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# Study on the demand of climate finance for developing countries based on submitted INDC

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#### Abstract

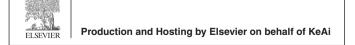
The 21st Conference of Party (COP21) held in Paris at the end of 2015 has opened a new era for the joint response dealing with climate change globally, and built up a new mode of global climate governance, that is, "all Parties submit INDC – global stocktake – enhance effort of actions – all Parties resubmit INDC – finally achieve the ultimate objective of the Convention." With 160 INDC reports (covering 188 Parties) that the UNFCCC Secretariat has currently received as research objects, this study classifies the mitigation targets of all Parties, and focuses on the systematic analysis of the financial demand, mitigation cost and priority investment areas for developing countries. The results are as follows: among 160 INDC reports, 122 reports clearly include the finance content; 64 reports propose specific amount of financial demand for the implementation of INDC; 31 reports pre-estimate domestic amount and financial demand for greenhouse gas mitigation in 2030, based on which they have calculated that the average mitigation cost for developing countries in 2030 would have reached up to US\$22.3 per ton  $CO_2$ ; 28 Parties reclassify the financial demand for mitigation areas, and reach the conclusion that the overall financial demand ratio for mitigation and adaptation is 1.4. Should the current mitigation commitments of the Parties from developed countries be used as benchmark, then in 2030 the total amount of financial demand for developing countries in response to climate change would have reached up to US\$474 billion.

Keywords: INDC; Climate change; Finance; Mitigation

## 1. Introduction

Finance has always been one of the focal issues in the negotiating process of United Nations Framework Convention on Climate Change (UNFCCC), and it is closely linked to mitigation, adaptation, technology transfer and capacity building. It is not only the core concern of developing countries, but also an important criteria to judge whether developed

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countries have effectively assumed the historical responsibility or not (Pan et al., 2013). Based on common but differentiated responsibilities and fair principles, UNFCCC requires Parties from developed countries to provide new and additional financial resources to Parties from developing countries, to support full or incremental cost occurred during UNFCCC implementation by Parties from developing countries. On the COP15 held in Copenhagen in 2009, developed countries proposed to quantify financing goals for the first time, promised to provide US\$30 billion fast-start finance during 2010-2012, and to mobilize US\$100 billion long-term finance per year from the beginning of 2020 for developing countries to cope with climate change. However, according to the reports of UNFCCC Secretariat and World Bank, global annual financial demand dealing with climate change would have reached up to US\$170-600 billion during 2010-2030 (UNFCCC, 2007; WB, 2010), financing goals promised by

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developed countries cannot meet actual demand of developing countries, the global actions responding to climate change still face a huge financing gap.

On the COP21 held in Paris at the end of 2015, 196 Parties to the UNFCCC adopted the Paris Agreement (hereinafter referred to as Agreement), which made framework arrangement for the global actions on climate change after 2020. The Parties will advance the construction of global climate governance by submitting Intended Nationally Determined Contribution (in Adoption of the Paris Agreement, it is called as INDC; in Agreement, it is called as NDC). Although this bottom-up model will attract the Parties to participate in global actions on climate change in a balanced and equal way, the Parties have serious differences over the content of INDC. Parties from developing countries generally stress in INDC the financing obligation of developed countries, but developed countries confine contribution to mitigation, and evade their obligations under adaptation, finance and other issues, the guarantee role of international mitigation duty for obligation of financing has been minimal. Although Agreement finally retains textual expression of "developed country achieve the goal of jointly providing US\$100 billion annually by 2020, and set a new collective quantified goal from a floor of US\$100 billion per year prior to 2025", it still fails to reach consensus on how developed countries share the financing responsibility in the future, nor did it plan a clear road-map to realize the annual financing goal of US\$100 billion per year by 2020 (UNFCCC, 2015a).

Given that INDC has become the main carrier for all countries to participate in international cooperation on climate change, this study is intended to take 160 INDC reports that the UNFCCC Secretariat has currently received as research objects, based on the classification of mitigation targets combining with geographic regions and political interest groups of all Parties, focus on the systematic analysis of the financial demand, mitigation cost and priority investment areas for developing countries, and then pre-estimate the total amount of financial demand for developing countries in 2030. As 2025 is upcoming, in response to the guidance of Agreement on finance, it is required to set a new financing goal in time for developed countries, externally to ensure the adequacy and predictability of climate finance, internally to avoid group differentiation of developing countries resulting from competition for limited financial resources. At the same time, developing countries can make full use of the organic links established by other countries among mitigation, adaptation activities and financial demand, constantly improve and coordinate the structure and content of INDC report in the future, in order to strengthen the transparency and comparability of financial demand, improve the fairness and scientificity of the argument in negotiation process, and provide a theoretical basis to consolidate the unified position of developing countries.

### 2. Classification of mitigation targets

INDC cited herein were derived from information published on the UNFCCC website (UNFCCC, 2015b). As of January 31, 2016, the UNFCCC Secretariat has received a total of 160 INDC reports, covering 188 Parties of UNFCCC (including a regional economic integration organization – European Union), accounting for 95.9% of the total number of Parties, and accounting for 99.1% of global greenhouse gas (GHG) emissions (WB, 2012).

Although the structure and content of INDC submitted are different, all Parties take requirements in Article 14 of Decision 1/CP.20 as the guiding principle, assess and calculate domestic anthropogenic sources of GHG emissions, clarify the mitigation pathway in the future, and describe the fairness and the reasonableness of their contribution to the global mitigation target (UNFCCC, 2014). In accordance with their own national conditions, stages of development and economic structures, based on groups division, traditional orientation and position in the negotiating process, all Parties put forward their own mitigation targets from the perspective of maintaining their own rights, interests and economic development space. According to different forms of mitigation targets, 160 INDC reports can be divided into five forms: absolute emission reduction, relative emission reduction, carbon intensity reduction, policies and actions, and others. Number distribution of INDC by different mitigation target forms is shown in Fig. 1.

All Annex I Parties, except Turkey, and twenty-six other non-Annex I Parties propose the economy-wide absolute emission reduction target, expressed in the form of reducing target year GHG emissions to a certain percentage below base year level. Seen from reduction time interval, most countries choose 2030 as the target year, but their choices of base year are different; seen from efforts to emission reduction, the emission reduction by Annex I Parties ranges from 11.0% (New Zealand) to 50.0% (Switzerland, Monaco), while that of non-Annex I Parties ranges from 9.8% (Serbia) to 81.0% (Cook Islands); seen from objects of emission reduction, kinds of GHG emissions by Annex I Parties include six (excluding NF<sub>3</sub>) or seven (including NF<sub>3</sub>) specified in Kyoto Protocol, while different kinds of GHG emissions covered by non-

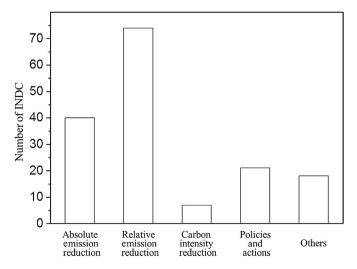


Fig. 1. Number distribution of INDC by different mitigation target forms.

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