on track in regard to their commitments.¹⁹ In addition, developed countries detailed their financial commitments in biennial reports to the UNFCCC. For example, following Paris, the US²⁰ noted that:

The United States is committed to leading efforts to mobilise resources for developing countries to mitigate and adapt to climate change. Since the First Biennial Report, the United States committed more than \$5.5 billion in public climate finance in FYs 2013 and 2014 and pledged \$3 billion to the Green Climate Fund. After meeting the fast-start finance (FSF) commitment, developed countries are working toward the collective goal of mobilising \$100 billion in climate finance per year by 2020 from a wide variety of public, private, bilateral, and multilateral sources. This climate finance will address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation. To accomplish this goal, we are using a full range of channels and

12 Adaptation Fund, 'About the Adaptation Fund' <<https://www.adaptation-fund.org/about/>> accessed 24 July 2017.

13 Aline Robert, 'COP 21 will end a decade failed climate finance' (*EURACTIV*, 18 November 2015) <<https://www.euractiv.com/section/climate-environment/news/cop21-will-end-a-decade-of-failed-climate-finance/>> accessed 24 July 2017.

14 Damian Carrington, 'EU Plans to Clamp Down on Carbon Trading Scam' *The Guardian* (Brussels, 26 October 2010) <<https://www.theguardian.com/environment/2010/oct/26/eu-ban-carbon-permits>> accessed 24 July 2017.

15 At the Copenhagen COP, references to climate finance targets by both Obama and Clinton were about funds to be 'mobilised' or 'raised'. Lisa Friedman and Darren Samuelsohn, 'Hillary Clinton Pledges \$100B for Developing Countries' *The New York Times* (New York, 17 December 2009) <<http://www.nytimes.com/cwire/2009/12/17/17climatewire-hillary-clinton-pledges-100b-for-developing-96794.html?pagewanted=all>> accessed 24 July 2017.

16 Climate Investment Funds are described as 'Climate Investment Funds' <<https://www.climateinvestmentfunds.org>> accessed 24 July 2017. To date, the CIFs have committed \$8.3 billion for 72 projects in developing countries that pilot low emissions and climate resilience. For a breakdown of the amounts of pledges from the CIFs, GCF and other sources of multilateral finance, see Niranjali Manel Amerasinghe, Joe Thwaites, Gaia Larsen and Athena Ballesteros, *The Future of the Funds: Exploring the World Resources Institute, 'Architecture of Multilateral Cli-*

mate Finance' (2017) <https://www.wri.org/sites/default/files/The_Future_of_the_Funds_0.pdf> accessed 24 July 2017.

17 Organization for Economic Co-operation and Development and Climate Policy Initiative, 'Climate Finance in 2013-14 and the USD 100 billion Goal' (2015) <<http://www.oecd.org/env/climate-finance-in-2013-14-and-the-usd-100-billion-goal-9789264249424-en.htm>> accessed 24 July 2017.

18 Government of the United Kingdom, Department for Business, Energy & Industrial Strategy, 'Climate Finance Roadmap to \$100 Billion' (2016) <<https://www.gov.uk/government/publications/climate-finance-roadmap-to-us100-billion>> accessed 25 July 2017. (The United Kingdom, with Australia, led developed countries to deliver a 'Roadmap' to meeting the collective goal of mobilising US\$100 billion a year in climate finance for developing countries by 2020).

19 For a critique of the Roadmap, see Timmons Roberts and Romain Weikmans, 'Roadmap to Where? Is the '\$100 billion by 2020' pledge from Copenhagen still realistic?' (20 October 2016) <<https://www.brookings.edu/blog/planetpolicy/2016/10/20/roadmap-to-where-is-the-100-billion-by-2020-pledge-from-copenhagen-still-realistic/>> accessed 25 July 2017.

20 Following provisions of decision 2/CP.17, developed country Parties were requested to submit their first biennial report (BR1) to the secretariat by 1 January 2014 and their second and subsequent biennial reports two years after the due date of a full national communication. See 'Submitted Biennial Reports from Annex I Parties' UNFCCC Secretariat <http://unfccc.int/national_reports/national_communications_and_biennial_reports/submissions/items/7550.php> accessed 25 July 2017.

instruments to mobilise climate finance efficiently and effectively.²¹

Clearly, this US biennial report has been overtaken by events, and US prior commitments undone. While the G20 statement indicates a pledge to overcome the US about-face, as discussed below, challenges remain in mobilising the finance necessary to achieve the Paris 2°C target.

III. Climate Finance: Some Challenges

1. How Much is Needed?

GCF pledges as of June 2017 were just over \$10 billion.²² Keeping in mind the \$287 billion in overall clean energy finance provided in 2016²³ (albeit a reduction of 18% from 2015) the decision by Trump to withhold \$2 billion from the US first tranche payment to the GCF may threaten the \$100 billion target. However, it may have a limited impact on overall climate finance trends, assuming other governments do not follow suit, in whole or in part. Indeed, the withdrawal of \$2 billion might seem limited given the OECD estimate that \$6.3 trillion is required annually for global infrastructure from 2016-2030, and an additional \$600 billion per year is required for the infrastructure to be climate compatible, with the majority of those funds to go toward developing countries.²⁴ Similarly, it is reported that \$90 trillion is needed by 2030 in both new and replacement infrastructure, whether under business as usual conditions or

to meet the Paris Agreement 2°C target, and that 70% of that amount is needed for developing countries.²⁵

A rapid increase in funding required for adaptation is also evident. In 2010, the World Bank estimated that the cost of adaptation to an average temperature increase of 2°C between 2010 and 2050 would range from \$70 billion to \$100 billion per year. However, in 2016, the United Nations Environment Programme (UNEP) reported '[t]he true cost of adapting to climate change in developing countries could range between \$140 and \$300 billion per year by 2030, and between \$280 and \$500 billion per year by 2050'. In its view, 'to avoid an adaptation gap the total finance for adaptation available in 2030 would have to be approximately six to 13 times greater than international public finance today'.²⁶ Indeed, as of August 30, 2017, while there is yet to be proof of the connection between climate change and the stunningly destructive Hurricane Harvey, within four days of its landfall, the state of Texas claims to need federal response funds well over \$100 billion; a amount that will exceed the cost of any natural disaster in the history of the United States.²⁷

While these sums are daunting, economists have been saying for many years that long-term economic growth will depend on climate-compatible investments, both for mitigation and adaptation. Without such investment, damage from climate change could cost between 5% and 20% of global GDP by 2100,²⁸ and these needs are 'small in relation to estimated global gross domestic product (GDP) (0.3 – 0.5%) and global investment (1.1 – 1.7%) in 2030'.²⁹ The OECD notes that this is a 'relatively small increase consid-

21 Second Biennial Report of the United States Under the United Nations Framework Convention on Climate Change at 40 (2016) <https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/2016_second_biennial_report_of_the_united_states_.pdf> accessed 23 August 2017.

22 Green Climate Fund, 'Resource Mobilisation' <<http://www.greenclimate.fund/how-we-work/resource-mobilization>> accessed 16 July 2017.

23 Michael Liebreich and Angus McCrone, 'The shift to 'base-cost' renewables: 10 predictions for 2017' (*Bloomberg New Energy Finance*, 18 January 2017) <<https://about.bnef.com/blog/10-renewable-energy-predictions-2017/>> accessed 26 July 2017.

24 Organisation for Economic Co-operation and Development, 'Investing in Climate, Investing in Growth' (2017) 15 <<http://dx.doi.org/10.1787/9789264273528-2-en>> accessed 26 July 2017.

25 Blackrock Investment Institute, 'Adapting Portfolios to Climate Change: Implications and strategies for all investors'(September 2016) 4 <<https://www.blackrock.com/investing/literature/>

<whitepaper/bii-climate-change-2016-us.pdf>> accessed 26 July 2017.

26 United Nations Environment Programme, 'The Adaptation Finance Gap Report 2016' (2016) xiv <<https://www.unep.org/adaptationgapreport/2016>> accessed 18 August 2017.

27 Damian Paletta, Ed O'Keefe, Mike Debonis, 'Trump could seek billions in Harvey recovery aid next week' *Washington Post* (Washington, 30 August 2017) <https://www.washingtonpost.com/news/wonk/wp/2017/08/30/trump-could-seek-billions-in-harvey-recovery-aid-next-week/?utm_term=.35f1eec6d7fb> accessed 30 August 2017. These costs underscore the potential financial impact of the Trump Executive Order (Para 3c) to revoke Obama Administration issued Guidance in 2015 (81 Fed Reg 51866) that reviews under NEPA consider how to make communities more resilient to the impact of climate change – a process that could limit the impact of future flooding.

28 Blackrock Investment Institute, citing the Stern Review on the Economics of Climate Change <<http://webarchive.nationalarchives.gov.uk>> accessed 24 July 2017.

29 UNFCCC (n 11).

ering the short and long-term gains in terms of growth, productivity and well-being' and that 'the additional investment cost is likely to be offset over time by fuel savings resulting from low-emission technologies and infrastructure.'³⁰ Apparently, this data had little sway on those who advocated to Trump that the US withdraw from Paris, claiming US financial support 'will divert trillions of dollars from productive investments that would advance global welfare to political uses.'³¹

As the G20 meeting made clear, Trump's decision did not dissuade any other global leader from the Paris commitment to make 'finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development'³² with zero net emissions by 2050. Aside from the US, Nicaragua, and Syria, all countries agree, 'mobilisation of funds should come from a wide variety of sources, instruments and channels...and represent a progression beyond previous efforts.'³³ They decided that the commitment to provide \$100 billion by 2020 should be a minimum and more ambitious funding should take place on an annual basis post 2025.³⁴ Moreover, as shown below, at least at this time, the Trump decision does not appear to have altered the investment community's commitment toward clean energy, whose investment far surpasses the \$2 billion withheld from the GCF. Perhaps more important than the withdrawal of \$2 billion will be whether the totality of the US Administration's actions will undermine the trajectory of private investment toward clean energy, and provide ammunition for fossil fuel interests in G20 countries. One report anticipates that despite the US administration's approach, overall US emissions from the power sector will be about the same as was projected under the Obama Administration due to the trend towards cleaner fuels.³⁵ Moreover, China's faster than expected retirement of coal facilities and India's move to solar should enable global power sector carbon emissions to peak sooner than expected, though still not enough to meet the 2C and 1.5C ambition of the Paris Agreement.³⁶

2. What Should be Considered as Climate Finance?

Developing countries have questioned whether some of the funds provided to them should be credited as 'climate finance' and, at the Paris COP; the OECD was

challenged on the amount it reported had been available in 2015 to developing countries. Referring to the OECD as a 'club of rich countries' the Indian Department of Environmental Affairs claimed that the 'only hard number currently available in this regard is \$2.2 billion in gross climate fund disbursements from 17 special climate change multilateral, bilateral and multilateral development bank funds created for their specific purpose.' A disclaimer that it did not necessarily reflect the views of India mitigated the impact of this report. In fact, the report was based on a desk study without meaningful consultation of development banks. Nevertheless, the effort reflects allegations that donor countries were counting funds that were dedicated for overseas development assistance (ODA) and claiming these as 'new and additional' climate finance.

Indeed, the principle of additionality was included in the UNFCCC Article 4(3) due to concerns that developed countries would divert funds for climate finance from existing aid flows. Donor countries have sought to ameliorate this concern, yet consensus is lacking on a baseline against which additionality can be measured.³⁷ Absence of consensus on climate fi-

30 Organisation for Economic Co-operation and Development (OECD), *Investing in Climate, Investing in Growth* (Report, 2017) 15 <<https://www.oecd.org/env/investing-in-climate-investing-in-growth-9789264273528-en.htm>> accessed 24 July 2017.

31 Christopher Horner and Marlo Lewis, 'The Legal and Economic Case Against the Paris Climate Treaty: Canceling US Participation Protects Competitiveness and the Constitution' (*Competitive Enterprise Institute* May 2017) 2 <<https://cei.org/sites/default/files/Chris%20Horner%20and%20Marlo%20Lewis%20-%20The%20Legal%20and%20Economic%20Case%20Against%20the%20Paris%20Climate%20Treaty.pdf>> accessed 24 July 2017. The authors make a number of economic and legal arguments for withdrawal including that the instrument should require Senate ratification.

32 Paris Agreement to United Nations Framework Convention on Climate Change (adopted 12 December 2015, entered into force 4 November 2016) art 2(c).

33 *ibid* art 9(3).

34 UNFCCC Conference of the Parties, 'Adoption of the Paris Agreement Draft Decision' 12 December 2015 para 54 <<https://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf>> accessed 24 July 2017

35 Bloomberg New Energy Finance, 'New Energy Outlook 2017' Executive Summary 4 <https://data.bloomberglp.com/bnef/sites/14/2017/06/BNEF_NEO2017_ExecutiveSummary.pdf> accessed August 28, 2017

36 *ibid*.

37 Jonathan Pickering, Carola Betzold and Jakob Skovgaard, 'Special issue: managing fragmentation and complexity in the emerging system of international climate finance' (2017) *J Int Environ Agreements* 17 1 <<https://link.springer.com/article/10.1007/s10784-016-9349-2>> accessed 26 July 2017; Laurence Boisson de Chazournes, 'Is there Room for Coherence in Climate Financial Assistance?' In: *Laws 2015* vol 4 pp 541-558 <<https://archive-ouverte.unige.ch/unige:75199>> accessed 26 July 2017.

nance was evident again during a recent meeting of Standing Committee on Finance, including on how to calculate MDB commitments.³⁸ Clearly, developing countries would prefer to see funds transferred as grants. MDBs reported that in 2015 '71% of total adaptation finance was committed through investment loans, 13% through grants, 7% through guarantees, and 6% through policy-based loans/budget support.'³⁹ Similar proportions apply to mitigation finance.⁴⁰ Developing countries also want to see balance in mitigation and adaptation finance, and efforts to clarify what constitutes adaptation finance surfaced at a recent GCF meeting.⁴¹ Yet, the MDB report indicates that in 2015 they provided approximately \$20 billion for mitigation and \$5 billion for adaptation.⁴²

Calculating the contributions from national treasuries is not necessarily easier. The US 2016 biennial report noted, 'since countries' contributions to MDBs are not earmarked for specific purposes, it is not possible to specify the exact proportion of US support that ultimately finances climate change activities in developing countries.... Nevertheless, MDB

financing for climate activities is included in the \$100 billion climate finance goal, according to the methodology developed in October 2015 by the Organization for Economic Co-operation and Development (OECD).'⁴³

While the report from India underestimated climate finance, a World Resources Institute (WRI) study has cautioned, based on a review of MDB finance, that the portfolio of projects considered as 'climate finance' may occasionally include projects whose do not clearly align with the Paris goals, or that the alignment might vary as the project undergoes implementation. Having considered the energy sector lending pipelines for the World Bank Group and Asian Development Bank in 2015-16, it reports that while very few projects are misaligned, the major share of projects could have either a positive or negative impact on GHG emissions, depending on how they are implemented.⁴⁴ As well, the MDB's own report stated when defining its 'Point of Reporting' that '[n]o corrections will be issued in cases where a project's scope has changed to either increase or decrease climate financing'.⁴⁵

Challenges can also arise in calculating the amount of climate lending from MDBs to financial intermediaries (FI) because it can be difficult to track how FI recipients use such loans, especially for smaller-scale lending that entails multiple clients and sub-clients. WRI also notes that, unlike finance for standalone investment projects, particularly for infrastructure, lending for development policy outcomes, capacity building and technical assistance may be difficult to track for its precise climate impact.⁴⁶

3. How Sound are Institutional Arrangements for Finance?

A multitude of institutions and sources provide climate finance, including multilateral funds such as the GCF and GEF (operating entities of the UNFCCC Financial Mechanism), MDBs, bilateral aid agencies, and national climate change trust funds in recipient countries. However, with such multiplicity of actors have come complaints of inefficiency and redundancy.⁴⁷ For example, the US Senate Committee on Foreign Appropriations noted 'there are a number of programs funded in the act to help countries mitigate and adapt to climate change, through multilateral and bilateral engagement with developing

38 'Summary of Bonn Climate Meetings' (2010) 12(701) Earth Negotiations Bulletin <<http://enb.iisd.org/vol12/enb12701e.html>> accessed 24 July 2017.

39 African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank Group, and World Bank Group, *Joint Report on Multilateral Development Banks Climate Finance* (Report 2015) 19 <<http://pubdocs.worldbank.org/en/740431470757468260/MDB-joint-report-climate-finance-2015.pdf>> The report includes detailed Annexes that set out the methodology the MDBs use for the eligibility of climate finance.

40 *ibid* 24.

41 Lutz Weischer and Mario Wetzel, 'Climate project or development project: A story of definition problems and double standards' (*German Climate Finance*, 31 March 2017) <<http://www.germanclimatefinance.de/2017/03/31/climate-project-development-project-story-definition-problems-double-standards/>> accessed 24 July 2017.

42 Joint Report of MDBs (n 39) 22.

43 Second Biennial Report of the United States (n 21) 42.

44 Giulia Christianson, Allison Lee, Gaia Larsen, and Ashley Green, 'Are Multilateral Development Banks Supporting a Low-Carbon Future?' (*World Resources Institute*, 26 May 2017) <<http://www.wri.org/blog/2017/05/are-multilateral-development-banks-supporting-low-carbon-future>> accessed 24 July 2017.

45 Joint Report of MDBs (n 39) 30.

46 Giulia Christianson, Allison Lee, Gaia Larsen, and Ashley Green, 'Financing the Energy Transition: Whether World Bank, IFC, and ADB Energy Supply Investments Are Supporting a Low-carbon, Sustainable Future' (Working Paper, 2017) World Resources Institute <https://www.wri.org/sites/default/files/WRI17_WorkingPaper_G7-MDB_final_print_1.pdf> accessed 24 July 2017.

47 Pickering, Betzold and Skovgaard (n 37).

economies. The Committee directs the Secretary of State to review such programs and examine whether there are opportunities to reduce duplication and maximize impact...⁴⁸

Some commentators have noted discomfort with a system that can be based on political priorities, or financial aid that is tied to donor's desired projects or procurement of their national goods or services. At the same time, other commentators contend the climate finance system has tried to reduce or at least manage fragmentation, 'including: the creation of the GCF as the flagship multilateral climate fund; the creation of the Standing Committee on Finance (which advises the UNFCCC's Conference of the Parties on how to improve the coherence and coordination of climate finance); standardized UNFCCC requirements for reporting on climate finance; and the OECD's introduction of a common set of markers (the 'Rio markers') among contributor countries for tracking climate-related development assistance.'⁴⁹

Indeed, on the positive side, dividing responsibilities (and thereby climate resources) among different institutions, such as MDBs, may encourage them to continue to 'green' their portfolios. This is beneficial for climate finance because MDB volume and capacity surpasses, but also complements, the ambitions of the UNFCCC financial mechanism's GCF and GEF. In addition, MDBs possess extensive regional expertise, are committed to major roles in new infrastructure finance, and with the advent of new MDBs, such as AIIB and the New Development Bank, have the potential to bring in new and additional sources of climate capital.

Lack of coherence, however, can be disruptive if governments or financial institutions take different positions on climate-related issues. For example, the OECD has observed that 'many [national development banks] also support financing for more carbon-intensive infrastructure, in line with national energy policies and priorities that may not yet be aligned with NDCs or the objectives of the Paris Agreement. For example, the Development Bank of China (CDB), The Industrial Bank of Turkey (TSKB) and the Development Bank of South Africa (DBSA) support coal power generation.'⁵⁰ In the Roadmap to \$100 Billion, Australia and Japan also indicated that clean coal technology could be included in their reported amounts of climate finance.

Similarly, the GCF view on project eligibility has also faced a degree of controversy, with several Board

members stating that GCF eligibility should include fossil fuel projects.⁵¹ Additionally, there have been allegations that GCF proposed projects undergo overly extensive reviews, or fail to respect 'country ownership', or accredit private banks that continue to finance fossil fuel investments.⁵² On the other hand, one of Trump's unfounded criticisms of the GCF is that 'nobody even knows where the money is going to. Nobody has been able to say, where is it going to?'⁵³ A review of the GCF website provides an easily accessible, transparent portrayal of project details.⁵⁴

4. Some Challenges in Mobilisation

Even if the US had stayed in the Agreement, raising climate finance is challenged by rising global and domestic issues like the continuing humanitarian crisis in parts of Africa and the Middle East, unemployment and infrastructure needs, including within donor countries. Indeed, following record lending in 2016, the World Bank noted that it needs a capital increase to address global needs, including for climate.⁵⁵ Yet, US support seems unlikely for a capital increase based on the most recent Congressional bud-

48 United States Senate Committee on Appropriations, S Rep No 114-290 (2016) <<https://www.congress.gov/congressional-report/114th-congress/senate-report/290>> (accompanying S 3117 114th Cong (2016) making appropriations for the Department of State, foreign operations, and related programs for the fiscal year ending September 30 2017).

49 Pickering, Betzold and Skovgaard (n 37).

50 OECD (n 28) 275.

51 Ed King, 'Seven Tasks for the new Climate Chief' (*Climate Home*, 16 June 2017) <<http://www.climatechangenews.com/2017/01/16/7-tasks-for-the-new-green-climate-fund-chief/>> accessed July 26, 2017.

52 Weischer and Wetzel (n 41).

53 Justin Worland, 'How Trump Could Slow Climate Change Projects Around the World' (*TIME*, 13 June 2017) <<http://time.com/4813115/paris-agreement-climate-change-trump-green-climate-fund/>> accessed 16 July 2017. In fact, the GCF website makes publicly available all of the projects for which funding has been dedicated both at the time of proposal and after Board approval.

54 Green Climate Fund, 'What We Do: Projects + Programmes' <<http://www.greenclimate.fund/what-we-do/projects-programmes>> accessed 29 July 2017.

55 See 'Transcript: World Bank Group Opening Press Conference by President Jim Yong Kim at the 2017 WBG/IMF Spring Meetings' (*The World Bank*, 20 April 2017) <<https://www.worldbank.org/en/news/speech/2017/04/20/2017-wbgimf-spring-meetings-world-bank-group-opening-press-conference-by-president-jim-yong-kim>> accessed 29 July 2017.

get authorization.⁵⁶ Moreover, there is a concern that the US withdrawal from the GCF could trigger a corresponding withdrawal among other donors, particularly given that the US had been on board as the largest of the contributors.

Japan's environment minister expressed hope that the US could be brought back to the table, and President Trump seemed to open a window to this possibility during his July 13-14, 2017 visit in France. However, environmental groups in Japan have reason to worry that the US decision will be used by the Japanese fossil fuel lobby to push Japanese funding agencies away from a commitment to climate mitigation, and instead to support coal burning power facilities as part of their development and export finance.⁵⁷

Adaptation finance faces somewhat different challenges. While the market has become familiar with a carbon price associated with carbon mitigation, the positive externalities from climate adaptation can be more sporadic, and the benefits from actions like smart building techniques or meteorological services that predict weather impact on crop yield may not be easy to quantify or become apparent for some time. As a result, even though there are strong signs that new products are coming to market, especially in the weather forecasting field for specific commercial sectors, or for insurance products, the rate of return on climate adaptation can pose market barriers for the private sector, and may require concessional

finance or public subsidy to make it viable.⁵⁸ Moreover, there may be instances where adaptation services could be considered out of bounds for the private sector, for example in instances where governments do not want private entities to control weather data.⁵⁹

IV. Some Ways Forward

1. Building Trust in What Counts as Climate Finance

Getting all Parties to help fulfil the Paris targets requires building trust between developing countries and developed countries as especially the poorest countries need help dealing with climate impacts for which many of them bear little responsibility. While it may be difficult to reach consensus on 'climate finance', helpful methodologies have been developed. The MDB Joint Report on Climate Finance⁶⁰ presents a common approach to tracking climate finance for MDB resources committed to development activities with mitigation and adaptation co-benefits. Having an agreed approach, albeit a work in progress, for which there will be distinctions owing to the diverse nature of MDBs,⁶¹ has been key to MDBs developing action plans to commit additional climate finance toward 2020. For example, the World Bank Group Climate Change Action Plan has pledged that 28% of its lending will be climate friendly by 2020.⁶²

Under MDB methodology, climate finance should cover only those components or elements of projects that directly contribute to or promote adaptation and/ or mitigation. The calculation of adaptation finance is based on the context and location of the project and should take into account only those amounts associated with activities directly linked to climate change vulnerability. Mitigation finance is calculated based on a dedicated list of activities that are compatible with low-emissions pathways.

Relevant to the challenge noted by the WRI report in Section III.2 above, MDBs have stated that not all activities that reduce GHGs are eligible to be counted as mitigation finance. For energy efficiency projects, the methodology acknowledges the difficulty of calculating GHGs when the financed facility helps to reduce emissions per unit of output, while there is also an increase in production. Consequent-

56 United States Senate Committee on Appropriations (n 48) 97.

57 Eric Johnston, 'Japan disappointed by Trump's decision to quit Paris agreement' *Japan Times* (Tokyo, 2 June 2017) <<https://www.japantimes.co.jp/news/2017/06/02/national/japan-disappointed-trumps-decision-quit-paris-agreement/#.WWUaBhiZP-Y>> accessed 16 July 2017

58 United Nations Environment Program, 'Demystifying Adaptation Finance for the Private Sector' (November 2016) 39 <<http://www.unepfi.org/wordpress/wp-content/uploads/2016/11/DEMYSITIFYING-ADAPTATION-FINANCE-FOR-THE-PRIVATE-SECTOR-AW-FULL-REPORT.pdf>> accessed August 31 2017.

59 See, Press Release of the Uganda National Meteorological Agency noting that anyone who releases climate or weather information or forecasts with written authorization by the Agency is subject to criminal penalties <<https://www.unma.go.ug/index.php/media-centre/1278-press-release-illegal-weather-forecasts/file>> accessed August 31 2017.

60 MDB Joint Report (n 39).

61 MDB Joint Report (n 39) 29.

62 World Bank Group, 'Climate Change Action Plan' (7 April 2016) vii <<http://pubdocs.worldbank.org/en/677331460056382875/WBG-Climate-Change-Action-Plan-public-version.pdf>> accessed 24 July 2017.

ly, new or 'green-field' energy efficiency investments are included only in a few cases and when they prevent a long-term lock-in to high-carbon infrastructure.⁶³

Calculating adaptation finance poses its own challenges, as certain projects cannot always be tracked in quantitative terms, such as site-specific rules or regulations, or will have benefits that are difficult to discern as wholly climate-related. According to the MDB methodology, adaptation finance is not intended to capture the value of the entire project or investment that may increase resilience as a consequence of specific adaptation activities within the project that may be based on sound and standard engineering practices. In other words, it should not capture investments that represent 'business as usual'.

2. Mobilising New Public Sources of Climate Finance

The withdrawal of the US Administration is seen by some as an opportunity for China to fill the financing and leadership gap, especially given its sovereign wealth surplus. Related to this aspiration, China's 13th Five Year Plan (2015) claims to envision a great future in low-carbon technologies, providing the opportunity to establish 'dominance as an innovator as well as a manufacturer and exporter'. It reportedly sees tackling climate change as 'the engine of the next phase of prosperity' and in 2016 invested \$102.9 billion in renewable energy and installed half of the world's new wind power. The Plan also claims that while China remains highly dependent on coal, its coal consumption has peaked and begun to decline and is to be replaced over time by renewables, hydro, and nuclear power.⁶⁴

China is also the largest shareholder in the Asia Infrastructure Investment Bank. AIIB has 57 government members and twenty-four potential members, and has capital of \$100 billion, more than twice that of the European Bank for Reconstruction and Development.⁶⁵ AIIB presents itself as a 'green bank' in its new Energy Strategy and expects renewable energy demands to be a major source of its lending to developing countries.⁶⁶ Similar to the World Bank it would only consider financing coal and oil-fired power plants under 'exceptional circumstances' and where there are 'no other alternatives.' It has been observed, however, that Chinese financial institutions may be

undermining the global environmental benefits of its clean domestic energy pursuit by financing fossil-fuel and other large-scale projects abroad that fail to comply with the same environmental standards they would demand in China.⁶⁷

Beyond multilateral lending agencies, many sub-sovereign entities have politically committed themselves to the Paris outcomes. The Climate Alliance boasts of 1400 states and cities as members.⁶⁸ The State of California has recommitted to its cap and trade program and, at Paris, hundreds of cities joined at a meeting at the Paris City Hall to pledge emission reductions reported to be equivalent to 30% of the difference between national commitments and the 2°C pathway.

3. Mobilising Institutional Investors - Green Bonds/Green Finance

Some of the world's largest institutional investors are aligning their investments with the outcomes of the Paris Agreement. Reasons for doing so include the risk to fossil fuel investments from increasing regulatory and fiscal burdens, exposure of their investments to extreme weather events and shareholder pressure. This investment is evident in the Green Bond market in which public and private banks are raising revenue by offering bonds for projects that meet 'green' criteria. Blackrock Investments sees

63 MDB Joint report (n 39) 8.

64 Isabel Hilton, 'With Trump, China Emerges As Global Leader on Climate' (*Yale Environment* 360, 21 November 2016) <http://e360.yale.edu/features/with_trump_china_stands_along_as_global_climate_leader> accessed 29 July 2017.

65 European Commission, 'The Asian Infrastructure Investment Bank: A New Multilateral Financial Institution or a Vehicle for China's Geostrategic Goals' (24 April 2015) <https://ec.europa.eu/epsc/publications/strategic-notes/asian-infrastructure-investment-bank_en> accessed 26 July 2017.

66 Asia Infrastructure Investment Bank, 'Energy Sector Strategy: Sustainable Energy for Asia' (15 June 2017) <https://www.aiib.org/en/policies-strategies/strategies/sustainable-energy-asia/.content/index/_download/aiib-energy-sector-strategy-2017.pdf> accessed 26 July 2017.

67 Paulina Garzon and Leila Salazar-Lopez, 'China's Other Big Export: Pollution' *New York Times* (New York, 21 July 2017) <https://www.nytimes.com/2017/07/21/opinion/china-climate-pollution-global-warming.html?_r=0> accessed 29 July 2017.

68 Georgina Gustin, 'Over 1,400 Cities, States and Businesses Vow to meet Paris Climate Commitments' (*Inside Climate News*, 6 June 2017) <<https://insideclimatenews.org/news/05062017/paris-climate-agreement-trump-bloomberg-cities-states-businesses>> accessed 29 July 2017.

'green bonds as part of the solution to finance the estimated \$90 trillion of global infrastructure needed by 2030.'⁶⁹

A market initiated in the World Bank Group has already offered green bonds of over \$10 billion. Many private investments have followed suit, issuing green bonds that follow the Green Bond Principles set out by the International Capital Market Association, which include climate mitigation and adaptation among eligible projects.⁷⁰ China is claimed to have overtaken the US in green bonds, issuing more than a third of a global \$90 billion. As a general matter, however, and similar to the point made above about China's foreign direct investment, transparent standards and accountability for green bond investments are often lacking, despite the green bond guidelines issued by the Bank of China.⁷¹ For example there appears to be ambiguity surrounding the penalties or systems of accountability which exist for projects that fail to meet their green objectives or environmental policies. While MDBs have broad disclosure policies and maintain policy compliance mechanisms that can review their green bond financed projects, systems of accountability seem far less robust when it comes to commercial or sovereign wealth sectors.

4. Enhanced Efforts by MDBs and Development Agencies

MDBs have committed to increase financing for low-emission, climate-resilient technologies and to decrease their support for carbon-intensive technolo-

gies. They need this increase to help to meet the Paris targets (and their own climate action plans). While MDB support for renewable energy technologies (excluding hydropower) in overall commitments to power generation has grown significantly over the last decade and is in the range of 13% of their investments, their support for fossil fuels has been close to 16%.⁷²

The OECD reports that the trend for private investment support for renewable energy should be increased because 'projects with clear revenue streams supported by end users, such as renewable energy projects, have a strong potential for private financing.' Given that revenue streams can be more challenging for climate adaptation projects, generating finance for adaptation or resilience projects 'will require efforts to mitigate the risks that investors face, and crowd in private capital.' Fortunately, for these kinds of projects, especially in countries which are low in capacity or with high market risk, development banks and agencies, such as those offering export credit and political risk insurance, are best prepared to 'utilise a range of tools to achieve these aims, including guarantees, insurance and hedging, as well as syndication and debt subordination.' This support can include protection against direct or indirect expropriation or the offer of currency hedging to protect against currency fluctuation.

The G20 also expects that MDBs will enhance their investment in low-emission, climate-resilient infrastructure by leveraging their shareholder base and mobilising more from capital markets. While MDB operations are limited by the amount of capital allocated to them by shareholders, MDBs intend to make more efficient use of their existing capital without affecting their excellent existing credit ratings. Along these lines, in 2015 G20 governments initiated an action plan for MDBs to optimize their balance sheets to improve capital efficiency, use concessional financing more innovatively (within prudential limits), and use risk mitigation more effectively to crowd-in private capital. Thus, the plan states: 'MDBs are asked to engage shareholders with options for increased capital efficiency. MDBs may be able to increase their development lending, while maintaining AAA ratings, if shareholders agreed for MDBs to operate with higher leverage and at a marginally increased level of risk.'⁷³

In this connection, the World Bank Group report 'IDA and Private Sector Finance'⁷⁴ details how its

69 Blackrock Investment Institute (n 25) at 13.

70 International Capital Markets Association, 'Green, Social and Sustainability Bonds' <<https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-social-and-sustainability-bonds/>> accessed 28 July 2017.

71 Cai Xiao, 'Why China is Going Green with Environmental Financing', *The Telegraph* (London, 20 June 2017) <<https://www.telegraph.co.uk/news/world/china-watch/politics/environmental-financing-growing-green-credentials/>> accessed 28 July 2017.

72 OECD (n 24) 279.

73 G20 Leaders, 'Multilateral Development Banks Action Plan to Optimize Balance Sheets' Documents appended to G-20 Leaders' Communiqué (16 November 2015) <<https://www.g20.utoronto.ca/2015/Multilateral-Development-Banks-Action-Plan-to-Optimize-Balance-Sheets.pdf>> accessed 24 July 2017.

74 International Development Association, 'An Integrated World Bank Group Approach: Leveraging the Private Sector in IDA Countries' (2017) <<https://ida.worldbank.org/sites/default/files/pdfs/ida-private-sector-april-2017.pdf>> accessed 24 July 2017.

fund for the poorest countries can mobilise private capital by using well-designed, diversified risk mitigation instruments including guarantees, coverage of political and regulatory risks, credit enhancements, and more diversified insurance offerings. At the same time, MDB engagement – especially efforts to mobilise private capital – is dependent on concessional support, particularly if clean energy technologies may not have a track record to attract investment. Access to concessional finance has helped MDBs to gain experience and to begin climate-proofing their own investments. Indeed, investments in climate proofing that take place now should be seen as the kind of prudent measure that should help make more finance available later. To support this approach, the World Bank and France agreed to finance early warning systems to fill in the gaps for meteorological services in developing countries.⁷⁵ Similarly, it was announced through the G7 that there would be an initiative on Climate Risk Insurance to provide access to direct or indirect climate risk insurance to up to hundreds of millions of the poor.⁷⁶

But beyond project finance, development agencies should support policy and institutional reforms such as phasing out fossil-fuel subsidies, or putting in place carbon pricing requirements that can simultaneously provide environmental and social benefits (such as tax rebates). Indeed, all G20 leaders including the US at its most recent meeting, encouraged MDBs to continue to find ways to ‘crowd in’ private capital, and welcomed ‘international cooperation on the development, deployment, and commercialization of sustainable and clean energy technologies and support [of] financing by Multilateral Development Banks to promote universal access to affordable, reliable, sustainable and clean energy.’⁷⁷

V. Conclusion

Even prior to the US Administration's decision to pull out of the Paris Agreement there were challenges to providing ‘climate finance’ in an agreed amount of \$100 billion per year by 2020. Unfortunately, these are unlikely to abate given the political realities in the world's largest economy, and the global burdens of humanitarian crises, terrorism, youth unemployment, and potential pandemics. Despite these challenges, all other major economies and an increasing number of sub-sovereign actors have pledged to continue financial and political support to the Paris Agreement. Moreover, given the limits of public finance, many of the world's most sophisticated investors and entrepreneurs have underscored their willingness, along with multilateral and bilateral development banks and agencies, to find innovative ways to increasingly leverage the well of private capital to support clean and renewable energy, and for climate adaptive and resilient infrastructure. The reality of rising seas and extreme weather, and the fear of stranded fossil-fuel assets, will lead the influential insurance and banking industry to join in such efforts. These actions will forge partnerships in the new energy pathway and help combat political resistance to what was universally proclaimed in Paris as the ‘urgent threat of climate change’.

75 ‘Launch of CREWS, Climate Risk and Early Warning Systems’ (*France Diplomatie*, 2 December 2015) <<http://www.diplomatie.gouv.fr/en/french-foreign-policy/climate/events/article/launch-of-crews-climate-risk-early-warning-systems>> accessed 24 July 2017.

76 ‘G7 Climate Risk Insurance Initiative: Stepping Up Protection for the Most Vulnerable’ (*UNFCCC Newsroom*, June 2015) <<http://newsroom.unfccc.int/lpaa/resilience/g7-climate-risk-insurance-initiative-stepping-up-protection-for-the-most-vulnerable/>> accessed 24 July 2017.

77 G-20 Leaders’ Declaration (n 7).