

Chapter 13

Tackling Climate Change: Global Cooperation and China's Commitment



Abstract Climate issues require a coordinated global response. Greenhouse gases, such as carbon dioxide, remain in the atmosphere for a long period of time and exert a strong influence. Carbon emissions are transnational and intergenerational in nature; they also present a “free-rider” problem due to their role as global public goods. This makes it necessary for nations to go beyond their own decision-making processes and seek global cooperation to solve the problem of climate change. In fact, in the absence of supranational governance bodies, it requires transnational negotiations and consultations to build a global climate governance system. However, under existing technological systems and energy resource endowments, responding to climate change by reducing greenhouse gas emissions may impose constraints on economic development. Looking back at global cooperation in tackling climate change, we find that disputes between countries in politics, economy, science, and technology have posed challenges to the creation of a “fair and effective” global climate governance model. Of course, from a broader perspective, global climate governance has spillover effects, due to its interplay with other fields of international cooperation, such as security, trade, investment, and technology. For example, the carbon border tax proposed by the EU may have a profound impact on current international trade patterns, and high-emission industries could bear the brunt of such actions. In addition, addressing climate change and achieving sustainable development also impose new requirements for the development of global climate finance. Lastly, as a large economy, China will play an important role in promoting the establishment of a global governance system that is fair and reasonable, and focuses on win-win cooperation. For example, we believe China will be an important leader along with the US and Europe in the global response to climate change, and that it will also cooperate with “Belt and Road” countries on climate issues in its process of “going global.”

13.1 Building Fair and Effective Global Climate Governance System

13.1.1 History of International Cooperation in Addressing Climate Issues

According to the timeline of international climate negotiations, we divide the process into four stages: The UNFCCC stage, the Kyoto Protocol stage, the Bali Roadmap stage, and the Durban Platform and the Paris Agreement stage.

- **UNFCCC in 1990–1994:** UNFCCC was the formal starting point of international cooperation in addressing climate change. The UNFCCC established the goal of addressing climate change and it clarified the principles for international cooperation (e.g. principle of fairness and the principle of common but differentiated responsibilities). It also stated that developed countries should take the responsibility before other countries. At this stage, the international community had high expectations on cooperative efforts in coping with climate change.
- **Kyoto Protocol in 1995–2004:** Kyoto Protocol formulated and established specific targets and mechanisms. It set the overall target of 5.2% emissions reduction for developed countries during the first commitment period (2008–2012) and established three flexible mechanisms, namely the International Emissions Trading Mechanism (IET), the Joint Implementation Mechanism (JI), and the Clean Development Mechanism (CDM). However, because the US refused to sign the legal document that included emissions reduction commitments for developed countries, the process came to a halt. At this stage, the international community reassessed the difficulties in tackling climate change issues and various parties adopted more pragmatic approaches. Developed countries also put more pressure on developing countries over emissions reduction.
- **Bali Roadmap in 2005–2010:** The issue of climate change received unprecedented attention from the international community, and all major powers actively participated in addressing climate change. Much progress was made at this stage, including the establishment of the “two-track” approach. Developing countries would need to take actions within their national capacities and began to establish a bottom-up approach with “commitment + regular review” to achieve the relatively flexible target of limiting the temperature increase to within 2°C (i.e. the 2°C target). However, due to the disagreement between countries, the Copenhagen Accord was set aside at the end in 2009. The binding force of the Cancun Agreements in 2010 also turned out to be unsatisfactory.
- **Durban Platform and Paris Agreement in 2011–2015:** This stage began with the *Durban Platform negotiations* in 2011 and further developed in 2012 with the *Doha Amendment to the Kyoto Protocol*. Eventually, the landmark 2015 Paris Agreement further established the models and mechanisms for international cooperation to tackle climate change. This agreement stated that all countries should

contribute to reach peak global emissions as soon as possible, and the goal of capping the global temperature rise below 1.5°C was added through the first round of periodic review. Additionally, the Green Climate Fund (GCF) was established and the internationally transferred mitigation outcomes (ITMO) and sustainable development mechanism (SDM) were proposed.

- However, there were also some problems with the “bottom-up” model of nationally determined contributions (NDCs). In the “2020 Emission Gap Report”, the United Nations Environment Programme (UNEP) pointed out that current NDCs remain seriously inadequate for achieving the Paris Agreement climate goals and would lead to a temperature increase of at least 3°C by the end of the century.¹ In addition, it suggests that the Paris Agreement lacked rigorous target management and reward/punishment mechanisms, resulting in challenges to international cooperation.

13.1.2 Discussion on Fair and Effective Governance Model

Given the externalities of climate issues that span a long time frame, how to measure “climate fairness” and establish “fair” and “effective” climate governance models accordingly are the two core issues that draw the most attention in global efforts to tackle climate change.

13.1.2.1 What is Climate Fairness?

Climate fairness is a basic prerequisite for global climate cooperation and an important guide for action. Climate fairness refers not only to the equal rights of all countries, regions and individuals to enjoy the world’s resources, but also to the equitable sharing of obligations to stabilize the climate. Furthermore, in the context of international cooperation in tackling climate change, all countries have the same right to enjoy sustainable development.

From an intergenerational perspective, the discussion on “outcome fairness” focuses on the principle of “common but differentiated responsibilities” and respective capabilities. It not only clarified the “common” responsibilities of all countries to deal with climate change, but also emphasized the “differences” and respective capabilities. That is to say, different countries bear different responsibilities according to their impact on climate change, economic condition, and capabilities. The concept of this principle is clear, but there have been considerable disputes and controversies with regards to the specific details involved. For example, it is difficult to determine the responsibility of previous generations, and to hold them accountable for climate

¹ <https://wedocs.unep.org/bitstream/handle/20.500.11822/34438/EGR20ESC.pdf?sequence=27&isAllowed=y>.

issues. To compensate for their historically larger emissions, developed countries were responsible for not only reducing emissions, but also providing financial, technical and capacity-building support to developing countries. However, in the absence of a well-defined monitoring mechanism, the actual effects were relatively limited.

Moreover, different understandings of “common but differentiated responsibilities” also affect the international community’s discussion on distribution of carbon emission credits on an intra-generational basis. The Paris Agreement did not establish rules for sharing the emissions reduction contributions of various countries. Therefore, many countries have carried out research to find solutions that are recognized by the international community. For example, the “contraction & convergence” framework proposed by Global Commons Institute (GCI) in the UK reflected the “grandfather clause”; proposal from Chinese and Brazilian scholars is based on the principle of “equal cumulative emission per capita”, proposing to take into account historical emissions when evaluating current emission responsibilities.

13.1.2.2 What is an Effective Governance Model?

Another focus of international climate negotiations is the dispute over whether top-down or bottom-up governance models are more suitable for climate issues. The governance approaches adopted in the stages of UNFCCC and the Kyoto Protocol can be regarded as the preliminary versions of the top-down global climate governance model. However, in the absence of supranational governance bodies, the effects of the top-down institutional design were not ideal. To address these problems, the Warsaw Climate Change Conference 2013 and the 2014 Lima Climate Change Conference introduced the innovative idea of NDCs. The Paris Agreement in 2015 allowed each country to carry out climate reduction actions based on its own national conditions and capabilities. It adopted a bottom-up approach to achieve the goal of reducing emissions and tackling climate change in order to enhance execution and raise the enthusiasm of all countries. However, the bottom-up model also has drawbacks, for example, there is still a certain gap between various countries’ NDC targets and the overall global target.

Climate Club may provide a new alternative for effective global climate governance.

According to the club theory (the study of club goods in economics), the successful operation of clubs often depends on a unified set of rules. Members pay “contributions” to join the club and obtain exclusive benefits relative to non-members. The benefits may be provided directly by the club or created collectively by members. Based on this theory, William Nordhaus, the 2018 Nobel Prize laureate in economic sciences, introduced the concept of the “climate clubs” mechanism. In the field of climate cooperation, the “contributions” made by member states to participate in the Climate Club consist of carbon emissions reduction actions and the costs incurred. Climate resources are their common benefits. However, considering

the non-exclusiveness of climate change, non-participants are penalized for being free-riders.

Nordhaus² Climate Club relies on the implementation of two rules: (1) an agreement between participating countries to undertake harmonized emissions reductions; and (2) countries that fail to fulfill their obligations are penalized. The agreement envisioned here centers on a “target carbon price that is agreed by the international community”, which is the focal provision of an international agreement. The simplest and most effective measure to punish non-participating countries is to impose tariffs on products imported from non-participating countries to club member states. Based on this, Nordhaus used the Dynamic Integrated Climate Change (C-DICE) coalition model to show that with a unified tariff penalty mechanism, participating in the Climate Club would be the best choice for the US. When considering the sum of emissions reduction costs, environmental gains, and trade benefits, participating in the Climate Club would give the US the optimal net gain.

The Climate Club adopts a unified carbon tariffs-based penalty mechanism and the ultimate goal is to have countries take initiatives to reduce carbon emissions. However, in practice, we believe successful operation of the Climate Club requires addressing a number of obstacles.

First, it is challenging to form a unified carbon emissions target price; standards and methods of implementing a unified carbon tariff also require further discussion.

Second, the punishment mechanism can effectively overcome the free rider problem, but international climate cooperation also involves the issue of justice. Designing effective assistance and compensation mechanisms may be of great significance to motivate developing countries to participate in carbon emissions reduction.

Lastly, trade-related carbon emissions are only part of total carbon emissions. The scope of the carbon tariff only covers part of the carbon reduction initiatives by countries around the world, and it remains to be seen whether the tariff can promote global carbon reduction.

² Nordhaus W. Climate Clubs: Overcoming Free-Riding in International Climate Policy[J]. *American Economic Review*, 2015, 105(4):1339–1370.

13.2 Spillover Effects of Global Climate Governance—International Trade and Climate Finance

13.2.1 International Trade: Embodied Carbon and BTA

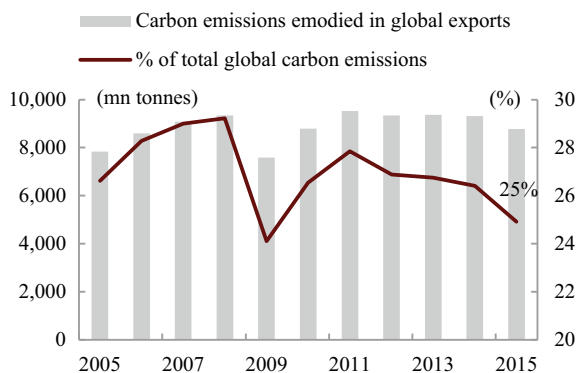
Embodied carbon refers to carbon emissions associated with the production process of imported and exported goods. With the development of economic globalization, a country's carbon emissions are not only determined by domestic production and consumption, but also by international trade. According to Organization for Economic Co-operation and Development (OECD) data, the scale of carbon emissions embodied in global exports was close to 9bn tonnes in 2015, accounting for about a quarter of global carbon emissions (Fig. 13.1).

From the perspective of the scale and flow of global trade, embodied carbon mainly flows from developing countries to developed countries. Such phenomenon may have three implications. First, developed countries may simply reduce domestic emissions from production by importing goods and passing the carbon emissions (by transferring production) to developing countries. Second, high-carbon-producing industries may move from developed countries to developing ones, which increases the volume of domestic carbon emissions in developing countries. Third, due to technological restrictions, carbon emissions associated with the same production process in developing countries are likely to be higher than those in developed countries, which may eventually lead to a net increase in global carbon emissions (Fig. 13.2).

13.2.1.1 Carbon Emissions Embodied in Trade and the Principle of Fairness

The Intergovernmental Panel on Climate Change (IPCC) proposed adopting Extended Producer Responsibility (EPR) which means that carbon emissions caused

Fig. 13.1 Carbon emissions embodied in global exports accounted for nearly one-fourth of the world's total carbon emissions.
Source OECD, Our World in Data, CICC Global Institute



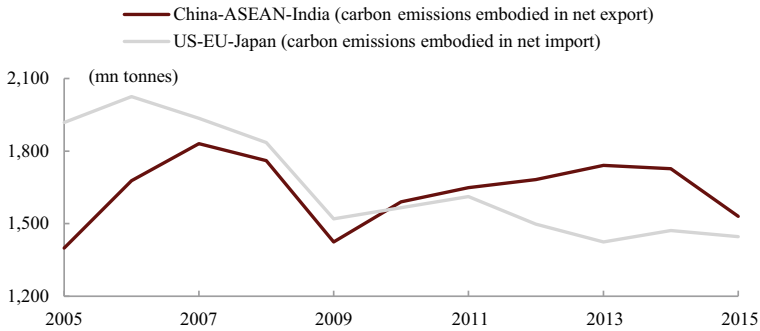


Fig. 13.2 Carbon emissions embodied in trade of world's major economies in 2005–2015. *Source* OECD, CICC Global Institute

by production and exports would be counted toward carbon emissions of production areas while the impact of importing high-carbon emission products would be excluded. However, the development of international trade has highlighted the unfairness of the EPR approach to production areas.

Another accounting method is Extended Consumer Responsibility (ECR). In other words, all carbon emissions in the production process of commodities are borne by consumers. This method is relatively fair to producers, though it also has limitations. It lacks binding force and discourages producers from reducing emissions. To solve this problem, many scholars have proposed the principle of shared responsibility for carbon emissions, which aims to effectively achieve global emissions reduction targets by restricting and controlling carbon emissions on both the production and consumption sides as well as distinguishing between responsibilities of producers and consumers. However, under the principle of shared responsibility for carbon emissions, how to allocate the responsibilities of producers and consumers while establishing a reasonable, clear, and feasible scheme of shared responsibility for international carbon emissions would also pose a challenge.

13.2.1.2 Carbon Emissions Embodied in Trade and BTAs

Border tax adjustments (BTAs) refer to a special carbon emission tariff levied on exported goods that are not taxed in the producing country. BTAs are introduced mainly because developed countries hope to impose tariffs on carbon emission-intensive products imported from developing countries.

The EU started to discuss and study carbon BTAs in the 1990s, and it advocates levying taxes on industrial products imported from countries with loose environmental regulations. The main targets include: (1) reducing global “carbon leakage”, in other words, reducing the transfer of production and manufacturing to countries that do not implement strict emissions reduction policies, and (2) creating a “level playing

field” and levying carbon tariffs to prevent countries lagging behind in carbon emissions reduction from gaining trade advantages. This could help protect EU companies facing extra emissions reduction costs in the EU carbon emissions trading market, and ultimately enhance the global competitiveness and international influence of the EU. On July 14, 2021, the European Commission adopted the proposal for establishing a carbon border adjustment mechanism.³ At the same time, the US also held discussions on BTAs, for example, both the American Clean Energy and Security Act of 2009 and the American Opportunity Carbon Fee Act passed in 2014 mentioned carbon tariffs.

However, there are also many controversies surrounding BTAs:

- **Legitimacy.** Does the imposition of BTAs violate the basic rules of the WTO? Carbon tariffs conflict with the WTO's most-favored-nation treatment (MFN) and national treatment (NT) principles. However, WTO rules allow for the introduction of trade restriction clauses under exceptional circumstances, which may provide a legitimate basis for carbon tariffs. When the domestic tax base of a certain type of product is linked to the carbon footprint in the production process, tariffs levied with reference to domestic standards are allowed.
- **Fairness.** Taking into account the distribution of carbon emissions embodied in global trade and trade flows, is the BTAs mechanism promoting trade protectionism in the name of environmental protection and hurting the interests of developing countries? Will the carbon tariffs collected be used for climate cooperation? These questions still need to be answered.
- **Effectiveness.** It remains to be seen if BTAs can effectively reduce global “carbon leakage” and help achieve the ultimate goal of carbon emissions reduction.
- **Feasibility.** How to calculate BTAs? For example, how to calculate the carbon content of imported products, especially products manufactured in multiple countries? How to set an effective and reasonable carbon price?

If the EU promotes the adoption of BTAs, what would be the impact on global trade and the industrial landscape?

- BTAs may change current landscape of international trade. The carbon factor as a new cost factor may have a greater impact on the production side. Developed countries will benefit more, while the competitiveness of related developing countries could be weakened. That said, the inclusion of embodied carbon in the international trading system may also force developing countries to adjust their industrial structures and production methods and move towards clean and low-carbon development.
- Trade pattern of high-carbon industries will bear the brunt of the impact. A report from Boston Consulting Group discusses this impact with regard to the carbon intensity and trade intensity of different industries, and further analyzes the impact of the EU's BTAs on international trade in different industries.⁴ For example,

³ https://ec.europa.eu/info/sites/default/files/carbon_border_adjustment_mechanism_0.pdf.

⁴ <https://www.bcg.com/publications/2020/how-an-eu-carbon-border-tax-could-jolt-world-trade>.

emissions from steel production in Turkey and the US average only half of the emissions from China and Ukraine. If the EU imposes BTAs, the competitiveness of Turkish and US steel in EU imports will be strengthened.

- Lastly, we think BTAs may drive up the prices of corresponding products in the international market, and lead to deteriorating terms of trade and weakening international competitiveness; it could also have a negative impact on developing economies. A research report⁵ written by experts from the World Bank and the Peterson Institute for International Economics pointed out that once industrial countries impose carbon tariffs, China's manufacturing exports would decline by one-fifth and those of all low- and middle-income countries by 8%.

13.2.2 *Global Climate Finance: Realities and Challenges*

13.2.2.1 **Global Climate Finance: Realities**

The concept of climate finance was born amidst negotiations over funding issues in the United Nations Climate Change Conference. The United Nations defines climate finance as financing and investment activities related to the UNFCCC that could reduce emissions and seek to support mitigation and adaptation actions in order to address climate change.⁶ In a broad sense, climate finance covers all investment and financing activities in response to and supporting mitigation of climate change.⁷

In recent years, the scale of global climate finance has grown rapidly. According to a report released by the Climate Policy Initiative,⁸ the scale of global climate financing may have reached US\$608–622bn (Fig. 13.3), corresponding to a CAGR of around 10.1%–10.5% from 2013 to 2019. Specifically:

- **Geographic flows:** (1) The Asia–Pacific region, Western Europe and North America were the three primary destinations, accounting for 41%, 19% and 17% of global climate finance in 2018; (2) Climate finance that flowed to developing countries grew to US\$356bn per year in 2017–2018, indicating a 32% increase from US\$270bn per year in 2015–2016⁹; (3) A strong domestic preference continues, as 76% of finance was raised and spent domestically in 2017–2018.¹⁰
- **Financial sources:** (1) The public sector accounted for 52% of global climate funding sources in 2017–2018 which was higher than the 48% for the private

⁵ Aaditya Mattoo, Arvind Subramanian, Dominique van der Mensbrugghe, and Jianwu He, 290919536009. Reconciling Climate Change and Trade Policy. Peterson Institute for International Economics Working Paper Series.

⁶ <https://unfccc.int/topics/climate-finance/the-big-picture/introduction-to-climate-finance>.

⁷ https://www.worldbank.org/content/dam/Worldbank/document/Climate/FinanceClimateAction_Web.pdf.

⁸ Climate Policy Initiative, Global Landscape of Climate Finance 2019.

⁹ Climate Policy Initiative, Global Landscape of Climate Finance 2019.

¹⁰ Climate Policy Initiative, Global Landscape of Climate Finance 2019.

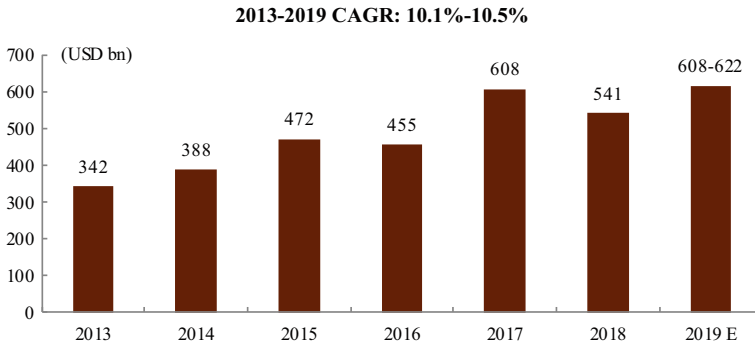


Fig. 13.3 Scale of global climate finance grew rapidly. *Source* Updated View on the Global Landscape of Climate Finance 2019, CICC Global Institute. *Note* CPI statistics seek to capture a non-double-counted estimate of financial flows. Finance provided through some financial instruments such as guarantees, insurance, government revenue support schemes, and fiscal incentives are not counted to avoid double counting and overestimating project investment costs

sector; (2) Global climate finance from the public sector is concentrated at the national level, with governments and state-owned enterprises (including domestic development financial institutions) making up 37% of global climate financial sources; (3) Climate finance from the private sector is concentrated on non-financial corporations, which made up about 27% of global climate financial sources (Fig. 13.4).

- **Financing structure:** The majority of climate finance was raised as debt, which accounted for 66% of total climate finance in 2017–2018, including on-balance sheet credit and bonds. Equity investments made up about 29% of total climate finance while grants and others were 5% (Fig. 13.5).
- Financial mechanisms mainly comprise UNFCCC system and traditional financial markets. The Paris Agreement proposed making finance flows consistent with a pathway towards low carbon emissions and climate-resilient development in the long run. Moreover, financial mechanisms under the UNFCCC framework, such as GCF, the Special Climate Change Fund (SCCF) and the Adaptation Fund (AF), were established. Beyond the UNFCCC framework, there are also some other financial mechanisms such as bilateral and multilateral capital channels, and regional private sector climate finance.

13.2.2.2 Issues and Challenges Facing Global Climate Finance Today

The development of global climate cooperation poses some thorny issues and challenges to climate finance:

- (1) **Huge global climate funding gap.** International agencies have different forecasts on funding needs for tackling climate change. According to UNEP forecasts, in order to address climate change, the transformation of the global energy sector will require raising supply-side investment to between US\$1.6trn

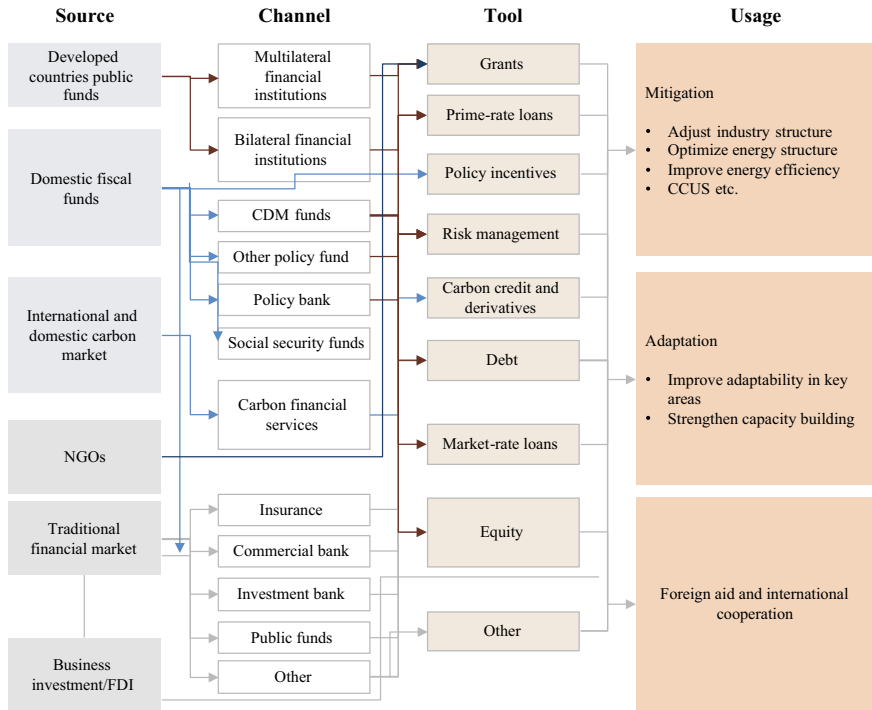


Fig. 13.4 Sources, channels, tools and usage of global climate finance. *Source* NCSC, CICC Global Institute

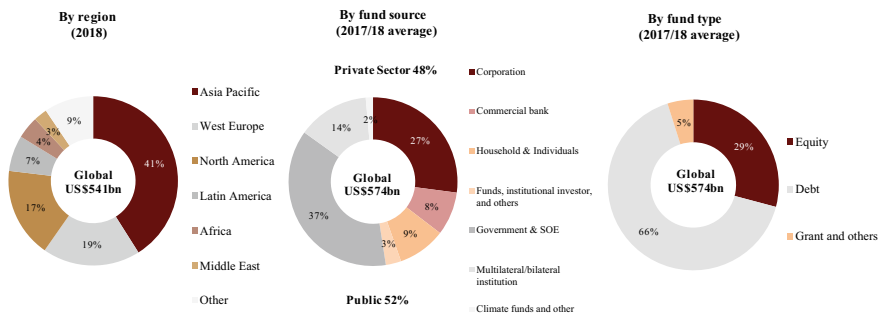


Fig. 13.5 Different perspectives of global climate finance analysis. *Source* CPI Updated view on the Global Landscape of Climate Finance 2019, CICC Global Institute

and US\$3.8trn per year in 2020–2050 (Fig. 13.6).¹¹ Considering the current global annual climate finance of approximately US\$500–600bn, we project the annual global climate finance gap to be US\$3–4trn in the future. With

¹¹ <https://wedocs.unep.org/bitstream/handle/20.500.11822/30798/EGR19ESCH.pdf>.

current climate financing instruments and methods, the financial pressure from the global response to climate change and carbon emissions reduction targets would be high.

- (2) **Limitations in scale and efficiency of public funds provided by developed countries to developing countries.** According to provisions in the Paris Agreement, developed countries should commit to mobilizing a minimum of US\$100bn each year to assist developing countries by 2025. However, according to OECD data,¹² the scale of climate finance provided by developed countries to developing countries still lagged behind this target in 2016–2018 (Fig. 13.7). Meanwhile, the proportions of climate funds provided by developed countries that are used for mitigation (short-term emission reduction) and adaptation (long-term construction of capabilities) are 70% and 21% respectively, suggesting a mismatch in the structure. Efficiency of the funds still needs to be improved.
- (3) **Insufficient private sector investment along with limited effects of market-based and innovative financial tools.** According to statistics by the Climate Policy Initiative, the total scale of climate finance from channels such as market-oriented funds and institutional investment was only US\$17bn from 2017 to 2018, accounting for about 3% of global climate finance. Private sector, market-based institutions, and innovative financial instruments played a limited role in global climate finance.
- (4) **“Green Swan” events may pose risks to global economic and financial system.** According to the Bank for International Settlements’ (BIS) definition, “Green Swan” refers to potentially extremely disruptive climate-related events that could be behind the next systemic financial crisis, such as credit, liquidity, and market risks. At present, the international community’s understanding and assessment of this new type of risk is inadequate.

13.2.2.3 Outlook for Global Climate Finance

Bridging the global climate funding gap is a top priority for governments. We believe it is necessary not only to explore breakthroughs and expand the scale of climate finance under the international multilateral mechanism, but also to further innovate climate financing tools and unleash market vitality.

- **Tapping the potential of international multilateral institutions and leveraging social capital investment with public sector funds are also important for climate finance.**

International multilateral financial institutions were established by a number of member states and they have played an active role in global climate finance. World Bank data shows that every US\$1 invested by multilateral development banks in public climate funds mobilizes some US\$2–5 in private investment.¹³ In

¹² OECD, Climate Finance Provided and Mobilized by Developed Countries in 2013–18.

¹³ <https://www.huanbao-world.com/a/zixun/2018/1125/62198.html>.

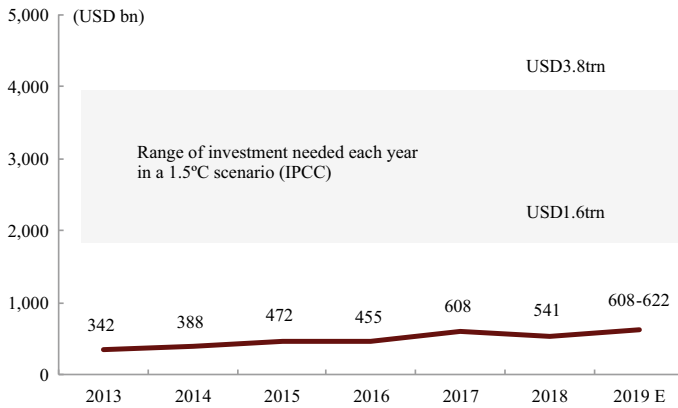


Fig. 13.6 Global climate finance gap. *Source* CPI Updated View on the Global Landscape of Climate Finance 2019, CICC Global Institute

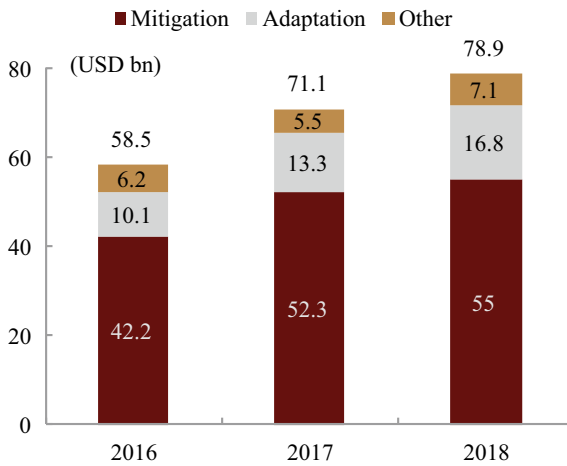


Fig. 13.7 Structure of climate finance provided by developed countries to developing countries. *Source* OECD, CICC Global Institute

recent years, international multilateral development banks have provided large-scale financing to tackle climate change and reduce carbon emissions, and the scale of financing continues to expand. In 2019, the world’s seven major multilateral development banks¹⁴ provided a total of US\$46.4bn in climate finance, and the CAGR of their climate financing hit 7.0% in 2011–2019 (Fig. 13.8).

¹⁴ Including World Bank, Islamic Development Bank, European Investment Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, Asian Investment Bank, African Development Bank.

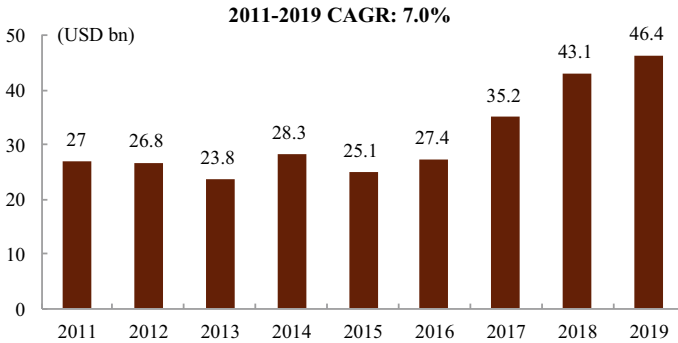


Fig. 13.8 Climate finance commitments of the world's seven major multilateral development banks. *Source* 2019 Joint Report on Multilateral Development Banks' Climate Finance, CICC Global Institute

- **Exploring and innovating climate investment and financing tools.** Countries and regions that lag in developing climate finance could explore mechanisms and models for climate investment and financing tools (such as credit, bonds, and insurance) by launching pilot climate investment and financing projects. They could then innovate products and leverage the investment and financing functions of financial tools in view of local conditions.
- **Improving global climate finance rules, incorporating climate risk assessment, and strengthening climate information disclosure can enhance the financial system's ability to respond to climate change.**
- **Establishing and improving climate risk assessment system.** In the report *The Green Swan: Central Banking and Financial Stability in the Age of Climate Change* published in January 2020, the BIS urged central banks to be vigilant of green swan events and incorporate climate change considerations into their moves to prevent financial risks.
- **Strengthening disclosure of climate information.** Although international organizations and countries have imposed requirements for information disclosure of climate change-related projects, the problem still exists. The main concerns are inconsistent certification standards for climate or green projects and inconsistent levels of information disclosure required in different countries. The International Financial Reporting Standards (IFRS) Foundation, an international authoritative organization responsible for developing accounting standards, is soliciting opinions from all parties on whether to take the lead in formulating an internationally accepted climate information disclosure standard. If a consensus can be reached on including mandatory disclosure of climate information in international information disclosure rules, it will effectively guide and promote the development of global climate finance.

13.3 China's Commitment to Global Climate Cooperation

As a large economy, China plays an important role in promoting the establishment of a global governance system that is fair and reasonable and focuses on win-win cooperation. We believe China will be an important leader along with the US and Europe in the global response to climate change, and that it will also cooperate with “Belt and Road” countries on climate issues in its process of “going global.”

13.3.1 *From Participant to Leader: China's Active Involvement in Global Climate Cooperation*

China was among the first 10 parties to sign the UNFCCC in 1992 and an active participant in global climate cooperation. From the Copenhagen Climate Change Conference to the Paris Climate Change Conference, China has evolved from an important participant to a key leader. China's important contribution to the Paris Agreement is evidenced by its efforts in promoting negotiations, reaching agreements, and efficiently implementing the agreements. After the Paris Climate Change Conference, China utilized its advantages in host diplomacy to promote the signing of a declaration between China and the US at the G20 summit held in September 2016 and significantly accelerated the enforcement of the agreement which took effect in November of that year.¹⁵

However, with the rapid increase in China's carbon emissions, China's participation in global climate governance also faces challenges. For example, developed countries could take the lead in achieving carbon neutrality, and their accumulated greenhouse gas emissions in a century could be lower than that of China. China needs not only to assume the responsibility of emissions reduction as required by the international community, but also to assume more ethical responsibilities. In addition, China has a limited say in scientific research in international climate cooperation. For example, in the IPCC's Fifth Assessment Report (AR5), the number of Chinese papers cited accounted for merely 2.8%, 1.7% and 1.6% of the total number of papers in climate change science, impact adaptation, and climate mitigation. To some extent, this restricts China's voice in global climate governance.

¹⁵ China's Strategies for Global Climate Governance and International Cooperation, NCSC, September 2020, <https://www.efchina.org/Reports-zh/report-iccg-20210207-2-zh>.

13.3.2 China is Promoting Global Response to Climate Change Along with Europe and the US

As mentioned earlier, in the process of promoting the adoption and enforcement of the Paris Agreement, China has strengthened cooperation with major powers and vigorously promoted various parties to reach a consensus. The four joint statements issued by China and the US along with the bilateral consensus between China and major developed countries and regions played an important role in ensuring the success of the Paris Climate Change Conference, especially the conclusion, signing, enforcement and implementation of the Paris Agreement.

13.3.2.1 China-EU Climate Cooperation Continues to Advance Steadily

In 2005, China and the EU decided to establish a partnership in the field of climate change. Since then, their relationship has continued to evolve. The release of the *Joint Statement on Climate Change and Clean Energy* in 2018 confirmed that the two parties will continue to strengthen bilateral cooperation in areas such as long-term low greenhouse gas emission development strategies, carbon trading, energy efficiency, and climate-related technologies.¹⁶ In the *China-EU Comprehensive Agreement on Investment*, which was signed in 2020, the two sides reaffirmed their commitment to implementing the Paris Agreement and tackling climate change jointly.

In terms of climate cooperation between China and the US, the two parties explored multiple fields through multiple channels during the Obama administration. Since 2009, the two countries have signed a total of seven bilateral agreements involving climate change cooperation. Leveraging platforms such as the China-US Climate Change Working Group and the China-US Clean Energy Research Center, China and the US established multiple forms of cooperation, such as joint R&D, policy cooperation, and technical assistance. As China-US climate cooperation achieved substantial progress, the fields of cooperation include auto emissions reduction, power systems, carbon capture, utilization, and storage, building and industrial energy efficiency, as well as climate-smart and low-carbon cities.¹⁷ However, with the cooling of China-US relations during the Trump administration, China-US climate cooperation also stalled.

13.3.2.2 Outlook for China-US Climate Cooperation Under Biden Administration

So far, the US remains the country with the largest cumulative emissions since the Industrial Revolution, and one of the countries with the highest per capita emissions,

¹⁶ http://www.ncsc.org.cn/SY/gjlhsm/202003/t20200319_769645.shtml.

¹⁷ <http://www.ccchina.org.cn/archiver/ccchinacn/UpFile/Files/Default/20160617103440817412.pdf>.

while China is currently the world's largest carbon emitter.¹⁸ The full and effective implementation of the Paris Agreement requires cooperation between the two countries.

In terms of domestic development, both China and the US have proposed carbon neutrality goals. In order to consolidate the advantages of the US in low-carbon technologies and industries, President Biden campaigned to have “a carbon-pollution-free power sector” by 2035 and “net zero greenhouse gas emissions” by 2050. He also proposed investing US\$2trn in promoting the development of low-carbon industries.¹⁹ Meanwhile, at the end of 2020, the Chinese government put forward the goal of achieving peak carbon emissions by 2030 and carbon neutrality by 2060.

In terms of global cooperation, President Biden announced on the first day of his presidency that the US will return to the Paris Agreement and the US may rely more on the power of its allies, including the EU, the UK, Japan, Australia, and Canada, in the implementation of the Paris Agreement as well as multilateral or bilateral climate diplomacy to reshape relations between large powers. On April 22, 2021, the US held a Leaders' Climate Summit,²⁰ and over 40 world leaders convened for the meeting, where Canada, the UK, and Japan announced new emissions targets.²¹ Through the summit, the US aimed to regain the initiative and leadership in the global climate dialogue.

13.3.3 Climate Cooperation and Building a Green Belt and Road

13.3.3.1 China Actively Promoting a Green Belt and Road

Since the Belt and Road Initiative was put forward in 2013, it has received positive responses from the international community. More than 140 countries around the world have formally signed agreements with China. In 2019, Belt and Road countries accounted for 22% of the world's GDP and about 30.8% of the world's total carbon emissions (Fig. 13.9), mainly because most of these countries are in the stage of rapid industrialization and urbanization.

Since 2013, the Chinese government has issued policy documents to guide firms to adhere to green development and eventually to build a Green Belt and Road.

- **Green infrastructure:** According to data from the American Enterprise Institute for Public Policy Research (AEI), in 1H20, the proportion of renewable energy investment in China's investment in the energy sector of the Belt and

¹⁸ http://www.tanpaifang.com/tanzhonghe/2020/1204/75653_2.html; <http://www.tanpaifang.com/tanguwen/2020/0307/68701.html>.

¹⁹ http://www.xinhuanet.com/energy/2021-02/02/c_1127052697.htm.

²⁰ <http://forex.cngold.org/fxb/c5476149.htm>.

²¹ <https://news.un.org/zh/story/2021/04/1082682>.

2019	GDP	Population	Trade volume	FDI stock	Total carbon emissions
US	24.4%	4.3%	11.4%	26.0%	14.5%
EU	17.8%	5.8%	30.1%	30.4%	8.0%
China	16.3%	18.2%	10.4%	4.9%	27.9%
India	3.3%	17.8%	2.3%	1.2%	7.2%
BRI Countries	22.0%	43.8%	30.6%	24.8%	30.8%

Fig. 13.9 Carbon emissions of the Belt and Road countries accounted for nearly one-third of the world's total. *Source* World Bank, UNCTAD, CICC Global Institute

Road countries surpassed that of fossil fuel energy for the first time, reaching 58.1%.²²

- **Green finance cooperation:** In 2017, the People's Bank of China (PBoC) participated in the launch of the Network for Greening the Finance System (NGFS). By the end of April 2019, the number of NGFS members reached 36, including the central banks and regulatory authorities of Thailand, Malaysia, Morocco, and so on.²³ In addition, the Belt and Road Green Investment Principles (GIP) drafted by Chinese and British institutions was signed by 26 large financial institutions from 13 countries and regions.²⁴
- **Green technology cooperation:** During the second Belt and Road Forum for International Cooperation in 2019, the Chinese government established the Belt and Road Initiative International Green Development Coalition (BRIGC) jointly with 42 countries to promote the development of Belt and Road green technology cooperation.²⁵

By exploring construction of green projects, Chinese companies have accumulated valuable experience and are actively sharing their experience. For example, at the end of 2019, the Mozura wind power project in Montenegro, held by Shanghai Electric Power, was officially put into commercial operation. The project's annual average power generation accounted for 5% of Montenegro's annual electricity consumption volume. It could reduce Montenegro's carbon emissions by 3,000 tonnes each year

²² <http://www.21jingji.com/2020/12-26/4MMDEzNzlfMTYxNjA4MQ.html>.

²³ <http://kz.mofcom.gov.cn/article/scdy/202008/20200802994698.shtml>.

²⁴ http://intl.ce.cn/sjjj/qy/202008/14/t20200814_35527622.shtml.

²⁵ http://news.china.com.cn/txt/2019-04/29/content_74735382.htm.

and should effectively help Montenegro achieve its energy development goals. It should also help the country accelerate the progress toward its sustainable modern energy goals.²⁶

13.3.3.2 How to Promote Green Belt and Road?

Looking ahead, in order to develop the Green Belt and Road, we think China needs to explore, innovate, and adapt to different local conditions of Belt and Road countries.

First, we believe China should encourage Belt and Road countries to embrace the idea of green development, adopt a green and low-carbon development model, engage Belt and Road countries in global climate cooperation, and urge them to expand their NDCs.

Second, green finance and green investment could aid the development of the Green Belt and Road. Green infrastructure projects require large investments as they have long duration and limited short-term economic benefits. We think multilateral financial institutions should be at the forefront of green infrastructure investment and green financial support is needed to encourage commercial financial institutions and social capital to engage in green investment.

Third, a Belt and Road national green development information exchange platform needs to be established, to provide assistance and support within China's capacity in areas such as green energy, green technology, green finance, and green manufacturing.

Lastly, we think the continued decline in the costs of renewable energy will gradually create conditions for domestic industries to "go global". Given China's experience in renewable energy equipment, technology, and management, we believe it can guide and encourage renewable energy companies to actively participate in the construction of the Belt and Road.

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²⁶ Belt and Road Green Development Report: Case Studies 2020, BRIGC, <http://www.sasac.gov.cn/n2588025/n2588139/c11632202/content.html>.