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BRIEFING PAPER

Investing in Ambition

Analysis of the financial aspects in (Intended) Nationally Determined Contributions

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GERMANWATCH

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Brief Summary

Nationally Determined Contributions (NDCs) are a centrepiece of the new global climate regime which was agreed at COP21 in Paris and form the foundation for the pathway towards a low-carbon and climate resilient development.

By March 2016, 188 countries have submitted their INDCs, many of them including an unconditional as well as a conditional component. While those submitted INDCs are a significant step towards avoiding dangerous climate change, they are insufficient to reach the objective of limiting global warming to well below 2°C or even 1.5°C as set out in the PA under Article 2.1(a). This implies two main challenges for the international community: (i) to assure that all INDCs will become NDCs and that not only unconditional but also all conditional components will be implemented in order to ensure that the emissions gap will not grow wider, and (ii) that additional ambition needs to be triggered and implemented so that this gap will be closed. Ensuring financing is available for the implementation of NDCs plays a crucial role for addressing both challenges.

This paper analyses specifically the financial aspects included in the INDCs and aims to contribute towards a definition of comprehensive financing strategies for implementing NDCs. It provides an analytical overview of the financial aspects that have been included in the INDCs submitted so far and provides a discussion of options for financing NDC implementation.

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List of Abbreviations

CBDRRC	Common but Differentiated Responsibilities and Respective Capabilities
CDM	Clean Development Mechanism
CMA	Conference and Meeting of the Parties to the Paris Agreement (CMA)
COP	Conference of the Parties to the United Nations Framework Convention on Climate Change
ETS	Emission Trading Systems
FP	Focal points
GCF	Green Climate Fund
GHG	Greenhouse Gas
IET	International Emissions Trading
INDC	Intended Nationally Determined Contribution
ITMOs	Internationally Traded Mitigation Outcomes under the Sustainable Development Mechanism
JCM	Joint Crediting Mechanism
JI	Joint Implementation
LDCs	Least Developed Countries
NAMAs	Nationally Appropriate Mitigation Actions
NDA	National Designated Authorities
NDC	Nationally Determined Contribution
ODA	Official Development Assistance
PA	Paris Agreement
PD	Paris Decision
SDM	Sustainable Development Mechanism
SIDS	Small Island Developing States
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

Nationally Determined Contributions (NDCs) are a centrepiece of the new global climate regime which was agreed at COP21 in Paris. They form the foundation for the pathway towards a low-carbon and climate resilient development. For the first time each country officially defines and communicates the steps it is willing to take in order to address climate change and its impacts. With the ratification of the Paris Agreement (PA) a country's Intended NDC (INDC) will automatically become its NDC. By March 2016, 188 countries have submitted their INDCs, many of them including an unconditional as well as a conditional component. While those submitted INDCs are a significant step towards avoiding dangerous climate change, they are insufficient to reach the objective of limiting global warming to well below 2°C or even 1.5°C as set out in the PA under Article 2.1(a). The UNEP Gap Report estimates that even if all conditional components of the INDCs are implemented, global warming will only be limited to below 3–3.5°C. This implies two main challenges for the international community. The first challenge is to assure that all INDCs will become NDCs and that not only unconditional but also all conditional components will be implemented in order to ensure that the emissions gap will not grow wider. The second challenge is that additional ambition needs to be triggered and implemented so that this gap will be closed. Ensuring financing is available for the implementation of NDCs plays a crucial role for addressing both challenges.

Therefore, this paper analyses specifically the financial aspects included in the INDCs. Thereby it aims to contribute towards a definition of comprehensive financing strategies for implementing NDCs which allow countries to increase their ambition. This paper provides an analytical overview of the financial aspects that have been included in the INDCs submitted so far. Based on this analysis, the paper provides a discussion of options for financing NDC implementation.

Conditionality of INDCs

79% of all submitted INDCs include conditional components. The majority of those INDCs with conditional components also include unconditional targets and actions. However, about one fifth of all submitted INDCS include only a conditional component and do not specify unconditional targets. In addition, there is a significant number of submitted INDCs with conditional aspects that do not specify clearly which part of the targets are deemed conditional. The type of conditionality varies. The conditional components of INDCs mostly refer to the provision of support through finance, capacity building and/or technology transfer. Other provisions, such as market mechanisms and collective ambition, are also mentioned in some cases.

Quantified financing needs in INDCs considering the lack of comparability

Due to limited information, clarity and coherence of submissions, a quantification of the needs for finance of INDCs is only possible to a certain extent at the moment and needs to be read with a high level of caution. There is a lack of comparability between the identified financing needs, related to the lack of guidance on how to integrate financial aspects in the formulation of (I)NDCs. Currently, INDCs show limited transparency regarding the underlying assumptions and methodologies to estimate financing needs, use varying time frames and employ currency and currency reference points inconsistently. In the future, countries must accomplish more clarity and coherence on how to indicate financial needs in order to allow for a more specific and transparent assessment of the financing needs with less uncertainty associated to it than what is possible at this stage.

This implies a common understanding of the definition of conditional contributions as well as a better specification whether and to which extent Parties expect international support. Thus, at the moment only a rough number of total financing needs can be estimated. Based on the results of the analysis in this paper, the **total financing needs referred to in both unconditional and conditional parts of INDCs amount to more than USD 4.4 trillion**. The estimated **annual financing needs amount to approximately USD 349 billion**. These numbers can only be interpreted as an indicative estimate providing an order of magnitude and are associated with strong uncertainties[1]. In order to determine the required amount of international support, a further distinction of which components (both unconditional and conditional) can be financed domestically and which ones require international climate finance would be required.

Market mechanisms in developing countries' INDCs

About 25 developing countries leave open the possibility to potentially use international market mechanisms in the future, with some of them intending to use it for their own targets. A second group of almost 30 countries indicates that they plan on or consider selling emission reduction credits. However, it is not always fully clear to which of these two groups a country belongs. Some countries also clearly indicate that they do not intend to use market mechanisms. International guidance on robust governance, multilateral oversight and clear accounting rules for using markets to achieve NDCs are required to preserve their environmental integrity and to allow for truly ambitious climate action.

Comprehensive financing strategies for NDC implementation

In order to meet the financing needs for NDC implementation, countries need to develop comprehensive financing strategies outlining the envisaged role for domestic and international public and private finance. As part of such comprehensive financing strategies, market mechanisms can also play a role to mobilise considerable amounts of finance from both the international and domestic private sector. Developing comprehensive financing strategies includes exploring how public financing could be used in such a manner that it enables and leverages further private investment. Likewise, it includes determining areas where public finance is indispensable and identifying those ambitious plans that go beyond domestic financing capabilities and therefore require international support. The financing strategy should be developed with strong country ownership and at the same time with the assistance of the international community through COP guidance, capacity building and experience sharing.

A need for international public finance has been identified in many INDCs, considering the number of references to climate finance mechanisms and the Green Climate Fund (GCF) in particular. Only about 13% of submitted INDCs refer to the involvement of the private sector. International climate finance institutions, and in particular the GCF, should emphasise support to NDC implementation, namely for those components of (I)NDCs that identify the need for public international finance. Bilateral cooperation is another option to mobilise support for NDC implementation. Developed countries could identify parts of NDCs they would like to support bilaterally and begin negotiations on the details with the recipient country. Similarly, individual developing countries could also directly seek bilateral funding for the implementation of their NDCs.

Conclusion

In a nutshell, to limit global warming to well below 2°C or even 1.5°C, the implementation of current (I)NDCs needs to be ensured and their ambition needs to be increased. Financing plays a crucial enabling role in this regard. Countries need to develop comprehensive financing strategies,

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[1] Some countries identified as financing needs a range of needs. In such cases, the lower bound of the range has been included in the assessment. This ensures consistency with countries who indicated that they would need "at least" a certain amount of funding.

with the assistance of the international community, to outline the role they envisage for international and domestic, public and private finance as well as market mechanisms. To have a better understanding of the amount of finance needed, it is of great importance that financial aspects are included in a clear, understandable and comparable manner in all future NDCs. In order to improve the comparability and transparency of climate finance information within the NDCs, we recommend standardising formats and methodologies. As the rules of the PA are being elaborated in the coming years, further research is needed that analyses conceptual options for how the different sources of climate finance can be streamlined in order to enhance transparency and comparability of climate finance aspects within NDCs.

1 Introduction

Nationally Determined Contributions (NDCs) are a centrepiece of the new global climate regime under the United Nations Framework Convention on Climate Change (UNFCCC) that was agreed in Paris in December 2015. The Paris Agreement (PA) concluded in December 2015 sets three long-term goals: (i) to hold global warming to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C; (ii) to increase the ability to adapt to the adverse effects of climate change and to foster resilience; and (iii) to make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development (PA, Article 2.1). Parties are required to undertake and communicate efforts to contribute to the achievement of these goals in the form of NDCs (PA, Article 3).

In preparation for the Paris summit, many Parties submitted Intended Nationally Determined Contributions (INDCs). With those INDCs submitted during and after the Paris summit, the total coverage of INDCs reached 188 Parties by end of March 2016. The INDC automatically becomes a Party's NDC when that Party ratifies the PA, unless the Party submits an update or revision (decision 1/CP.21 accompanying the PA, short: Paris Decision (PD), paragraph 22).

Many developing countries have separated their INDCs into a part that will be implemented in any case, and a part linked to additional conditions, mostly provision of support (in terms of international climate finance, capacity building and/or technology transfer). In principle, the conditional components in the INDCs can provide a starting point for an iterative upward process where more ambition unlocks more finance and more finance unlocks more ambition.

Current INDCs could make a significant contribution to limiting global warming, but they are not sufficient to reach the target set out in the PA. Researchers have calculated that without the INDCs, global warming would likely exceed 4°C, while the implementation of unconditional INDCs would limit warming to below 3.5°C (UNEP, 2015)[2]. Even the PD notes with concern that the level of ambition of the submitted INDCs is insufficient in terms of limiting global warming to well below 2°C or even 1.5°C (PD, paragraph 17). The implementation of the conditional components could make a small, but not insignificant, immediate contribution towards closing the overall emissions gap. According to the UNEP Gap Report, full implementation of the conditional components in INDCs could reduce the gap between projected 2030 emissions and scenarios consistent with limiting global warming to below 2°C by an additional 2 Gt, from 14 to 12 $GtCO_2e$. In other words, implementing all conditional components would limit global warming to below 3–3.5°C, rather than to below 3.5°C (UNEP, 2015).

Therefore there are two main challenges going forward: First, it has to be ensured that all INDCs will actually be implemented, so that the gap does not grow wider. Second, further ambition needs to be triggered to close the gap. Financing plays a crucial role in addressing both challenges. This paper aims to make a contribution towards defining comprehensive financing strategies for implementing NDCs and increasing their ambition. As a first step towards such strategies, the paper provides an analytical overview of the financial aspects that have been included in the current set of INDCs. The submitted INDCs were analysed regarding identified quantified financing needs as well as regarding any conditions that were formulated. Drawing on this analysis, the paper discusses options for a way forward towards comprehensive and sound financing strategies for NDCs.

[2] The calculations in the UNEP Gap Report 2015 only include those INDCs by 146 Parties that had been submitted by 1 October 2015. They do however cover 85% percent of global emissions.

The international community needs to develop a constructive way of working with the conditional components of (I)NDCs that is linked to practical implementation requirements in developing countries. At the same time, the financing challenge goes beyond financing the conditional components. Implementing all components of (I)NDCS will require comprehensive financing strategies, drawing on a diversity of financial instruments and sources, including domestic public finance, domestic and international private investments and international public support. According to the UNFCCC and the PA, developing countries are to receive support for their mitigation action (PA, Article 4.5), regardless of whether it is labelled as "conditional", "unconditional" or not clearly specified.

Gaining more clarity on how NDC implementation can be financed is particularly relevant in the context of the five year cycles for NDCs included in the PA (Article 4.9). The Agreement states that successive NDCs shall always become more ambitious in each round of the cycle and "backsliding" is formally not allowed (PA, Article 4.3). The first round begins in 2018 with a "facilitative dialogue", at which Parties will discuss how ambition can be increased in the period until 2030 (PD, paragraph 20), leading to a communication or update of a 2030 NDC in 2020. In that context, ambition could be increased through a statement by the respective Party that conditions have been met (e.g. that adequate support has been secured) and that the Party will therefore implement the conditional component of its (I)NDC and/or the submission of an updated, more ambitious NDC. More clarity on financing of NDC implementation (both for unconditional and conditional components) can thus lead to higher ambition at that point in time as well as inform future rounds of the NDC ambition cycle.

In order to develop financing strategies, a better understanding of the ambition and the financing needs of the unconditional and conditional components in INDCs is crucial. This requires sound analysis, i.e. a realistic assessment of the mitigation and adaptation potential, concrete identification of measures, associated costs and the design of policy instruments that would mobilise that potential. As a first step towards this aim, Chapter 2 of this paper provides a general overview of the INDCs that have been submitted so far, followed by a detailed analysis of the financial aspects specified therein. This includes an overview of the types of conditions (Chapter 2.2), the role of market mechanisms as one instrument to contribute to the financing concept for overall implementation of NDCs (Chapter 2.3.) and the quantified financing needs – where they were identified (Chapter 2.4). Based on this analysis, Chapter 3 outlines options for comprehensive financing strategies for NDC implementation, with a focus on the role of international support.

2 Analysis of financial aspects in INDCs

2.1 Overview of developed and developing countries' INDCs

To a great extent, shape and format of INDCs has been kept at the discretion of Parties. At the 20th Conference of the Parties to the UNFCCC (COP 20) in Lima, Parties attempted to determine the format of INDCs. However, while they agreed on some elements that Parties may include in their INDCs, they did not agree on a universal template. Therefore, INDCs in their current shape vary greatly regarding the kind of information included. The PD contains a mandate to develop further guidance on this for future rounds (PD, paragraphs 26 and 28).

As of February 2016, a total 161 INDCs have been submitted to the UNFCCC representing 188 countries[3] and covering over 98%[4] of global emissions (WRI, 2016). 146 INDCs, i.e. 78%, have been communicated by non-Annex I countries[5], of which 76 (40%) are from Least Developed Countries (LDCs) and Small Island Developing States (SIDS).

89% of the INDCs cover both mitigation and adaptation aspects (WRI, 2016). The remaining 11% include only mitigation components. As illustrated in Figure 1, 78% of the total INDCs formulate greenhouse gas (GHG) targets, while 14% only describe envisaged mitigation actions.

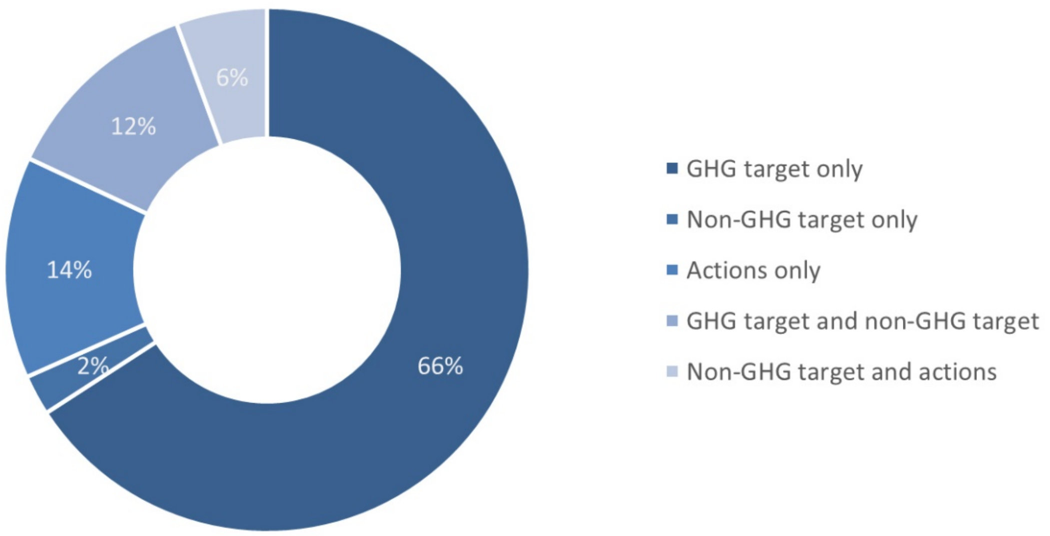

Figure 1: Types of mitigation contribution
Source: WRI, 2016; CAIT Climate Data Explorer

[3] The European Union submitted one INDC representing its 28 member countries. Compare UNFCCC, INDCs Portal, http://unfccc.int/focus/indc_portal/items/8766.php

[4] Presents the percentage of emissions covered by countries that have submitted an INDC based on the most recent estimates of country emissions (including the land-use change and forestry sector) from the WRI's CAIT Climate Data Explorer.

[5] Two INDCs are only available in Arabic and were not considered in the analysis

As summarised in Table 1, 79% of the submitted INDCs include conditional components. The majority of the INDCs which include conditional aspects indicated that there will be both conditional and unconditional targets (about 40% of all INDCs), whereas about one fifth specifies "only conditional" targets. However, not all submitted INDCs with conditional aspects specify in details, which part of the targets are deemed conditional.

Table 1: Overview of submitted INDCs regarding their conditionality

	Number of submitted INDCs	Share (%) with conditional target	Share (%) with only conditional target	Share (%) with both un- and conditional target	Share (%) with no clear distinction between un- and conditional target	Not specified
Annex I	15	7%[6]	0%	0%	7%	0%
LDCs and SIDS	76	96%	30%	41%	24%	1%
Other developing countries	70	76%	13%	47%	14%	1%
Total	**161**	**79%**	**20%**	**40%**	**18%**	**1%**

Source: Authors

In the following discussion, we only assess developing country INDCs. In case countries differentiate between a conditional and an unconditional contribution, the type of conditionality indicated varies and is not consistently specified. About 20% of all conditional INDCs do not provide a clear distinction between unconditional and conditional contribution. Hence, the actual emission targets and financing needs for realising the INDCs cannot be determined in full detail.

2.2 Types of conditions in developing countries' INDCs

Countries are free to decide what to include in their INDC and in which level of detail. Most conditions are related to the three forms of support: financial support, capacity building and technology transfer. Other elements, such as market mechanisms and collective ambitions are also mentioned in some cases. In some INDCs conditionality on financial support is mentioned but the financial volumes are not specified. Consequently, the conditions and the conditional contributions remain somewhat unclear.

Financial support. The vast majority of countries that submitted INDCs with conditional aspects refer to the need for financial support in order to be able to implement the planned actions. While some mention the quantified costs of planned actions under their INDCs (see section 2.4), others merely refer to a general need for international support. Only 57% of all conditional INDCs make a direct reference to quantified financial needs.

[6] Representing one country

Market mechanisms. Some countries also indicated market mechanisms as one potential source of finance. It is crucial to understand how any revenues from internationally traded mitigation outcomes (ITMOs) or units under the Sustainable Development Mechanism (SDM) will be reflected in the countries' NDC, and whether and how the value of these units is accounted in the context of climate finance provided by buyer countries. The next section will discuss this in further detail.

Capacity building and technology transfer. Besides financial support, the need for capacity building support and technology development and transfer is reflected in many INDCs. 69% of all conditional INDCs refer to required capacity building as a condition and 72% mention technology development and transfer as requirement.

Ambitious agreement and collective ambition. A few INDCs further include a direct reference to an ambitious multilateral agreement as a condition for the implementation of planned actions, e.g. Kiribati (2015) and Solomon Islands (2015). Others indicated their willingness to increase their contribution if a higher collective ambition can be reached together with other countries' contributions. However, the precise level of required ambition is not specified.[7] It remains to be seen whether these countries now consider their condition fulfilled, given the adoption of the PA.

Condition determination. According to Day et al. (2016, p. 4), unconditional contributions were determined by some developing countries in a kind of stock-taking exercise, i.e. "unconditional contributions in developing countries were often based upon an aggregation of existing and approved policies and ongoing processes, whilst other measures including NAMAs under development and potential strategies that were not yet approved were often included in conditional contributions" (Day et al. 2016, p. 4). However, this does not necessarily mean that unconditional contributions do not require or have already secured international support. In contrast, some INDCs mention that the unconditional part "is already financed, either by means of the national budget or through the support of the international community" (Djibouti, 2015) (see also Table 3). The challenge of differentiating between unilateral and supported action and contributions exists in many cases (see Table 3). Hence, some countries present a combined contribution referring to international support to complement unilateral resources, while others make the mitigation contribution conditional to the continuation of existing international finance, while additional mitigation measures would be conditional to new sources of support (Day et al. 2016, p. 4).

2.3 International market mechanisms

As part of a comprehensive financing strategy for NDC implementation, market mechanisms have the potential to mobilise considerable amounts of finance – including from both the international and domestic private sectors – under the condition that, as a result of the PA, a sufficient number of countries implement ambitious mitigation targets and decide to use market mechanisms as a tool to reach them.[8] In addition, issues around environmental integrity, additionality and avoidance of double-counting also need to be addressed. Thus, it is important to consider how activities supported by market mechanisms can be reflected in (I)NDCs. It is worth noting that while the

[7] Compare Day et al., 2016, page 3

[8] It should be noted that international market mechanisms are likely to play a less important role over time, if the PA goal of "a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases" in the second half of the century (PA, Article 4.1) in a way that is consistent with the obligation to limit warming to well below 2°C and to pursue efforts to limit to 1.5°C is to be reached. This goal requires massive, rapid and continued emission reductions towards close to zero in many sectors and countries around 2050. Market mechanisms can play a role in mobilising emission reductions towards the temperature goal, provided they have a high degree of environmental integrity and generate a significant price for emissions credits/allowances.

future of international market mechanisms was still uncertain at the point when the first generation of INDCs was being developed, almost 80 developing countries refer to international market mechanisms in their INDC – with some stating that they intend to use market mechanisms and others clearly stating that they do not intend to use them (for further details see below).

Within the UNFCCC architecture, existing market mechanisms include the Clean Development Mechanism (CDM), Joint Implementation (JI) and International Emissions Trading (IET). Their future role in the PA needs to be further clarified, although it clearly prescribes building on the lessons learned from existing mechanisms. Article 6 of the PA has two key provisions on market mechanisms: a multilaterally governed mechanism "to contribute to the mitigation of greenhouse gas emissions and support sustainable development" (SDM) (PA, Article 6.4), as well as a provision for decentralised "cooperative approaches" (PA, Article 6.2 and 6.3). Cooperative approaches remain vaguely defined and may include linking between existing emission trading systems (ETS) or bilateral mechanisms like the Japanese Joint Crediting Mechanism (JCM). The SDM is closer to the current CDM, not least because of its multilateral governance structure, but aims to cover more highly aggregated mitigation action and includes key provisions that prevent a simple transition from the current CDM (e.g. the need to achieve overall GHG emission reductions rather than pure offsetting). The SDM will legally come into being as soon as the first Conference and Meeting of the Parties to the Paris Agreement (CMA) adopts its modalities and procedures (likely in 2018 or 2019). Only then will it become clear how countries can actually use market mechanisms, and which parts of the current CDM portfolio (and by extension the related activities that already form part of current INDCs) can be transitioned into the PA market mechanisms. More details will need to be clarified in a work programme to elaborate the international rules for market mechanisms under the PA, which should also address the accounting of activities supported by market mechanisms in NDCs.

Overview of the role of market mechanisms in developing country INDCs

In their INDCs, only a few countries indicated that they will not use international market mechanisms (i.e. Micronesia (2015)). Yet, it is not always evident whether this only implies that they will not use any units for achieving their own mitigation targets or whether this also rules out selling emission credits. At least nine countries made this distinction by indicating that they do not envisage to buy carbon credits to meet their own targets (e.g. Chad (2015), Madagascar (2015), The Gambia (2015)), while nevertheless continuing to sell credits.

About 25 countries leave open the possibility to potentially use international market mechanisms in the future (e.g. Bangladesh (2015), Grenada (2015), Kenya (2015)), for some of them including for meeting their own targets (e.g. Morocco (2015)). A second group of almost 30 countries indicates that they plan on or consider selling emission reduction credits (e.g. Ghana (2015), Togo (2015)). However, it is not always fully clear to which of these two groups a country belongs. While many countries do not differentiate between conditional and unconditional aspects when referring to international market mechanisms, a few countries such as Cape Verde (2015), Haiti (2015) and Mexico (2015) specifically refer to their use for achieving conditional measures. However, based on the current level of detail in the INDCs, it is not yet possible to quantify the scale of the finance needs to be mobilised through market mechanisms.

2.4 Quantified costs and financing needs

Due to the limited information and clarity of submissions, a quantification of the financing needs and costs of the conditional INDCs is only possible to a certain extent at the moment and needs to be read with a high level of caution. 57% of the conditional INDCs include estimates of quantified financial needs for the implementation of planned actions, whereas over 40% have not specified financial needs or only make general reference to the need for support. Many countries did not differentiate between financial needs for the conditional component of their INDC and the needs for the unconditional component. Hence, only a rough number of total financing needs can be estimated.

Table 2 summarises the total financing needs referred to in INDCs (including both unconditional and conditional parts), which amount to more than USD 4.4 trillion (see Table 2 and related restrictions). However, only 55% of the countries that define quantified financing needs in their INDCs make a distinction between financial needs for mitigation and for adaptation. Also only a minority of 5% of the INDCs specify financing needs for capacity building.

INDCs differ in the related timeframe for their contribution, both between different INDCs but also between mitigation and adaptation within one INDC. For example, some INDCs give different periods such as 2015–2030, 2020-2025, and 2020–2030 etc., while others only specify the target year of 2030 but not the start year. Thus, the total amount of investment needs mentioned in Table 2 was adjusted to an annual approximation. The estimated annual investments based on the financial needs stated in the INDCs amount to approx. USD 349 billion annually (see related restrictions mentioned in Table 2). In order to determine the required amount of international support, a further distinction of what is conditional and not conditional, as well as what can be financed domestically and what requires international climate finance (both for the conditional and the unconditional part) would be required.

These numbers can only be interpreted as an indicative estimate providing an order of magnitude. The level of uncertainty needs to be taken into account, especially considering that some countries do not specifically communicate an amount of needed financial investment and others indicate minimum numbers only. Additionally, the share of the required financial support from international sources cannot be determined, as not all INDCs distinguish between what shall be covered by domestic and what by international finance (see Table 3). Furthermore, it is often unclear which methodologies have been used to arrive at the estimated financing needs.

Only 16% of the countries providing conditionality requirements clearly state in their INDCs which quantified amount or percentage of cost and financing needs they intend to raise from national budgets/domestically. In most of the other cases it is not clear what will be covered domestically or whether financing needs are expected to be entirely met by international support (see Table 3). Hence, it is difficult to extrapolate from the amount of total financing needs to the amount of needed international investment. This problem is exacerbated by the fact that there is no clear guidance on how to determine what volume of investment is needed to generate additional climate actions compared to a business as usual scenario, and that there is no clear guidance how to determine such a BAU scenario.

Table 2: Cost and financial need indications in current INDCs

	USD billion	USD billion / a
Total **financing needs referred to in INDCs in USD billion (includes both un- and conditional elements)**	**4,484**[9]	**349**[10]
Total **financing needs for mitigation in USD billion**	1,967	
Total **financing needs for adaptation in USD billion**	618	
Unspecified (potentially including cross-cutting or integrated approaches with adaptation and mitigation elements) **in USD billion**	1,899	
From national budgets **in USD billion**	57[11]	
Total amount of international financing needed	?	

Note: Restrictions to these numbers

1) Often there is a lack of a clear distinction between international finance and national sources. In addition, since not all countries differentiated between mitigation and adaptation, these do not add up to the total etc.
2) The total amount is the total specified financing needs, which stretches over different timeframes indicated in the INDCs. Some of these time frames commence already in 2015, hence some parts of the overall sum would actually be needed before the actual implementation of NDCs. The overall sum can hence in a strict sense not only be related to NDCs.
3) In case of about 3% of the identified financial needs, funds were indicated in 2005 and 2010 USD values, respectively. Numbers have not been adjusted, as also for other INDCs it is uncertain, if values are provided in real or nominal terms, i.e. inflation rates and change in currency exchange rate are considered. This can hence have an effect on the overall financing needs.
4) Unspecified: this amount is the difference between total communicated financing needs and the specifically communicated needs for mitigation and adaptation activities
5) Some countries identified as financing needs a range of needs. In such cases, the lower bound of the range has been included in the assessment. This ensures consistency with countries who indicated that they would need “at least” a certain amount of funding.

Table 3 provides an overview of the communicated financing needs for conditional and unconditional components, as well as the respective funding sources that were indicated. However, a large share of the financing needs could not clearly be linked to the conditional or unconditional part. Where it was not explicitly specified whether funding would come from domestic or international sources or whether reference is made to an unconditional or conditional target, this is marked as “not specified”.

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[9] Sum of quantified total investment needs referred to in INDCs with conditional aspects. In most cases, it is not clear how much of this amount will be covered by national budgets. Around 56% of the total amount can be attributed to India. Iran also has a relatively large share with around 19%.

[10] Annual approximation, determined from different periods mentioned (between different INDCs, but also between mitigation and adaptation within one INDC) such as 2015–2030, 2020–2025, 2020–2030, 2015–2035 etc. For INDCs with target year of 2030 but no start year, the timeframe 2020–2030 is assumed.

[11] As stated by 20 countries

Table 3: Communicated financing needs for unconditional and conditional components (in USD billion)

Unconditional component			Conditional component			Differentiation between unconditional and conditional unclear		
Domestic finance	International finance	Not specified	Domestic finance	International finance	Not specified	Domestic finance	International finance	Not specified
24	0	195	23	218	1,002	9	47	2,965

Note: Restrictions to these numbers

6) The total amount is the total specified financing needs, which stretches over different timeframes indicated in the INDCs. Some of these time frames commence already in 2015, hence some parts of the overall sum would actually be needed before the actual implementation of NDCs. The overall sum can hence in a strict sense not only be related to NDCs.

7) In case of about 3% of the identified financial needs, funds were indicated in 2005 and 2010 USD values, respectively. Numbers have not been adjusted, as also for other INDCs it is uncertain, if values are provided in real or nominal terms, i.e. inflation rates and change in currency exchange rate are considered. This can hence have an effect on the overall financing needs.

Some countries use their INDCs to explain planned actions, especially related to adaptation, and their expected costs in detail with references to precise measures. Concrete evaluations for the potential provision of support could be made on the basis of these projections. Other countries describe planned actions in further detail but do not mention expected costs. Regarding mitigation actions, costs are mostly projected for a limited number of sectors; hence additional costs might accrue, when (I)NDCs are updated and additional sectors are covered or economy-wide targets are introduced. Most INDCs remain rather vague regarding the source of needed financial support (e.g. public vs. private). More than 30 of the conditional INDCs mention general climate finance mechanisms, and about the same number refers specifically to the Green Climate Fund (GCF) as a channel for financial support. Some also mention international market mechanisms as a source of financial support. Considering the number of references to climate finance mechanisms and the GCF in particular, a tendency towards public finance sources can be assumed; only a few INDCs (13%) refer to the involvement of the private sector.

At the moment, a case-by-case approach for assessing quantified financing needs and international support seems most promising due to the large uncertainties identified above, but also given the differences in business as usual scenario robustness and stringency. Considering the differences in the level of detail with regard to the definition of financing needs and planned actions, certain conditional INDC components might be considered more suitable to be supported right away (e.g. as part of a bilateral cooperation), while others will need much more work to further develop the details.

2.5 Discussion

The assessment of the financial aspects of the INDCs clearly reveals that there is a lack of comparability between the identified financing needs. On the one hand this is due to a lack of transparency regarding the underlying assumptions. On the other hand, this clearly relates to the lack of guidance on how to consider financial aspects in (I)NDCs. Main challenges include:

1. Limited clarity on how to indicate financing needs

While for mitigation, contributions are often distinguished by conditional and unconditional components, the financial component is not always differentiated in a similar way. Rather, many countries provided an overall amount of financing needs which did not distinguish between the conditional and the unconditional parts. Related to this, the definition of 'unconditional' has not always been clear and one could assume that different interpretations exist. While it is apparent that conditional contributions require additional international support, developing countries are also entitled to receive support for implementing climate action in general, as laid out by the principles enshrined not only in the Convention but also the PA (e.g. Article 4.5). Consequently, some countries considered that their unconditional contributions would at least partially be supported internationally (see also Table 3).

- A common understanding of the meaning of conditional contributions is needed, since depending on the understanding, this could have great implications on the INDCs and NDCs.
- To enhance clarity, countries need to specify whether and to which extent they expect international support.[12]
- There is a need for multilateral guidance on how to account for the required national and international funding needs, potentially separated between conditional and unconditional elements. This would imply separate accounting for i) international finance for the conditional component, ii) domestic financing for the conditional component, iii) international financing for the unconditional component and iv) domestic financing for the unconditional component.

2. Varying time frames and inconsistent use of currency and currency reference points

Countries used different time frames in their INDC as discussed above. This makes it very challenging to compare the financing needs and to get an understanding of the total financing needs. A few countries also use different temperature increase scenarios. Moreover, some countries used a starting year before 2020, did not mention the start year or identified financing needs for specific activities, where it did not become evident whether these activities are considered part of their NDCs. Similarly countries used different USD values when describing their needs or even used currencies other than US Dollars (e.g. Euros in some cases). This can have implications when estimating the overall volume of financial support needed.

- Since the mitigation contributions also apply different time frames, it seems less likely that one will agree on a common time frame for the financing aspects. Multilateral guidance should however at least be provided to ensure that (I)NDCs clearly identify both a start and end year and include only the financing needs of the NDC implementation, thus not before the start date (2020 in the case of the current INDCS).
- Multilateral guidance is needed on the USD values which should be used.

[12] This is further complicated by the partial overlap of Official Development Assistance (ODA) e.g. for infrastructure investments that may be part of the overall contribution, and the insufficient clarity regarding the additionality of climate finance versus ODA

3 Options for financing NDC implementation

3.1 Developing comprehensive financing strategies for the implementation of NDCs

The analysis of the INDCs shows that governments see the need for a massive amount of financial resources for their implementation. At the same time, most INDCs currently lack a ready off-the-shelf implementation strategy with concrete investment options. Therefore, a focus needs to be put on the development of comprehensive implementation and financing strategies for all aspects of NDCs. The underlying aim of such comprehensive financing strategies should be to ensure that ambitious climate change mitigation and adaptation activities can be implemented which enable low-emission and climate resilient development. Financing strategies for NDCs can therefore be seen as a contribution to the objective contained in Article 2.1 (c) of the PA of "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."

As a first step, it is necessary to assess the underlying assumptions, baselines and methodologies of the actions and targets contained in the (I)NDCs. Then, (I)NDCs need to be translated into implementable and bankable activities, for example as part of nationally appropriate mitigation actions (NAMAs). Feasibility assessments and a detailed financial analysis should be part of this translation exercise. The comprehensive financing strategy would then outline the envisaged role for domestic and international public and private sources needed for NDC implementation (see Figure 2).

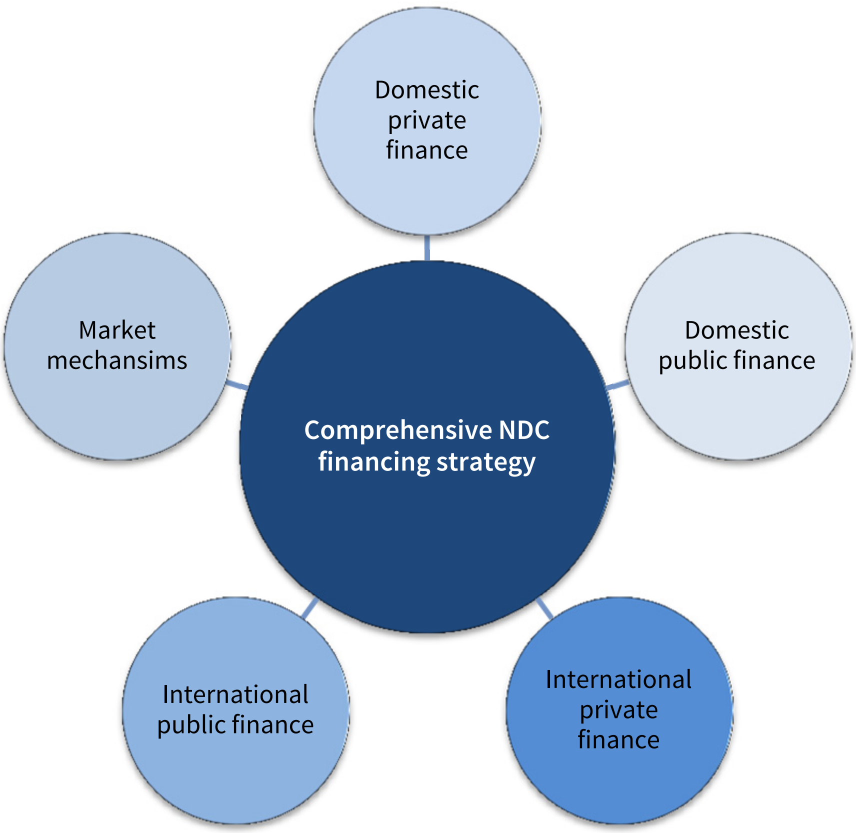

Figure 2: Elements of a comprehensive financing strategy

Developing a comprehensive financing strategy includes exploring how public financing could be used in such a manner that it enables and leverages further private investment. It also includes determining areas where public finance is indispensable and identifying those ambitious plans that go beyond domestic financing capabilities and therefore require international support.

Such financing strategies need to be developed at the national level with strong country ownership. At the same time, the international community can help to clarify and define the role of finance in the NDCs through COP guidance, capacity building and experience sharing.

3.2 Domestic public finance for NDC implementation

As shown in Table 3 several countries have already identified in their INDCs the volume of domestic finance they intend to spend on implementing their NDC. When climate change mitigation and adaptation considerations are mainstreamed into national development and energy plans, domestic public resources, e.g. from infrastructure, energy or transportation budgets, will contribute to NDC implementation. Additional domestic public finance can be mobilised by reducing environmentally harmful subsidies and re-directing them to NDC implementation. In many cases, the measures envisaged in NDCs have significant other benefits, for instance, investments in renewable energy can also help lower energy import bills, improve public health by reducing pollution and provide energy access; this justifies spending domestic resources on such measures. As a general principle, domestic resources should finance activities that are not more expensive than business as usual activities, whereas international support can cover additional costs that enable transformative activities.

As an illustrative example, consider the financing structure of a feed-in tariff for renewable energy in a developing country, as it is currently being implemented in Uganda (GETFIT 2016). The Ugandan utility contributes the standard tariff for power purchase agreements in the country, while the international climate finance contribution is a top-up in the order of magnitude of 10–20% of the total costs of low-carbon sources electricity such as hydro and solar. Furthermore, this mechanism leverages private investment into the power plants, as private investors finance the construction of the power plants, based on guaranteed, but results-based payments for the electricity delivered.

3.3 International support for NDC implementation through the GCF and other channels

The different international climate finance institutions should emphasise support for those components of (I)NDCs that have been identified as needing public international finance in the comprehensive financing strategies. A key source of support that is mentioned in many INDCs is the GCF. In addition, other bilateral and multilateral sources, for example for the funding of NAMAs can be tapped.

The GCF can play an important role in funding elements of NDCs that fulfil the GCF investment criteria. At its 12th Board Meeting in March 2016, the GCF adopted a strategic plan in which the GCF Board explicitly recognises the NDCs as "an important reference point for the fund's programming" (Decision B.12/19, GCF 2016). To further underline that the GCF will support the implementation of NDCs, this mandate could be included in the guidance to the GCF issued at COP 22.

In order to receive GCF financing, the parts of the NDCs that require financial support need to be turned into sound GCF funding proposals, showing for example how they meet investment criteria such as the paradigm shift potential and the needs of the recipient. This can be supported, inter alia, through the GCFs readiness programme (Activity Area 4, “Pipeline Development”) and the GCF’s Proposal Preparation Facility. In the Fund's strategic plan, the development of a pipeline of proposals is identified as one of the priorities. Enhanced readiness support can play an important role in this regard, “to engage and support NDAs/FPs [National Designated Authorities/Focal Points] in developing country programmes, concept notes and funding proposals that have the potential to yield an impact at scale and contribute to the implementation of countries' priorities as identified in INDCs” (Decision B.12/19, GCF 2016).

3.4 Private finance for NDC implementation

Another important source of financing for the implementation of NDCs will be private finance. However, it is clear that private financing will only occur if it can generate a return that reaches the rate of return of private financing throughout the economy, taking into account possible differences in risk. Unless private finance is mobilised by public interventions, an insufficient volume of climate change mitigation and adaptation activities will be generated.

Public finance should not finance business-as-usual activities that would anyway be undertaken by private sector actors, and thus not crowd out private finance. Rather, public finance should be used to overcome barriers, i.e. reduce risks to a level manageable by private entities or change the relative financial returns of climate-friendly activities compared to other less climate-friendly or more carbon-intensive ones to a level where the climate-friendly activities become more attractive for private investment. Such shift in investments would not only help in further increasing the ambition of NDCs, but support “[m]aking finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” as called for in Article 2, paragraph 1(c) of the PA.

3.5 Capacity building for NDC financing

In Paris, it was decided to strengthen the efforts for capacity-building, both under the UNFCCC and beyond, including through a newly established Paris Committee on Capacity-building (PA, Article 11 and PD, paragraphs 72–84). As part of these efforts, the Committee, once set up, should assess how dedicated support for developing countries could be provided and strengthened to help develop comprehensive NDC financing strategies as well as funding-ready proposals or plans (i.e. NAMAs or GCF proposals) which are based on the components of the NDCs that need funding. It should do so in coordination with the other technical bodies, such as the Standing Committee on Finance or the Adaptation Committee.

In addition to supporting capacity building within the UNFCCC process, a number of donors have provided – and should continue to provide – capacity building and readiness support to help countries develop a financing strategy for their NDCs and identify relevant sources of investment and support.

3.6 Exploring the potential of international market mechanisms for NDC financing

Another option for generating financial support for NDCs is to harness the potential of international market mechanisms. The submitted INDCs demonstrate the interest of many developing countries in using market mechanisms. Market mechanisms can serve as an important means to raise mitigation ambition by providing additional finance, supporting technology transfer (see Höhne et al. 2015 p.3), and achieving sustainable development co-benefits. However, international market mechanisms have also been criticised regarding the environmental integrity and lack of additionality of some project types. Thus, robust governance, clear accounting rules and multilateral oversight are required in order to preserve environmental integrity.

At least 15 countries highlight in their INDCs the need for ensuring environmental integrity of future market mechanisms (e.g. Ethiopia (2015), Gambia (2015), Sierra Leone (2015)).

The PA clearly demands for both CA and the SDM that any form of double counting shall be prevented. Importantly, various forms of double counting are possible, including double claiming, double "purpose" and others (see box). International guidance on how precisely Parties shall avoid the occurrence of double claiming still needs to be developed. While Peru (2015, p.6) specifically declares not to use carbon credits for its own targets to avoid "adjustments or duplications for ownership or accounting reasons" and will only sell credits if this is not an obstacle to its own commitment, Costa Rica (2015, p.5) plans to register "any compensation units traded abroad (…) in the National Emissions Inventory to avoid double accounting". Kazakhstan (2015, p.2) in turn intends to "consider adequately discounting international units for compliance to ensure a contribution to net global emission reductions".

Double claiming and double purpose

Double claiming of emission reductions would occur if a host country sells carbon credits to a buyer country (which counts the reductions towards reaching its emission target), while at the same time counting the reductions towards meeting its own reduction target (Schneider et al. 2015).

Double purpose can occur if a country buys emission reductions from another country and counts these emission reductions towards its emission reduction targets, while at the same time counting the financing towards its international climate finance commitment (Schneider et al. 2015).

A further open issue is that this new generation of market mechanisms shall lead to an overall global mitigation impact. This concept is closely related to the contested idea of net mitigation, and it remains unclear how it will be operationalised. However, it follows that activities supported by these market mechanisms will lead to mitigation outcomes that are reflected in the NDCs of both seller and buyer countries. While the PD requests Parties to make corresponding adjustments if units are being transferred, there is no clarity on the rules and institutions that can facilitate this in order to avoid double counting (PD, paragraph 36). It is particularly important in the context of climate finance discussions to explore whether climate finance for activities that lead to the transfer of units should be counted towards reported climate finance contributions or not. Closing these regulatory gaps is of utmost importance in order to ensure that no double counting will take place and to ensure a coherent consideration of market mechanisms among NDCs. Given the currently vague statements in INDCs, a thorough revision of (I)NDCs may become necessary in order to understand aggregate mitigation effects once mitigation units are transferred.

Therefore, when using international market mechanisms as financing means for activities identified in NDCs, the following needs to be ensured:

- Double counting of emission reductions needs to be prevented through agreement on clear accounting rules. A key problem is that there is not yet agreement on accounting rules, and which role differentiation will play. In particular lower-income developing countries do not have GHG inventories that would allow sufficiently robust tracking of whether emission reductions that generate exported units are not counted for domestic goals anymore. Therefore, there is a risk of double claiming by not counting individual units twice, but still, on a higher level of aggregation, adding the mitigation outcome to the mitigation contribution of the exporting country.
- Eligibility conditions for using market mechanisms need to be defined: This could be based on the level of development of a host country, and which types of certificates (from which technologies) can be used for compliance purposes.
- (Qualitative) ways of acknowledging host country contributions may need to be developed, even if mitigation outcomes are shared or traded. A distinction could be made between GHG-targets and sustainable development actions. For instance, renewable energy targets can be seen as the other side of the same coin as mitigation outcomes. It could be possible to subtract the mitigation outcome, while still acknowledging the sustainable development contribution of an NDC if a country makes significant progress on expanding the share of renewable energy in their economy with the support of market mechanisms. Such formulas for differentiation between Parties at different levels of development need to be defined. There needs to be clear guidance, and also understanding among affected countries, that the mitigation outcomes from activities supported by markets will need to be subtracted from their domestic NDC. This situation is further complicated by the need to apply the CBDRRC[13] principle here. For low-income countries, it is unlikely that they will be held responsible for fully achieving the mitigation goals they declare. However, there should still be transparent accounting in order to understand the global effects.

3.7 Additional avenues for NDC support

Besides the UNFCCC process, there are also options to mobilise support for the implementation of NDCs outside the formal negotiation process, in a bilateral manner. Individual developed countries or country groups could identify parts of NDCs they would like to support bilaterally and begin negotiations on the details with the recipient country. Similarly, individual developing countries could approach developed countries to seek bilateral funding for their NDC. Such cooperation could be announced in a large event, for example an “NDC Day” or “Post-2020 Ambition Day”, in Marrakesh at COP22. The character of such announcements of bilateral cooperation can be freely designed; it can be quantified support in terms of a specific amount of financial support as well as a partnership where the developed country will support the recipient country to further develop the plans with a view to providing support once the NDC is defined more clearly. Such “NDC Day” or “Post-2020 Ambition Day” could become a regular event, which could be held alongside the COP, in order to contribute to closing the post-2020 gap between NDCs and the long-term temperature limit of well below 2°C/1.5°C.

[13] Common but differentiated responsibilities and respective capabilities

Besides bilateral cooperation that is initiated by the cooperating countries directly, it would also be possible for the COP to designate a group of experts from developed and developing countries that could assess the need for support for different components of NDCs. These experts could facilitate the matchmaking with a view to enabling bi- or multilateral cooperation between countries on specific NDC project proposals. A small group like that could also be led by one or two senior-level persons similar to the facilitator who was appointed for the GCF initial resource mobilisation process or the "co-champions" appointed under the UNFCCC to facilitate additional pre-2020 action.

4 Conclusions

The analysis has shown that governments see the need for a considerable amount of financial resources to implement NDCs. With regards to the long-term objective enshrined in the PA, the submitted INDCs will not suffice to limit global warming to well below 2°C or even 1.5°C. Even the conditional components of INDCs will not be able to limit warming sufficiently. To limit global warming to well below 2°C and to pursue efforts to limit to 1.5°C, the ambition of INDCs needs to be increased leading to NDCs that are becoming more ambitious as countries revaluate and enhance their contributions in the upcoming years. Financing plays a crucial enabling role in this regard.

It is necessary that countries develop comprehensive financing strategies for their NDCs which clearly indicate which parts of the needed investment shall and can be covered by domestic finance, international support and private finance. All these types of financing streams will play an important part in ensuring ambitious climate action.

To have a better understanding of the amount of resources needed to implement NDCs, it is of great importance that financial aspects are included in all NDCs that will be submitted to the UNFCCC in a clear and understandable form.

Learning from the challenges regarding comparability and transparency of the submitted INDCs identified in section 2.5, a standardisation and harmonisation of the approach and information provided for NDCs is recommended. In particular, the underlying methodologies for cost estimates should be made transparent and harmonised where possible. In addition, a clear definition of time frame, base year and currency exchange rates/consideration of inflation is needed. Further it is suggested that the (I)NDCs communicate clearly what domestic and international financing is required for the implementation of both conditional and unconditional parts. Further, standardised information about the envisaged sources of finance (e.g. public and private) and channels (e.g. bilateral, multilateral, carbon market etc.) would be helpful for matching support and needs. Such comparable information has also the potential to facilitate the negotiations about financial needs and international climate finance under the UNFCCC. In addition, some sources of climate finance have implications for NDC accounting, e.g. if mitigation outcomes are being transferred in exchange for climate finance.

The PD sets out processes to define further guidance on the features of the (I)NDCs and the information to be included therein (PD, paragraphs 26 and 28). This guidance should also define a format for providing information on financing needs in INDCs, including clear information on the assumptions upon which the identified needs are based. The PA also strengthened the transparency regime for financial support provided and received. This can also be used to track how NDCs are being supported, including through biennial reports. In addition to Parties, Multilateral Development Banks, UN agencies and others should be encouraged to regularly report on the support provided for elements of the NDCs.

Further research is needed that analyses conceptual options for how the different sources of climate finance can be streamlined in order to enhance transparency and comparability of climate finance aspects of NDCs. Such efforts should be closely aligned with anticipated developments regarding the elaboration of the rules of the PA. In addition, case studies on the practical feasibility of financing transformative climate action in developing countries could serve to generate a basis for the development of international guidance.

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