

A fair share of climate finance?

Apportioning responsibility for the \$100 billion climate finance goal

Sarah Colenbrander, Yue Cao, Laetitia Pettinotti and Adriana Quevedo
September 2021

Key messages

In Copenhagen in 2009, developed countries committed to jointly mobilise \$100 billion a year by 2020 to address the needs of developing countries. However, the climate accords rely on pledging and do not include any formulae for determining how responsibility for this target should be apportioned among developed countries. This makes it difficult to hold individual countries to account.

This paper suggests three metrics to assess each developed country's fair share of the climate finance goal: gross national income, cumulative carbon dioxide emissions and population. While imperfect, these metrics offer an indicative range to begin holding individual governments to account.

Of the 23 developed countries responsible for providing international climate finance, only Germany, Norway and Sweden have been paying their fair share of the annual \$100 billion goal. All other countries are falling short.

Australia, Canada, Greece, New Zealand, Portugal and the United States (US) all contributed less than 20% of their fair share of international climate finance. The greatest shortfall in absolute terms is the US, which provides less funding than France, Germany, Japan or the United Kingdom – though its economy is larger than all of them combined.



Readers are encouraged to reproduce material for their own publications, as long as they are not being sold commercially. ODI requests due acknowledgement and a copy of the publication. For online use, we ask readers to link to the original resource on the ODI website. The views presented in this paper are those of the authors and do not necessarily represent the views of ODI or our partners.

This work is licensed under CC BY-NC-ND 4.0.

How to cite: Colenbrander, S., Cao, Y., Pettinotti, L. and Quevedo, A. (2021) *A fair share of climate finance? Apportioning responsibility for the \$100 billion climate finance goal*. ODI Working Paper. London: ODI (www.odi.org/en/publications/a-fair-share-of-climate-finance-apportioning-responsibility-for-the-100-billion-climate-finance-goal).

Acknowledgements

Warm thanks to Neil Bird, Yunnan Chen, Angela Picciariello and Charlene Watson (ODI), Adrianna Hardaway and Lizzy Whitehead (Mercy Corps), Joe Thwaites (World Resources Institute) and Iskander Erzini Vernoit (E3G) for their helpful feedback. Thanks also to Jessica Rennoldson and Tegan Rogers for editing and proofreading the draft.

About this publication

This paper was produced to provide evidence and catalyse debate around apportioning responsibility among developed countries for the climate finance goal. It updates and expands a preliminary analysis, published in July 2021 in advance of the G7 Summit (Colenbrander et al., 2021). This extended version was prepared in response to requests from the COP26 team in the United Kingdom Cabinet Office, donor governments and civil society organisations looking to secure and benchmark new commitments before COP26 in Glasgow. This version was updated on 27 October 2021 to reflect new climate announcements and correct errors.

This working paper was funded by the Zurich Flood Resilience Alliance. The Alliance is a multi-sectoral partnership which brings together community programmes, new research, shared knowledge and evidence-based influencing to build community flood resilience in developed and developing countries. The Alliance helps people measure their resilience to floods and identify appropriate solutions before disaster strikes. The Alliance has a shared vision that floods should have no negative impact on people's ability to thrive. To achieve this, the Alliance is working to increase funding for flood resilience; strengthen global, national and subnational policies; and improve flood resilience practice. Find out more: www.floodresilience.net.

This working paper complements the report *At what cost? How chronic gaps in adaptation finance expose the world's poorest people to climate chaos* (Alcayna, 2020) funded and published by the Alliance in 2020. *At what cost?* found that climate finance is not going to the countries and people that need it most. The investment gap in climate change adaptation and disaster risk reduction is particularly stark. The report found that, from 2010 to 2017, only a quarter of bilateral financing and less than half of major multilateral financing has targeted the most climate-vulnerable countries with climate change adaptation.

About the authors

ORCID numbers are given where available. Please click on the ID icon next to an author's name in order to access their ORCID listing.

Sarah Colenbrander^{ID}

Director of the Climate and Sustainability programme at ODI. She works on sustainable cities, green finance and just transitions. Sarah has undertaken research and provided policy advice on low-carbon development pathways across Africa, Australia, Asia and Latin America. She has co-authored a wide range of academic papers, as well as reports for the Global Commission on the Economy and Climate, the Intergovernmental Panel on Climate Change (IPCC), United Nations Environment and the World Bank. She holds a Masters in Environment and Development from Trinity College, Dublin.

Yue Cao

Senior Research Officer in ODI's Global Risk and Resilience programme. His work focuses on climate finance, climate risks, infrastructure and Chinese development finance. Yue has authored multiple reports on climate investments in South-east Asia and on the climate and environmental risks of Chinese overseas projects. More recently, he has focused on the impacts of Covid-19 on global climate change adaptation and resilience finance flows, and the delivery of this funding to fragile and conflict-affected contexts. Yue holds an MSc in Environmental Change and Management from the University of Oxford.

Laetitia Pettinotti^{ID}

Senior Research Officer at ODI's International Economic Development Group. She is a development economist working at the intersection of economic transformation, climate change and gender. She completed her post-doctorate at the Grantham Research Institute at the London School of Economics, working on sustainable and inclusive economic growth in development corridors in East Africa. Laetitia holds a PhD in environmental economics from the University of the Basque Country.

Adriana Quevedo

Senior Research Officer in ODI's Global Risk and Resilience programme. Adriana is an environmental economist working on agriculture, infrastructure and finance. She has undertaken projects for clients including the government of Rwanda, the United Kingdom's Department for International Development, the European Union commission, the Climate Investment Funds and PwC. Adriana holds a Masters in Development Economics from the University of Sussex.

Contents

Acknowledgements / i

Display items / iv

Acronyms / v

1 Introduction / 1

2 Methods / 3

2.1 Defining the contributor base / 3

2.2 Selecting indicators for responsibility attribution / 4

2.3 Measuring climate finance contributions / 6

3 Indicative assessment of country performance / 9

4 Options for responsibility attribution / 16

References / 18

Display items

Tables

Table 1 Responsibility for the climate finance goal of \$100 billion using different indicators / 5

Table 2 Contributions to the climate finance goal of \$100 billion using different measures / 7

Table 3 Scorecard of progress towards a fair share of international climate finance (2017–2018) / 10

Table 4 Detail of progress towards each developed country's fair share of the climate finance goal / 13

Table 5 The 10 countries with the greatest responsibility for international climate finance using each metric, and their fair share / 17

Figures

Figure 1 Share of EU climate finance flows attributed to member countries / 8

Figure 2 Shortfall between a country's climate finance contribution (2017–2018) and their fair share, using the composite index / 11

Figure 3 Progress on the payment of developed countries' fair share from 2018/2019 to 2021/2022 / 12

Acronyms

COP	Conference of Parties
DAC	Development Assistance Committee
EU	European Union
GNI	gross national income
Gt CO₂	gigatonnes of carbon dioxide
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Country
MDB	multilateral development bank
NDC	Nationally Determined Contribution
OECD	Organisation for Economic Co-operation and Development
UNFCCC	United Nations Framework Convention on Climate Change

1 Introduction

At the 15th Conference of Parties (COP15) to the United Nations Framework Convention on Climate Change (UNFCCC), held in Copenhagen in 2009, developed countries committed to:

a goal of mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries. This funding will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance (UNFCCC, 2009).

According to decision 1/CP.21 reached in Paris in 2015, and reiterated in decision 14/CMA.1 agreed at Katowice in 2018, the \$100 billion a year target also serves as the annual floor for international climate finance to 2025, when the new goal will be adopted. Formal deliberations will begin on the new climate finance goal at COP26 in Glasgow in 2021.

There are many elements of the \$100 billion a year target set in Copenhagen that are ill-defined: the definition of so-called ‘developed countries’ that form the contributor base or ‘developing countries’ that form the recipient base; the split between private and public finance; what might be considered ‘alternative sources of finance’; the acceptability of different financial instruments; and the appropriate balance between mitigation and adaptation finance. Article 9 of the Paris Agreement reiterates the need for financial resources to be provided by developed country Parties, but does not provide further clarity on any of the thorny issues raised above (UNFCCC, 2015).

While the loose wording of the \$100 billion a year target was considered a necessary political compromise, divergent perspectives on what counts towards the goal have subsequently fuelled disagreement (Pickering et al., 2015; Weikmans et al., 2020). Most analyses of climate finance flows are based on the datasets from Biennial Reporting to the UNFCCC, the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) creditor reporting system and multilateral development banks’ (MDBs’) joint reporting. However, individuals, organisations and countries give different weight to the motivation, level of concessionality, causality, geographic origin and recipient of climate finance (Bodnar et al., 2015; Bhattacharya et al., 2020). Consequently, there are many different estimates of progress towards the annual \$100 billion target, as outlined below. However, most conclude that developed countries fell short in 2020 (for example, see Alcayna, 2020; Bhattacharya et al., 2020; Roberts et al., 2021), and they look likely to do the same again in 2021.

Developed countries will need to meet and exceed the climate finance goal to maintain trust in UNFCCC processes and stimulate the more ambitious near-term pledges and measures needed to hold global warming to 1.5°C. Signatories to the Paris Agreement are expected to submit more

ambitious Nationally Determined Contributions (NDCs) in advance of COP26.¹ However, many developing countries are reluctant to ratchet up domestic ambition until developed countries outline a credible path to delivering the \$100 billion a year goal.

Citizens concerned about the climate emergency are looking to ensure that developed countries fulfil their commitments. However, the climate accords do not include a ‘fair share’ formula for determining how responsibility should be attributed among developed countries, and it is difficult to hold developed countries collectively accountable for the target despite the scientific consensus on the urgency of climate action (IPCC, 2021). Individual governments have not publicly indicated what they consider to be their fair share of the annual \$100 billion (Hattle and Nordbo, 2021), nor is there extensive analysis of how much each developed country should contribute towards the goal.²

Definitions and norms reflect power relations at a given time, and the climate diplomacy space is no exception. Determining the fair share of each developed country will be a fiercely contested process, although not one that has yet been made explicit. This paper seeks to catalyse a conversation about apportioning responsibility for the \$100 billion a year target among developed countries, and offers pointers as to what might underpin such a calculation. However, it also recognises that there will be different understandings of what a fair share constitutes and, furthermore, that a country’s fair share may change as its capabilities and climate policies evolve.

This paper updates and expands a preliminary analysis, published in July 2021 in advance of the G7 Summit (Colenbrander et al., 2021). That analysis focused narrowly on the eight Annex II countries attending the Summit (i.e. the G7 plus Australia) and considered only flows of international public climate finance. This working paper goes further by estimating the fair share of all Annex II countries and mapping this against their recent contributions.

1 As of August 2021, only 67 countries, collectively responsible for 31.8% of emissions, had submitted a new or updated NDC with more ambitious climate mitigation pledges than their previous NDC. For the latest commitments, see the NDC Enhancement Tracker: www.climatewatchdata.org/2020-ndc-tracker.

2 There is recent analysis examining individual countries and regions, notably commissioned by ACT Alliance EU to assess the climate finance offered by the member states of the European Union and European Free Trade Association (Hattle et al., 2021).

2 Methods

2.1 Defining the contributor base

The UNFCCC divides countries into three main groups according to their different commitments. Annex I Parties are industrialised countries that were members of the OECD in 1992, plus countries with economies in transition (Russia, the Baltic States and several Central and Eastern European states). Annex II Parties comprises the same list, excluding those countries that had economies in transition. Last, Non-Annex I Parties are all countries not included in Annex I. Only Annex II Parties are required to provide financial resources to enable developing countries to undertake emissions reduction activities under the Convention and to help them adapt to adverse effects of climate change. Subsequent negotiations, particularly the Cancun Agreements, provide greater clarity and specificity about developed country commitments.

Since countries were categorised under the UNFCCC, many have achieved significant increases in per capita incomes. Some have joined the OECD;³ others have not, but have become significant international financiers, including Brazil, China and Saudi Arabia. Some of these countries submit Biennial Reports that include information on climate finance to the UNFCCC, but they are not bound to provide or mobilise climate finance under the Convention.

For the sake of simplicity and transparency, this analysis assumes that the original 25 Annex II Parties⁴ will be held responsible for meeting the climate finance goal, excluding Turkey. Turkey was initially listed as an Annex II country, but was formally removed from this list after COP25 in Marrakech in 2001, citing ‘special conditions’ that distinguished it from other industrialised nations (Talu and Kocaman, 2019). A number of non-Annex II countries also make climate finance contributions voluntarily and/or through their contribution to the European Union budget (OECD, 2020a; Germany and the European Commission, 2020), but these commitments are not considered in this analysis. An important question for future analysis and negotiations is whether any non-Annex II countries should have responsibility for meeting the new climate finance goal, and if so which ones and on what basis.

3 Chile, Colombia, the Czech Republic, Estonia, Israel, South Korea, Latvia, Lithuania, Mexico, Poland, Slovakia and Slovenia.

4 Australia, Austria, Belgium, Canada, Denmark, the European Economic Community, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom (UK) and the United States (US).

2.2 Selecting indicators for responsibility attribution

This analysis selects three metrics to calculate a country's fair share of the new climate finance goal: gross national income (GNI) in 2020, population in 2020 and cumulative carbon dioxide (CO₂) emissions between 1990 and 2019.⁵ Each of these metrics speaks to different ways of understanding a fair share. Unlike development or humanitarian finance, climate finance is based on an explicit historic responsibility for global warming in addition to a moral imperative. Using cumulative emissions thus captures the 'polluter pays' principle. The principle of 'common but differentiated responsibility and respective capabilities' has long been at the heart of the Convention (UNFCCC, 1992), translated here as current economic and population size serving as a crude proxy for financial and human capital.

A range of alternative indicators could have been used. For example, the authors have chosen to use cumulative emissions from 1990 to 2019 because the first report of the Intergovernmental Panel on Climate Change (IPCC) was published in 1990. Using cumulative emissions from this date captures a country's climate policy choices once a clear scientific consensus could be used politically to justify domestic action. However, greenhouse gases emitted before 1990 are also contributing to global warming, and other authors may have chosen to use cumulative emissions since the industrial era began. Similarly, the authors have chosen to use 2020 data for income and population because the aim of this paper is to stimulate new climate finance commitments, so the recommendations attempt to reflect current financial and human capabilities. Other authors may have chosen to use income or population data from 1990, the point of scientific consensus, or 2009, when the \$100 billion target was agreed. The indicators are technical choices but translate into financial responsibilities, so should also be the subject of public debate and political negotiations, which these initial figures intend to inform and provoke.

Data for the three indicators was collated for developed countries from global datasets (Friedlingsten et al., 2020; World Bank, 2021a; 2021b). The most recently available data was used. The proportion of each country's economy, emissions and population was calculated as a proportion of Annex II countries' total, and these percentages were used to indicate each country's fair share of the \$100 billion a year target.

Considering all three metrics together provides a starting point for apportioning climate finance responsibility among developed countries. Comparing the findings for population and GNI illuminates inequalities of income, while comparing the findings for GNI and cumulative emissions highlights how the carbon intensity of economic activity varies across countries. The composite indicator is an average of each country's share of the developed countries' GNI, cumulative emissions and population, i.e. each of the three metrics is given equal weight in the composite indicator.

5 Note that the preliminary analysis (Colenbrander et al., 2021) used 2019 data for GNI and population, and 1990–2018 data for cumulative emissions. This partially explains small changes in each country's estimated fair share.

Table 1 Responsibility for the climate finance goal of \$100 billion using different indicators

Country	Gross national income		Cumulative CO ₂ emissions (1990–2019)		Population		Fair share based on a composite index (\$ billions)
	\$ billions (2020)	Share (%)	Gt CO ₂ (1990–2019)	Share (%)	Millions (2020)	Share (%)	
Australia	1,331	2.9	10.9	3.3	25.7	2.7	2.948
Austria	429	0.9	2.1	0.6	8.9	0.9	0.826
Belgium	515	1.1	3.5	1.1	11.6	1.2	1.125
Canada	1,643	3.5	16.4	4.9	38.0	4.0	4.153
Denmark	355	0.8	1.6	0.5	5.8	0.6	0.615
Finland	271	0.6	1.7	0.5	5.5	0.6	0.560
France	2,603	5.6	11.7	3.5	67.4	7.1	5.402
Germany	3,806	8.2	26.2	7.9	83.2	8.8	8.274
Greece	189	0.4	2.8	0.8	10.7	1.1	0.790
Iceland	22	0.0	0.1	0.0	0.4	0.0	0.038
Ireland	419	0.9	1.2	0.4	5.0	0.5	0.597
Italy	1,886	4.1	12.9	3.9	59.6	6.3	4.737
Japan ⁱ	5,065	10.9	36.9	11.1	125.8	13.3	11.740
Luxembourg	73	0.2	0.3	0.1	0.6	0.1	0.106
Netherlands	912	2.0	5.1	1.5	17.4	1.8	1.779
New Zealand	212	0.5	1.0	0.3	5.1	0.5	0.430
Norway	362	0.8	1.3	0.4	5.4	0.6	0.576
Portugal	231	0.5	1.7	0.5	10.3	1.1	0.696
Spain	1,281	2.8	8.6	2.6	47.4	5.0	3.445
Sweden	538	1.2	1.6	0.5	10.4	1.1	0.906
Switzerland	748	1.6	1.3	0.4	8.6	0.9	0.968
United Kingdom	2,708	5.8	15.7	4.7	67.2	7.1	5.873
United States	20,937	45.0	168.4	50.6	329.5	34.7	43.416
Total Annex II countries	46,538	100	333.2	100	1,006	100	100

ⁱData on GNI for Japan is for 2019.

Note: CO₂, carbon dioxide; Gt, gigatonnes.

Sources: Friedlingstein et al. (2020); World Bank (2021a; 2021b)

2.3 Measuring climate finance contributions

As indicated in Chapter 1, there is considerable debate about what constitutes climate finance and, consequently, progress towards the \$100 billion a year goal. This analysis uses data from three sources: the OECD's DAC, the UNFCCC Biennial Reports and Oxfam. This section introduces each source before presenting their respective estimates of average climate finance flows in 2017–2018, the most recent year for which this data is available for all three sources.

Within the OECD DAC creditor reporting system, each country marks its bilateral development assistance according to whether it is significantly intended to target climate change (Rio Marker 1); principally intended to target climate change (Rio Marker 2); or does not target climate change at all (OECD, n.d.). Additionally, the OECD DAC System collects data on each country's contribution to multilateral organisations, which then self-report on their own outflows of climate finance.

In addition to providing data to the OECD DAC, Annex I countries also submit Biennial Reports to the UNFCCC. Parties have agreed and reiterated at various COPs that the Biennial Reports would be used to report financial information with 'common reporting formats, methodologies for finance and tracking of climate-related support'.

Both the OECD DAC and Biennial Reports are based on self-reporting by developed countries, but there are significant differences in what countries choose to report (Weikmans et al., 2020). Some are stricter in reporting and provide mostly grants (such as Denmark and the UK); others are more lax (such as Japan) and provide a higher proportion of loans (such as France). Civil society organisations and networks, such as the independent Global Stocktake (iGST), play an important role in highlighting these discrepancies and holding developed countries to account.

Oxfam's biennial *Climate Finance Shadow Report* is a good example. Based on the OECD DAC Creditor Reporting System and the Biennial Reports to the UNFCCC, Oxfam introduces two methodological differences. First, it calculates the grant equivalent of loans, guarantees and other non-grant instruments, while the OECD DAC takes them at face value. More simply, Oxfam estimates the net financial transfer to developing countries once repayments, interest and other factors are taken into account. Second, Oxfam measures the climate relevance of Rio Marker 1 projects more stringently than most donors. Most developed countries adopt a blanket approach to Rio Marker 1 projects, automatically ascribing a share of the finance to climate purposes. Most countries apply a percentage of 40–50%; Japan is an outlier at 100%. Oxfam offers a range of 30–50% to reduce the risk of overcounting. The Oxfam data also only includes bilateral public climate finance.

Table 2 Contributions to the climate finance goal of \$100 billion using different measures

Country/entity	Bilateral, grant-equivalent climate finance (2017–2018 average, \$ billion) Oxfam ⁱ	Bilateral and multilateral, public climate finance (2017–2018 average, \$ billion) OECD DAC	Bilateral and multilateral, public climate finance (2017–2018 average, \$ billion) UNFCCC Biennial Reports
Australia	0.119	0.477	0.240
Austria	–	0.255	0.232
Belgium	–	0.378	0.107
Canada	0.212	0.697	0.361
Denmark	0.159	0.341	0.219
EU institutions (excluding EIB)	3.157	5.549	6.400
Finland	–	0.198	0.095
France	1.309	3.988	5.470
Germany	3.461	8.093	7.420
Greece	–	0.005	0.005
Iceland	–	0.013	0.018
Ireland	–	0.099	0.084
Italy	–	0.530	0.623
Japan ⁱⁱ	5.025	9.372	10.413
Luxembourg	–	0.035	0.120
Netherlands	0.364	0.941	0.560
New Zealand	–	0.071	0.036
Norway	0.513	1.082	0.651
Portugal	–	0.019	0.002
Spain	0.108	0.326	0.713
Sweden	0.437	1.222	0.621
Switzerland	0.221	0.601	0.411
United Kingdom	1.110	2.174	1.360
United States	1.382	1.856	No submission
Other Annex II countries	0.722	–	–
Total developed countries	18.299	38.322	36.160

ⁱOxfam did not publish a grant-equivalent estimates for all Annex II countries, so gaps indicate an absence of data rather than an absence of grant-equivalent finance. ⁱⁱData on GNI for Japan is for 2019.

Note: EIB, European Investment Bank; EU, European Union; OECD DAC, Organisation for Economic Co-operation and Development Development Assistance Committee; UNFCCC, United Nations Framework Convention on Climate Change.

Sources: Oxfam (2020); OECD (2021); UNFCCC (2020)

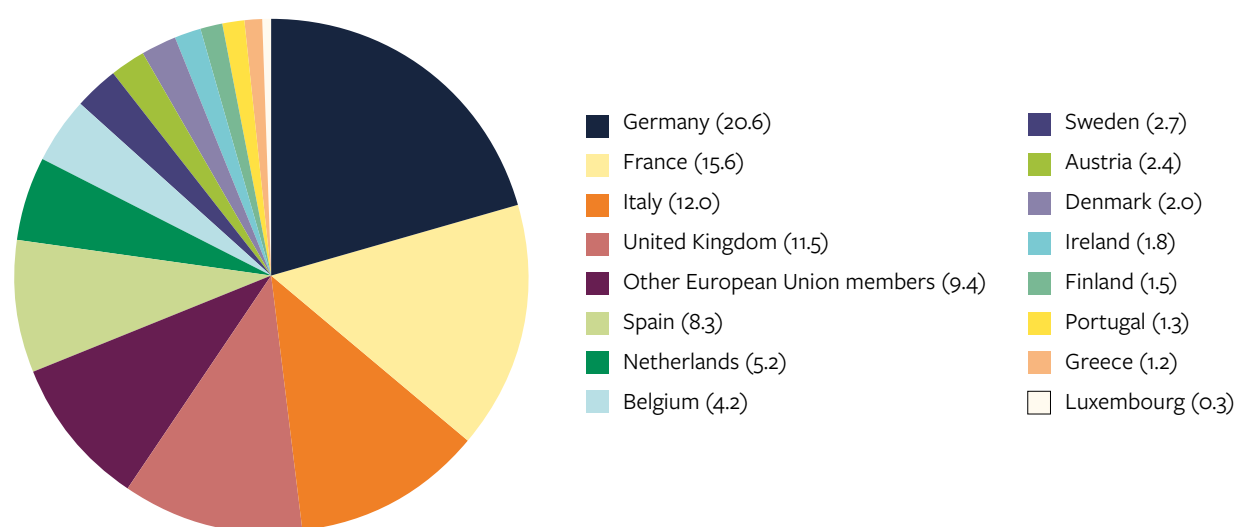
OECD (2021) found that the Annex II countries collectively contributed an average of \$38.3 billion in public climate finance for 2017 and 2018, excluding export credits or additional public finance mobilised by multilateral organisations. Including the latter resources brings public climate finance up to \$62.2 billion (OECD, 2020b). Over the same period, Oxfam (2020) estimated that the grant equivalent of this climate finance was between \$18.3 billion and \$22.5 billion. Note that this estimate includes both bilateral and multilateral climate finance; however, Oxfam did not publish a country breakdown for multilateral flows on a grant-equivalent basis, so the numbers in Table 2 only represent grant-equivalent bilateral flows. The deadline for submission of the fourth Biennial Reports was 1 January 2020. While individual Biennial Reports are available (with the exception of the US, which has not yet submitted its report), the UNFCCC’s 2020 *Biennial Assessment and Overview of Climate Finance* has not yet been published so the UNFCCC’s aggregate estimates are not available.

All three sources focus on international, public climate finance as data on mobilisation of private climate finance is not disaggregated by provider country. All three sources are based on a provider perspective (outflows) rather than recipient perspective (inflows).

Whichever method is used to measure climate finance, the European Union (EU) is a significant provider. Its contribution is noted separately in Table 2. However, this aggregate contribution is attributed to individual countries in Chapter 3, where their progress towards their fair share is assessed. Attribution is based on each country’s proportional contribution to the EU budget in 2018 (European Union, 2019), with their share detailed in Figure 1. A share of the EU’s climate finance flows in 2017–2018 has also been attributed to the UK, given that it did not leave the EU until 2020.

This working paper primarily assesses countries’ progress towards their fair share of the climate finance goal based on bilateral and multilateral provision of climate finance by country as reported to the OECD DAC.

Figure 1 Share of EU climate finance flows attributed to member countries



Source: European Union (2019: 39)

3 Indicative assessment of country performance

Developed countries pledged to provide and mobilise \$100 billion each year by 2020. This chapter assesses whether individual countries are on track to pay their fair share of this goal by comparing their climate finance contributions against a composite index based on GNI, cumulative emissions and population. Figures for climate finance contributions are drawn from the OECD DAC creditor reporting system, with climate finance provided by EU institutions attributed to member countries based on the share that they contributed to the total EU budget.

Germany, Norway and Sweden are paying their fair share of the \$100 billion a year goal using public climate finance. This holds true whether their contribution is benchmarked against the composite indicator or any of the three metrics that underpin it. France and Japan come close in 2017–2018, paying more than three-quarters of their fair share. If they increased their contributions in 2019–2020, they may have met their fair share of the climate finance goal for that year – the deadline agreed in Copenhagen. At the other end of the spectrum, Australia, Greece, New Zealand, Portugal and the US contributed less than 20% of their fair share of climate finance. Table 3 ranks countries based on progress towards their fair share of the \$100 billion a year target.

Annex II countries have ‘common but differentiated responsibility and respective capabilities’ to provide climate finance. Using the composite index, larger, wealthier and more carbon-intensive economies will have greater responsibility to provide climate finance. In absolute terms, the vast majority of the shortfall comes from the US which is an outlier among Annex II countries for its population size, economic heft and historical contribution to climate change. The US economy is four times larger than that of Japan, five times larger than Germany, seven times larger than the UK and eight times larger than France – yet it provides less climate finance than any of them.

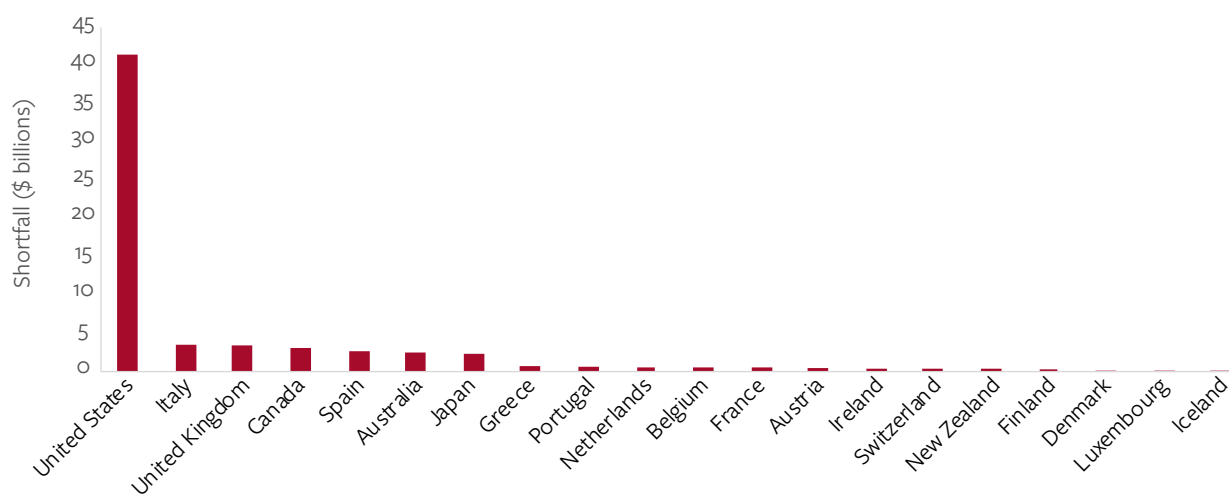
In absolute terms (see Figure 2), most of the remaining shortfall can be attributed to Australia, Canada, Japan, Italy and the UK. Each of these countries should be mobilising an additional \$2–4 billion a year to fulfil their fair share of the current climate finance goal. Australia, Canada and Italy are significant laggards, all paying less than a quarter of their fair share. Japan and the UK are both making greater progress towards meeting their fair share, but have large economies so any shortfall makes a significant difference to achieving the \$100 billion goal. It is also important to recognise differences in provision and reporting; specifically, the UK provides a larger share as grant finance and reports its climate finance more stringently than the other countries in this list.

Table 3 Scorecard of progress towards a fair share of international climate finance (2017–2018)

Country	Fair share based on a composite index (\$ billions)	Climate finance contributions (2017–2018 average, \$ billions)	Progress towards providing a fair share of climate finance (%)
Norway	0.576	1.082	188
Sweden	0.906	1.372	151
Germany	8.274	9.236	112
France	5.402	4.854	90
Japan	11.740	9.372	80
Denmark	0.615	0.452	74
Netherlands	1.779	1.230	69
Switzerland	0.968	0.601	62
Belgium	1.125	0.611	54
Finland	0.560	0.281	50
Luxembourg	0.106	0.051	48
United Kingdom	5.873	2.812	48
Austria	0.826	0.388	47
Iceland	0.038	0.013	36
Ireland	0.597	0.199	33
Italy	4.737	1.195	25
Spain	3.445	0.787	23
Canada	4.153	0.697	17
New Zealand	0.430	0.071	17
Australia	2.948	0.477	16
Portugal	0.696	0.091	13
Greece	0.790	0.072	9
United States	43.416	1.856	4

Note: Countries in dark green are paying their fair share of climate finance. Colours are in quartile increments. Light green, paying 75–100% of their fair share; yellow, paying 50–75% of their fair share; orange, paying 25–50% of their fair share; red, paying less than 25% of their fair share.

Figure 2 Shortfall between a country's climate finance contribution (2017–2018) and their fair share, using the composite index



Note: Each country's contribution is based on international, public climate finance as submitted to OECD DAC, with climate finance provided by EU institutions attributed to members based on their contribution to the EU budget. Each country's fair share is based on a composite index using GNI (2020), population (2020) and cumulative emissions (1990–2019). Germany, Norway and Sweden do not feature as they are paying their fair share of the \$100 billion target.

It is important to reiterate the limits of the data on climate finance. There are four reasons why the table above may understate a country's contribution relative to its fair share.

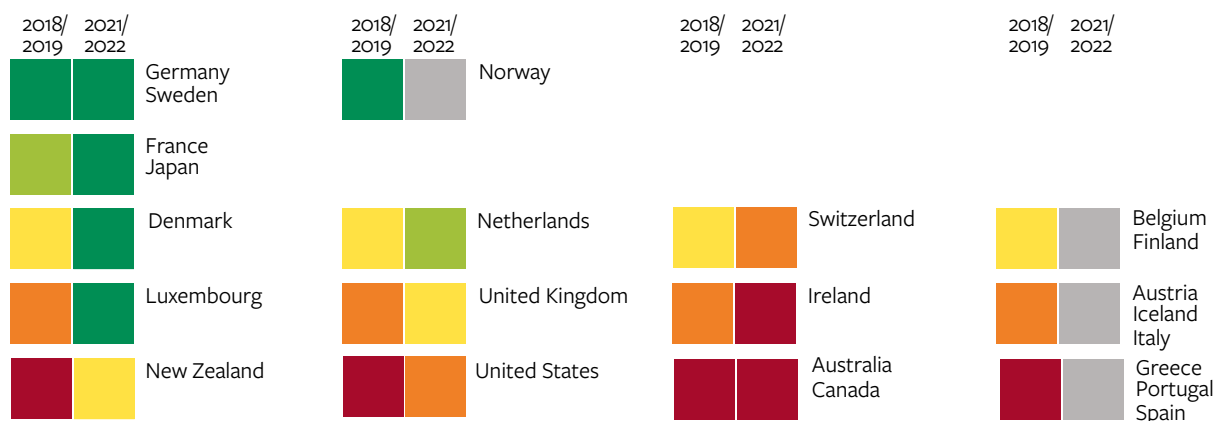
- 1. Recent data on climate finance is lacking.** The data on the provision of climate finance is from 2017–2018, but the Copenhagen Accord committed developed countries to mobilise \$100 billion a year by 2020. Countries that are green in Table 3 have met their fair share early; any countries that increased their contribution above 2017–2018 levels to meet their fair share in 2019–2020 are not recognised here.
- 2. Data on private finance mobilisation by country is lacking.** The MDBs estimate that they directly mobilised \$5.59 billion and indirectly mobilised \$27.0 billion in 2018 (World Bank, 2019). The OECD estimates that developed countries mobilised private climate finance worth \$14.6 billion in the same year (OECD, 2020b). Whichever number is more robust, it is clear that not enough private finance was mobilised to close the gap to the \$100 billion target. However, if it was possible to attribute these contributions at the country level, countries would be making more progress towards their fair share of climate finance.
- 3. Data on climate finance outflows is not included.** The OECD DAC data and UNFCCC Biennial Reports include bilateral climate finance and the climate share of national contributions to international organisations. However, multilateral outflows typically exceed inflows because international organisations can draw on retained earnings, raise additional resources on capital markets and provide loans from grant resources, thereby increasing total flows of concessional finance. Outflows are difficult to precisely attribute to a specific donor year on year (OECD, 2018),

so this study understates climate finance provided and mobilised by countries that channel more resources through multilateral organisations, such as Australia, Belgium, Finland, Greece and Portugal.

4. Data on the quality of climate finance is not included. There are many ways to assess the quality of climate finance, including transparency, predictability and ownership. One metric is concessionality, which is particularly relevant when measuring whether a country is contributing its fair share. Almost all developed countries must increase their commitments if measured against Oxfam’s more stringent definition of climate finance. Looking exclusively at the grant-equivalent of bilateral contributions, only Norway comes close to providing its fair share of climate finance using the composite index. France and Spain perform particularly poorly, providing only a quarter and a fifth of their self-reported bilateral climate finance respectively in grant-equivalent terms. The provision of more concessional finance is particularly important to enable climate action by Least Developed Countries⁶, Small Island Developing States and other highly vulnerable countries.

Figure 3 and Table 4 outline how far individual countries had progressed towards their fair share of the climate finance goal in 2017/2018, and how much further progress they will make based on new climate finance commitments. It is important to note that these pledges do not always include contributions to multilateral organisations, so may understate a country’s likely climate finance commitments (for example, for the UK and US). Each country’s climate finance recent and pledged contribution is benchmarked against the composite index.

Figure 3 Progress on the payment of developed countries’ fair share from 2018/2019 to 2021/2022



Notes: Countries in dark green are paying their fair share of climate finance. Colours are in quartile increments. Light green, paying 75–100% of their fair share; yellow, paying 50–75% of their fair share; orange, paying 25–50% of their fair share; red, paying less than 25% of their fair share. Insufficient data is provided by countries in grey.

6 ‘Least Developed Countries’ (LDCs) is a category used across the UN system and in much development literature: www.un.org/development/desa/dpad/least-developed-country-category.html. Here, the authors acknowledge current debates that question the use of this terminology, seeking to challenge the power relationships and assumptions inherent in ideas about progress and development. Although in this instance we employ the term ‘LDCs’ to situate this report within the current literature, we will continue interrogating the term and working with our partners to develop more appropriate language and terminology.

Table 4 Detail of progress towards each developed country's fair share of the climate finance goal

Country	Progress towards fair share
Australia	Australia should be contributing \$2.7–3.7 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$477 million, or 16% of its fair share measured against the composite index. Almost all of Australia's bilateral climate finance was provided as grants. Looking forward, Australia has committed AU\$1.5 billion (\$1.1 billion) for climate finance for 2021–2025 (Government of Australia, 2020), which means it will be funding only 7% of its fair share over the next five years.
Austria	Austria should be contributing \$617–939 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$388 million, or 47% of its fair share measured against the composite index. Austria has not provided enough quantitative information to assess its future climate finance contributions (Hattle and Nordbo, 2021).
Belgium	Belgium should be contributing \$1.1–1.2 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$611 million, or 54% of its fair share measured against the composite index. Belgium has not provided enough quantitative information to assess its future climate finance contributions (Hattle and Nordbo, 2021).
Canada	Canada should be contributing \$3.5–4.9 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$697 million, or 17% of its fair share measured against the composite index. Canada has committed CA\$5.3 billion (\$4.2 billion) for climate finance in 2021–2025 (Government of Canada, 2021), which means it will be funding only 20% of its fair share over the next five years.
Denmark	Denmark should be contributing \$467–763 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$452 million, or 74% of its fair share measured against the composite index. Almost all of Denmark's bilateral climate finance was provided as grants. Denmark has committed to contributing 1% of the 100bn goal, equivalent to 1bn per year until 2025 and will pay more than its fair share (Prime Minister of Denmark, 2021).
Finland	Finland should be contributing \$515–583 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$281 million, or 50% of its fair share measured against the composite index. Finland has not provided enough quantitative information to assess its future climate finance contributions (Hattle and Nordbo, 2021).
France	France should be contributing \$3.5–7.1 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$4.9 billion, or 90% of its fair share measured against the composite index. However, most of these resources were provided as loans rather than grants. France has committed €6 billion (\$7.1 billion) of climate finance annually (ibid.), so the country will be paying more than its fair share.
Germany	Germany should be contributing \$7.9–8.8 billion a year depending on which metric is used to attribute fair share. In 2017–2018 it provided an annual average of \$9.2 billion, so the country is generously exceeding its fair share. It provided about half as much in grant-equivalent terms. Germany has communicated that its annual, grant-equivalent climate finance contribution will be increased from €4 billion to €6 billion (\$4.7 billion to \$7.1 billion) by 2025 (BMZ, 2021). When coupled with loan financing from KfW, it looks likely that Germany will continue to pay its fair share.

Country	Progress towards fair share
Greece	Greece should be contributing \$407 million–1.1 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$72 million, or 9% of its fair share measured against the composite index. Greece has not provided enough quantitative information to assess its future climate finance contributions (Hattle and Nordbo, 2021).
Iceland	Iceland should be contributing \$28–47 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$13 million, or 36% of its fair share measured against the composite index. Iceland has not provided enough quantitative information to assess its future climate finance contributions (ibid.).
Ireland	Ireland should be contributing \$364–900 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$199 million, or 33% of its fair share measured against the composite index. Ireland has committed to at least double the percentage of official development assistance spent on climate finance by 2030 (IrishAid, 2021), further indicating that this would be a minimum of €80 million (\$94.4 million) annually (Germany and the European Commission, 2020). At this minimum rate, Ireland would provide only 16% of its fair share.
Italy	Italy should be contributing \$3.9–6.3 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$1.2 billion, or 25% of its fair share measured against the composite index. Italy has not provided enough quantitative information to holistically assess its future climate finance contributions (Hattle and Nordbo, 2021).
Japan	Japan should be contributing \$10.9–13.3 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$9.4 billion, or 80% of its fair share measured against the composite index. Of that, half was in grant-equivalent terms. Japan has committed 6.5 trillion Japanese yen (\$58.5 billion) from 2021 to 2025 (Ministry of Foreign Affairs of Japan, 2021), so the country will be meeting its fair share.
Luxembourg	Luxembourg should be contributing \$67–157 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$51 million, or 48% of its fair share measured against the composite index. Luxembourg has committed €200 million (\$236 million) of climate finance annually from 2021 to 2025 (Hattle and Nordbo, 2021), so will be exceeding its fair share.
Netherlands	The Netherlands should be contributing \$1.5–2.0 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$1.2 billion, or 69% of its fair share measured against the composite index. Almost all of its bilateral climate finance was provided as grants. The Netherlands has committed to provide €580 million (\$684 million) of public climate finance and mobilise €600 million (\$708 million) of private climate finance in 2021 (Germany and the European Commission, 2020), so the country will be paying around 78% of its fair share.
New Zealand	New Zealand should be contributing \$299–535 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$71 million, or 17% of its fair share measured against the composite index. New Zealand has committed to provide at least NZ\$1.3 billion (\$0.9 billion) over 2022–2025 (Straits Times, 2021). The country will be paying around 53% of its fair share.

Country	Progress towards fair share
Norway	Norway should be contributing \$383–778 million a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$1.1 billion so the country is generously exceeding its fair share. Norway has not provided enough quantitative information to holistically assess its future climate finance contributions (Hattle and Nordbo, 2021).
Portugal	Portugal should be contributing \$497 million–1.1 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$91 million, or 13% of its fair share measured against the composite index. Portugal has not provided enough quantitative information to holistically assess its future climate finance contributions (ibid.).
Spain	Spain should be contributing \$2.4–4.3 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$787 million, or 23% of its fair share measured against the composite index. Most of these resources were provided as loans rather than grants. Spain has not provided enough quantitative information to holistically assess its future climate finance contributions (ibid.).
Sweden	Sweden should be contributing \$440 million–1.1 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$1.4 billion, so the country is generously exceeding its fair share. Almost all of its bilateral climate finance was provided as grants. Sweden has reiterated its commitment to 6.5 billion Swedish krona (\$751 million) of climate finance from 2018 to 2022 (Germany and the European Commission, 2020), so the country will be pay 86% of its fair share, at minimum. This may not fully represent the country's contribution: Sweden committed SEK 6 billion in 2018 alone (Hattle and Nordbo, 2021).
Switzerland	Switzerland should be contributing \$350 million–\$1.5 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$601 million, or 62% of its fair share measured against the composite index. Looking forward, Switzerland has committed to provide 400 million Swiss francs (\$439 million) a year (Government of Switzerland, 2020), so the country will continue to fall short of its fair share, showing only 45% progress, using the composite index.
United Kingdom (UK)	The UK should be contributing \$4.4–6.2 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$2.8 billion, or 48% of its fair share measured against the composite index. Almost all of the UK's bilateral climate finance was provided as grants. The UK has pledged to provide £11.6 billion (\$16.1 billion) between 2021 and 2025 (HM Government, 2020), which means the country will be providing 55% of its fair share over the next five years.
United States (US)	The US should be contributing \$30.2–47.2 billion a year depending on which metric is used to attribute fair share. In 2017–2018, it provided an annual average of \$1.9 billion, or just 4% of its fair share measured against the composite index. The Biden administration has requested \$11.4 billion for climate finance annually, until 2025 (Reuters, 2021). This would bring the country's annual contribution to 26% of its fair share.

Note: The following exchange rates have been used: AUD1:USD0.73, EUR1:USD1.18, CAD1:USD0.80, DKK1:USD0.16, JPY1:USD0.009, NZD1:USD0.70, SEK1:USD0.12, CHF1:USD1.10 and GBP1:USD1.39.

Source: www.xe.com on 17 August 2021.

4 Options for responsibility attribution

This chapter looks more closely at each of the three metrics used to apportion responsibility for international climate finance among developed countries. It then highlights the 10 countries that would have the greatest responsibilities towards the \$100 billion a year target (see Table 5).

First, cumulative CO₂ emissions. This metric primarily reflects historic responsibility for climate change. Given the close relationship between greenhouse gas emissions and economic activity in the past, this metric also partially captures income and population, and therefore capabilities to provide finance. It is therefore the authors' preferred indicator.

The US is responsible for over half – 50.6% – of emissions from developed countries between 1990 and 2019. Japan and Germany are a distant second and third, accounting for 11.1% and 7.9% of cumulative emissions from developed countries since 1990. Using this metric, countries with high-carbon economies such as Australia and Canada have greater responsibility to provide climate finance than they would using metrics such as GNI and population.

This analysis uses cumulative emissions from 1990 to 2019. It would also be possible to include historical emissions from earlier years, as outlined in Section 2.2. This would disadvantage countries that industrialised early and have subsequently decarbonised economic activity, such as France, Germany and the UK.

Second, GNI. This metric reflects potential economic capabilities to provide finance to developing countries. GNI fails to capture heterogeneity in income levels among developed countries, which disadvantages countries that have large populations but relatively low per capita incomes. It also does not reflect the carbon intensity of economic activity, to the detriment of countries that have a relatively clean energy supply.

The US is by far the largest economy among the developed countries, accounting for 45.0% of their collective GNI in 2020. Japan is second at 10.9% with Germany close behind at 8.2%. This metric disadvantages countries such as France, Italy, Spain and the UK that have begun to decouple economic activity and greenhouse gas emissions.

Third, total population. This metric arguably represents capabilities to respond to climate change, given the importance of human capital. It disadvantages countries with larger populations and lower per capita incomes or emissions. This is a regressive metric and not the one that the authors would recommend to apportion responsibility for climate finance, but its inclusion here is intended to highlight inequalities among so-called developed countries that need to be surfaced as responsibility for the climate finance goal is apportioned. Using this metric, the US responsibility for meeting the climate finance goal falls to 34.7% of the target; meanwhile, countries like Italy, Portugal and Spain see a large increase in their fair share.

Table 5 The 10 countries with the greatest responsibility for international climate finance using each metric, and their fair share

Level of responsibility	Cumulative emissions		Gross national income		Population	
	Country	Fair share (\$ billions)	Country	Fair share (\$ billions)	Country	Fair share (\$ billions)
1	United States	50.6	United States	45.0	United States	34.7
2	Japan	11.1	Japan	10.9	Japan	13.3
3	Germany	7.9	Germany	8.2	Germany	8.8
4	Canada	4.9	United Kingdom	5.8	France	7.1
5	United Kingdom	4.7	France	5.6	United Kingdom	7.1
6	Italy	3.9	Italy	4.1	Italy	6.3
7	France	3.5	Canada	3.5	Spain	5.0
8	Australia	3.3	Australia	2.9	Canada	4.0
9	Spain	2.6	Spain	2.8	Australia	2.7
10	Netherlands	1.5	Netherlands	2.0	Netherlands	1.8

Whichever metric is used, it is clear that most developed countries have not provided their fair share of international climate finance to date, nor do they have plans to increase their contributions sufficiently to meet the target going forward. Other publications additionally make the case for increasing the proportion of grant finance and adaptation finance to enable lower-income countries to respond more effectively to climate change. Disputes around climate finance risk poisoning other parts of the climate negotiations. To fill the climate finance gap, Canada and Germany are co-leading a process to deliver on the \$100 billion a year goal, working closely with the COP26 Presidency. This working paper will hopefully facilitate an informed discussion about which countries need to step up, and by how much, to meet the climate finance goal agreed in Copenhagen in 2009.

References

- Alcayna, T.** (2020) *At what cost: how chronic gaps in adaptation finance expose the world's poorest people to climate chaos*. Zurich Flood Resilience Alliance (<https://floodresilience.net/resources/item/at-what-cost-how-chronic-gaps-in-adaptation-finance-expose-the-world-s-poorest-people-to-climate-chaos/>).
- Bhattacharya, A., Calland, R., Averchenkova, A. et al.** (2020) *Delivering on the \$100 billion commitment and transforming climate finance*. The Independent Expert Group on Climate Finance (www.un.org/sites/un2.un.org/files/100_billion_climate_finance_report.pdf).
- Bodnar, P., Brown, J. and Nakhooda, S.** (2015) *What counts: tools to help define and understand progress towards the \$100 billion climate finance commitment*. Working paper. Washington DC and London: World Resources Institute, Climate Policy Initiative and ODI (www.wri.org/research/what-counts-tools-help-define-and-understand-progress-towards-100-billion-climate-finance).
- BMZ – Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung** (2021) 'Bundesminister Müller begrüßt die Ankündigung zum Ausbau der internationalen Klimafinanzierung' ('Federal Minister Müller welcomes announcement on the expansion of international climate finance'). Press release, 13 June (www.bmz.de/de/aktuelles/ausbau-der-internationalen-klimafinanzierung-83484).
- Colenbrander, S., Cao, Y. and Pettinotti, L.** (2021) 'A fair share of climate finance? An initial effort to apportion responsibility for the \$100 billion climate finance goal'. ODI emerging analysis. London: ODI (<https://odi.org/en/publications/a-fair-share-of-climate-finance-an-initial-effort-to-apportion-responsibility-for-the-100-billion-climate-finance-goal/>).
- European Union** (2019) *EU budget 2018: financial report*. Luxembourg: Publications Office of the European Union (https://ec.europa.eu/info/sites/default/files/about_the_european_commission/eu_budget/financial_report_web.pdf).
- Friedlingstein, P., O'Sullivan, M., Jones, M.W. et al.** (2020) 'The global carbon budget 2020' *Earth System Science Data* 12(4) 3269–3340 (<https://doi.org/10.5194/essd-12-3269-2020>).
- Germany and the European Commission** (2020) 'EU Submission on information to be provided by Parties in accordance with Article 9, paragraph 5, of the Paris Agreement'. Berlin: European Commission (<https://unfccc.int/sites/default/files/resource/DE-11-24-2020%20-%20EU%20Submission%20on%20Article%209.5.pdf>).
- Government of Australia** (2020) 'Australia's biennial communication – December 2020'. Bonn: United Nations Framework Convention on Climate Change (UNFCCC) (www4.unfccc.int/sites/SubmissionsStaging/Documents/202012221040---Australia%20Biennial%20Communication%20to%20UNFCCC%20-%20final%20.pdf).
- Government of Canada** (2021) 'Canada's international climate finance'. Webpage (www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/climate-finance.html).

- Government of New Zealand** (2020) ‘New Zealand submission of information to be provided by Parties in accordance with Article 9, paragraph 5, of the Paris Agreement’. Bonn: UNFCCC (www4.unfccc.int/sites/SubmissionsStaging/Documents/202012220858---New%20Zealand%209.5%20Submission%20December%202020.pdf).
- Government of Switzerland** (2020) ‘Submission of Switzerland to communicate indicative quantitative and qualitative information related to Article 9, paragraphs 1 and 3 of the Paris Agreement for 2021 and 2022’. Bonn: UNFCCC (<https://unfccc.int/topics/climate-finance/workstreams/ex-ante-climate-finance-information-post-2020-article-95-of-the-paris-agreement>).
- Hattle, A. and Nordbo, J.** (2021) *Hollow commitments: an analysis of developed countries’ climate finance plans*. Copenhagen: CARE Denmark (<https://careclimatechange.org/hollow-commitments-an-analysis-of-developed-countries-climate-finance-plans/>).
- Hattle, A., Deigaard, H.P., Pinderup, L. and Roy, C.** (2021) *Setting the standard: climate finance from EU and EFTA member states*. Geneva: ACT Alliance EU (https://actalliance.eu/wp-content/uploads/2021/01/ACT-Alliance_EU_SettingTheStandard.pdf).
- HM Government** (2020) ‘United Kingdom biennial finance communication to the United Nations Framework Convention on Climate Change. Bonn: UNFCCC (<https://unfccc.int/sites/default/files/resource/UK%20Biennial%20Finance%20Communication%202020%20-%20publication%20version%20%281%29.pdf>).
- IPCC – Intergovernmental Panel on Climate Change** (2021) ‘Climate change 2021: the physical science basis’. Contribution of Working Group I to the *Sixth Assessment Report of the IPCC*. Cambridge: Cambridge University Press. In press (www.ipcc.ch/report/sixth-assessment-report-working-group-i/).
- IrishAid** (2021) ‘Minister Brophy launches Ireland’s *Climate finance report 2019*’. Press release, 8 March (www.irishaid.ie/news-publications/press/pressreleasearchive/2021/march/minister-brophy-launches-irelands-climate-finance-report-2019.html).
- Ministry of Foreign Affairs of Japan** (2021) ‘Japan’s renewed commitment on climate finance 2021–25’. Ministry of Foreign Affairs of Japan (www.mofa.go.jp/files/100200521.pdf).
- OECD – Organisation for Economic Co-operation and Development** (n.d.) *OECD DAC Rio markers for climate handbook*. Paris: OECD (www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm).
- OECD** (2018) ‘Methodological note on the OECD-DAC climate-related development finance database’. Paris: OECD (www.oecd.org/dac/financing-sustainable-development/development-finance-data/METHODOLOGICAL_NOTE.pdf).
- OECD** (2020a) ‘2020 projections of climate finance towards the USD 100 billion goal: technical note’. Paris: OECD (www.oecd.org/environment/cc/Projecting%20Climate%20Change%202020%20WEB.pdf).
- OECD** (2020b) *Climate finance provided and mobilised by developed countries in 2013–18*. Paris: OECD (www.oecd.org/environment/climate-finance-provided-and-mobilised-by-developed-countries-in-2013-18-fo773d55-en.htm).
- OECD** (2021) ‘Creditor reporting system’. Dataset. Paris: OECD (<https://stats.oecd.org/Index.aspx?DataSetCode=crs1>).
- Oxfam** (2020) *Climate finance shadow report 2020: assessing progress towards the \$100 billion commitment*. Oxford: Oxfam GB (www.oxfam.org/en/research/climate-finance-shadow-report-2020).

- Pickering, J., Jotzo, F. and Wood, P.J.** (2015) 'Sharing the global climate finance effort fairly with limited coordination' *Global Environmental Politics* 15(4): 39–62 (https://doi.org/10.1162/GLEP_a_00325).
- Prime Minister of Denmark** (2021) Announcement at the ORF Conference, 11 October (<https://twitter.com/orfonline/status/1447448506965266432>).
- Reuters** (2021) 'Biden pledges to double U.S. climate change aid; some activists unimpressed'. Reuters, 21 September (www.reuters.com/business/environment/us-seeks-double-climate-change-aid-developing-nations-biden-2021-09-21/).
- Roberts, J.T., Weikmans, R., Robinson, S. et al.** (2021) 'Rebooting a failed promise of climate finance' *Nature Climate Change* 11: 180–182 (<https://doi.org/10.1038/s41558-021-00990-2>).
- Straits Times** (2021) 'New Zealand boosts climate aid ahead of Glasgow summit'. Straits Times, 18 October (www.straitstimes.com/asia/australianz/new-zealand-boosts-climate-aid-ahead-of-glasgow-summit).
- Talu, N. and Kocaman, H.** (2019) 'Turkey's climate change policy, legal and institutional framework'. Climate change training module series 4. Brussels and Ankara: European Union and the Government of Turkey (www.iklimin.org/wp-content/uploads/2020/03/modul_04_en-1.pdf).
- UNFCCC – United Nations Framework Convention on Climate Change** (1992) United Nations Framework Convention on Climate Change. Bonn: UNFCCC (<https://unfccc.int/resource/docs/convkp/conveng.pdf>).
- UNFCCC** (2009) Copenhagen Accord. Bonn: UNFCCC (<https://unfccc.int/resource/docs/2009/cop15/eng/lo7.pdf>).
- UNFCCC** (2015) Paris Agreement. Bonn: UNFCCC (<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>).
- UNFCCC** (2020) *Fourth biennial reports – annex I*. Bonn: UNFCCC (<https://unfccc.int/BRs>).
- Weikmans, R., Roberts, T. and Robinson, S.** (2020) 'What counts as climate finance? Define urgently' *Nature* 588: 220 (<https://doi.org/10.1038/d41586-020-03481-0>).
- World Bank** (2019) *Joint report on multilateral development banks' climate finance 2018*. Washington DC: World Bank (<http://documents.worldbank.org/curated/en/247461561449155666/Joint-Report-on-Multilateral-Development-Banks-Climate-Finance-2018>).
- World Bank** (2021a) 'GNI (current US\$)'. Online dataset. Washington DC: World Bank (<https://data.worldbank.org/indicator/NY.GNP.MKTP.CD>).
- World Bank** (2021b) 'Population, total'. Online dataset. Washington DC: World Bank (<https://data.worldbank.org/indicator/SP.POP.TOTL>).