Chapter 3

Cycles for Strengthening Mitigation and Support

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Key Messages

- A cycle for submitting and reviewing subsequent nationally determined contributions (NDCs) after the initial submission should be established in the 2015 agreement.
- For such a cycle to be effective, it is critical to strike the balance between legal stringency and flexibility, as well as deal with different implementation periods (i.e. five years versus ten years). For the former, the 2015 Agreement should contain legal obligations for all Parties submit, implement and regularly update NDCs, while they will be kept in a non-legal instrument (like the INF document for Copenhagen/ Cancun pledges). For the latter, by conducting interim reviews for ten-year period cycle countries, it is possible to have a review process every five years for both ten- and five-year period cycle countries.
- Climate finance for post-2020 should be composed of three key elements: (1) the predictability of future funding scale; (2) developing countries' strategies to enhance enabling environments and scale-up domestic climate finance; and (3) the transparency of financial inputs and resulting impact.
- A quantitative finance target is the first step in providing a certain degree of predictability. To enable the progression of ambition, the quantitative finance target should be developed along with a review process. IGES proposes that the Standing Committee on Finance (SCF) should undertake the review process, taking into consideration inputs from the reviews suggested in the mitigation cycle, and estimate a global aggregate amount needed for 2025 and 2030. Using SCF's estimation as a reference figure, developed countries should communicate their intended financial contributions for 2025 and 2030 and developing countries should communicate their strategies to scale up domestic finance. SCF's global aggregate amount as well as developed countries' intended financial contributions and developing countries' domestic strategies should be reviewed and escalated biennially between 2016 and 2020.
- To increase transparency, the Common Tabular Format for reporting finance provided by developed countries should be improved. The SCF should also develop a common reporting format for developing countries to report financial support received, use of finance, and their efforts and strategies of scaling up domestic finance and improving enabling environments.

1. Introduction

A new, post-2020 international climate agreement is expected to be concluded at the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris in December 2015. In preparation, Parties have agreed to communicate what post-2020 climate actions they intend to take, known as intended nationally determined contributions (INDCs). The INDCs are the centrepiece of the post-2020 climate regime discussion and will largely determine whether the world achieves an ambitious 2015 agreement and is put on a path toward a 2°C target—holding global average temperature rise at less than 2°C from pre-industrial levels[1].

Given the lessons learnt from the pledges made under the Copenhagen Accord and Cancun Agreements, which were also largely nationally determined emissions reduction pledges, there was a legitimate concern that the aggregation of nationally determined emissions reductions is likely to be insufficient to achieve the 2°C target. There was also a concern that possible diversity of INDCs would make it difficult to properly understand and compare INDCs. However, the decision adopted at COP20 in Lima in 2014 effectively ruled out the formal *ex-ante* process of assessing individual INDCs prior to COP21 (van Asselt et al. 2015). In addition, there was no regularity and predictability of the timing or process for strengthening subsequent contributions. Against these backdrops, growing attention began to be paid to the idea of setting up a cycle process through which subsequent nationally determined contributions (NDCs) will be submitted, reviewed and strengthened over time after the initial submission in 2015.[2]

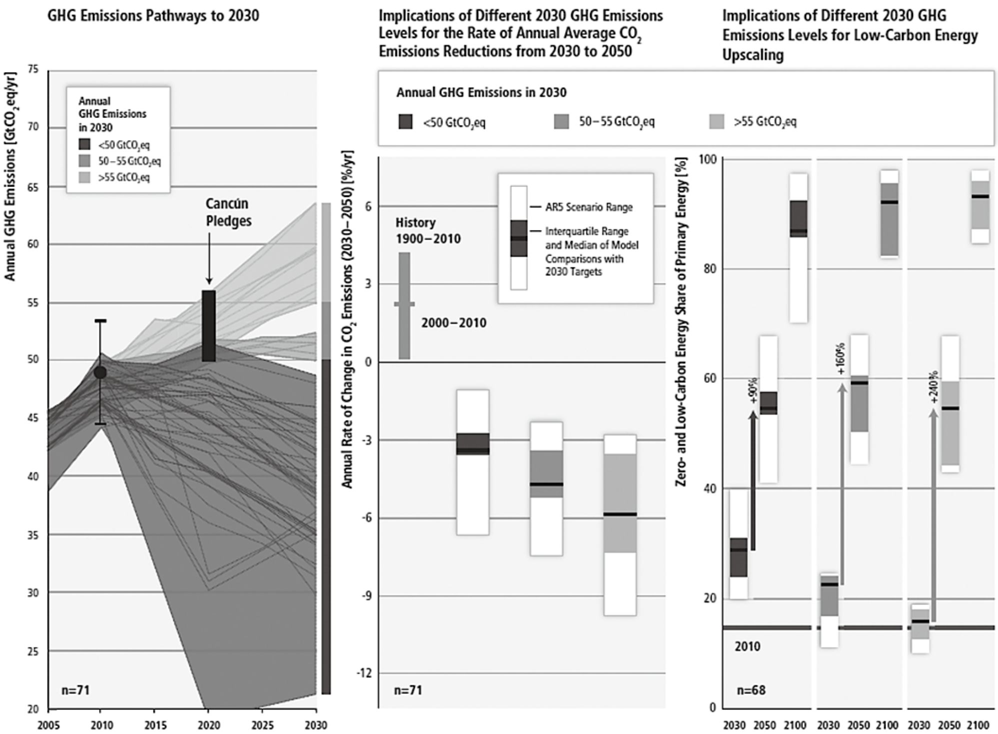
This chapter discusses cycles for enhancing mitigation and finance contributions. Section 2 examines how the 2015 agreement can be structured and the role of INDCs in contributing to 2°C target. Section 3 reviews the current status of INDCs in terms of related decisions as well as the profiles of INDCs submitted. Section 4 reviews the literature on various proposals related to a process or cycle for strengthening subsequent NDCs. Reflecting on the review of the current situation as well as literature, Sections 5 and 6 make proposals for a mitigation cycle and an assistance cycle, respectively. The idea of a five-year cycle for mitigation contributions has been already proposed (Morgan et al. 2014; IEA 2015). This chapter will try to respond to three key questions which were not adequately addressed by the existing proposals. These questions are: (1) How can different implementation periods be addressed; (2) How can legal stringency and flexibility regarding NDCs be balanced; and, (3) What kinds of information and indicators should be used in the cycle? With regard to finance, this chapter will argue that the existing assistance cycles and the finance objectives for the post-2020 period should and can be linked. The chapter will conclude with a brief summary and the way forward.

2. What would be required for the 2015 agreement to achieve the 2°C target?

There is general consensus among Parties that the 2015 agreement will be a package of a core legally-binding agreement and a set of related COP decisions and/or non-legal instruments[3]. The core agreement would be concise and durable, providing key principles and direction, while COP decisions which are legal instruments but non-legally-binding *per se* would provide detailed operational rules. Non-legal instruments include a registry and other communication and/or procedural tools managed by the UNFCCC Secretariat. The question as to how INDCs are anchored or inscribed in the 2015 agreement (for example, either in the core-agreement or in a non-legal instrument) has significant implications for how the post-2020 climate regime actually works toward a transition to a low-carbon, climate-resilient future.

NDCs indicate each Party's contribution to the achievement of the ultimate objective of the UNFCCC. Article 2 of the UNFCCC prescribes the objective of preventing "dangerous" human interference with the climate system. While the UNFCCC does not define what "dangerous" human interference is, the Cancun Agreements adopted at COP16 incorporated the so-called 2 degrees Celsius (2°C) target (i.e. to hold the increase in global average temperature below 2°C above pre-industrial levels). This target can be seen as a political interpretation of the ultimate objective of the UNFCCC.

The delay in GHG emissions reductions makes it difficult to transition to a low-carbon economy, and narrows the range of options to attain the 2°C target. To contribute to the achievement of the 2°C target, INDCs need to contain immediate and substantive actions. As the left panel of Figure 3.1 shows, "[c]ost-effective mitigation scenarios that make it at least *as likely as not* that temperature change will remain below 2°C relative to pre-industrial levels (2100 concentrations between about 450 and 500 ppm CO_2eq) are typically characterized by annual GHG emissions in 2030 of roughly between 30 $GtCO_2$eq and 50 $GtCO_2$eq" (IPCC AR5 WG3 SPM, p.13, emphasis in original).[4] As global GHG emissions in 2010 were about 49 $GtCO_2$eq, it is required that NDCs collectively peak global emissions as soon as possible and hold them at less than the 2010 levels by 2030.



Source: IPCC AR5 WG III Figure SPM.5

***Figure 3.1* GHG emissions pathways to 2030 (left panel), implications of different 2030 GHG emissions levels for the rate of CO_2 emissions reductions (middle panel) and low-carbon energy upscaling from 2030 to 2050 (right panel) in mitigation scenarios reaching about 450 to 500 (430-530) ppm CO_2eq concentrations by 2100**

It should also be noted that NDCs are only part of the longer effort to transition to low-carbon economies. Even if global emissions are held at around 2010 levels in 2030, continuous emissions reduction by approximately 3.5% per year would be required at the global scale between 2030 and 2050 (IPCC 2014). If global emissions exceed 2010 levels in 2030, a much higher rate of annual reduction, which is historically unprecedented, would be required from 2030 to 2050 (Figure 3.1, middle panel). Regardless of whether the current NDCs end in either 2025 or 2030, robust mitigation actions are required continuously beyond 2025/2030.

This implies that short-term NDCs should be carefully implemented with a long-term perspective. There are many possible pathways to reach an emissions reduction target in 2030, but not necessarily all of them are compatible with substantial, say 80%, reductions in 2050 (IPCC 2014). For example, although the introduction of high efficient coal-fired power plants with a 40-year operation period might play a certain role in achieving a moderate mitigation target in 2030, its carbon lock-in effects effectively hinder the achievement of 80% emissions reduction in 2050 (see Chapter 5 for further discussion). This underpins the importance that in addition to INDCs, Parties develop indicative long-term deep decarbonisation pathways, which provide long-term thinking alongside each round of short-term INDCs (SDSN and IDDRI 2014).

In a nutshell, NDCs are part of the way towards achieving a long-term goal. A continuous process or cycle of making short-term NDCs consistent with such a long-term goal over time is required. Interestingly, the US-China Joint Announcement on Climate Change, made on 12 November 2014, explicitly referred to these points:

> Today, the Presidents of the United States and China announced their respective post-2020 actions on climate change, recognizing that these actions are *part of the longer range effort to transition to low-carbon economies, mindful of the global temperature goal of 2°C*… Both sides intend to *continue to work to increase ambition over time.*[5] [Emphasis added]

However, the question remains as to what kind of an international process can encourage Parties to revisit and strengthen their INDCs over time after their initial submissions. The institutional arrangements for mitigation pledges under the Copenhagen Accord and the Cancun Agreements expected unilateral or uncoordinated adjustment of pledges by mainly improving mutual understanding among Parties through a clarification process and simultaneously allowing for easy updating of the pledges. However, the lessons learnt from that experience indicate that Parties are unlikely to increase the level of mitigation efforts unilaterally.[6] Indeed, this collective action problem of climate change would require coordinated adjustments of NDCs (Maljean-Dubois et al. 2014; Morgan et al. 2014). In other words, given the necessity for continuously strengthening mitigation action beyond 2015, this highlights the importance of establishing regular sequential rounds (e.g. every five years) of collective action to increase the level of NDCs' mitigation action in the context of predictable and coordinated cycles.

In addition to a mitigation cycle, cycles for enhancing assistance to developing countries should also be established. Although none of the developed countries which submitted their INDCs so far have indicated their intended financial contributions, the 2015 Agreement should include a finance component and establish assistance cycles to address the financial implications of decarbonisation and building climate resilience. In terms of investment needs from a low-carbon transition, the Green Growth Best Practice Initiative (GGBP) estimates that the incremental cost of investment in infrastructure in a green growth scenario is USD 0.7 trillion per year by 2020 (GGBP 2014); and the New

Climate Economy (NCE) estimates that a low-carbon transition across the entire economy could require USD 4.1 trillion of net incremental upfront investment from 2015-2030, a 5% increase in investment compared to a baseline scenario (NCE 2014). The finance component in the 2015 Agreement will therefore play two critical roles—to provide the means and incentives for countries to achieve the 2°C target, and to send signal of political intent to rebuild confidence and trust among the parties (ACT 2014; 2015). Furthermore, to enhance mitigation action by developing countries, it is also critically important to establish a link between the mitigation cycle and the assistance cycles to support the progressive upgrading of ambition by both developed and developing countries.

The current developments regarding INDCs as well as climate finance pose many challenges for establishing cycles to enhance mitigation and finance, respectively. Many efforts are required to overcome such challenges. With this question in mind, the following section examines the current status of INDCs.

3. The current status of INDCs

3.1 What has been decided regarding INDCs?

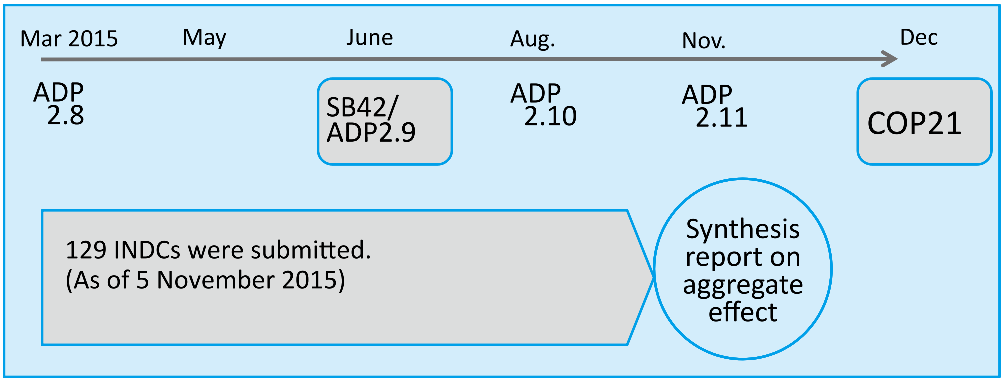
At COP19, all Parties were invited "to initiate or intensify domestic preparations for their intended nationally determined contributions, without prejudice to the legal nature of the contributions, in the context of adopting a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties" (Decision 1/CP.19, para. 2). All Parties were also invited "to communicate them well in advance of the twenty-first session of the Conference of the Parties (by the first quarter of 2015 by those Parties ready to do so) in a manner that facilitates the clarity, transparency and understanding of the intended contributions." At COP20, Parties also agreed that INDCs should represent a progression beyond current mitigation efforts and prevent backsliding (Decision 1/CP.20, para. 10).

As seen below, INDCs reflect the diversity of national circumstances and therefore will be multiform. This underscores the importance of providing upfront information on INDCs to make them transparent, understandable and clear. To this end, Parties agreed on several options regarding the upfront information, which Parties can provide together with their INDCs. Such information may include (as appropriate), *inter alia* (Decision 1/CP.20, para. 14):

- Quantifiable information on the reference point (including, as appropriate, a base year), time frames and/or periods for implementation, scope and coverage;
- Planning processes;
- Assumptions and methodological approaches including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals; and
- Ways in which the Party considers that its intended nationally determined contribution is fair and ambitious, in light of its national circumstances, and how it contributes towards achieving the objective of the Convention as set out in its Article 2.

Communicated INDCs will be published on the UNFCCC website, and a synthesis report on the aggregate effect of the INDCs communicated by Parties by 1 October 2015 will be prepared by the UNFCCC Secretariat by 1 November 2015 (Decision 1/CP.20, para.

16).[7] However, any further work on the synthesis report is not required by COP21. Thus, it is uncertain how the synthesis report can actually contribute to the discussion over individual NDCs at COP21.



Source: Authors

***Figure 3.2* Schedule for intended nationally determined contributions (INDCs)**

The word "intended" implies that INDCs would be subject to *ex-ante* consultation at the international level before they are formalised as NDCs. Some argued that such *ex-ante* consultation should assess individual INDCs and take into account various equity aspects (Haites et al 2013, Tamura et al 2013, Morgan et al 2014). However, the COP20 Decisions effectively ruled out any formal *ex-ante* assessment and review of individual INDCs. But, the abovementioned requirement of self-explanation about fairness and ambition of INDCs opens up the possibility for fairness/equity as well as adequacy as criteria in assessment after COP21 (van Asselt et al 2015).

3.2 Profiles of communicated INDCs

As of 5 November, 129 INDCs have been communicated. All the INDCs communicated so far contain mitigation components. There are different types of mitigation contributions—absolute targets (absolute reduction from base year emissions), BAU targets (emissions reduction from BAU scenarios), emission intensity targets (reduction against per unit of GDP) and peak year targets (a specific year when economy-wide emissions will level off). Some countries like China and Singapore announce multiple types of INDCs. Notably, the Chinese INDC includes a peak year target, an emission intensity target, a share of non-fossil fuels in primary energy consumption and forest stock volume. Among Parties with absolute targets, some like Norway and Switzerland explicitly declare that they will use a carbon budget approach (a control of cumulative emissions over multiple years), and others like the US say that they will use a single year target. BAU targets and emission intensity targets require further accountability from Parties toward their BAU scenarios and GDP projections. In addition, the treatment of the land-use, land-use-change and forest (LULUCF) sector as well as international transferable units or market mechanisms varies across countries. These differences in forms of mitigation contributions highlight the importance of establishing robust procedural arrangements ensuring greater transparency of action toward the implementation of diverse and complex NDCs.

Table 3.1 Overview of INDCs communicated (selected)

Absolute target			BAU target		Emission intensity target & peak year target		Emission intensity target		
Country	**Base year**	**Target year**	**Country**	**Target year**	**Country**	**Target year**	**country**	**Base yeast**	**Target year**
Brazil	2005	2025 (2030)*	Gabon	2025	China**	2030	India***	2005	2030
Canada	2005	2030	Indonesia	2030	Singapore	2030			
EU	1990	2030	Kenya	2030					
Japan	2013	2030	Mexico	2030					
Marshall Islands	2010	2025 (2030)*	South Korea	2030					
Norway	1990	2021-2030	Thailand	2030					
Switzerland	1990	2021-2030	Viet Nam	2030					
US	2005	2025							

Source: INDC Portal at http://unfccc.int/focus/indc_portal/items/8766.php

Note: * Brazil and Marshall Islands presents 2030 targets as indicative ones.
** In addition to the intensity target and the peak year target, China sets the share of non-fossil fuels in primary energy consumption as well as forest stock volume as parallel targets.
*** In addition to the intensity target, India sets the share of non-fossil fuels in electric power installed capacity as well as some qualitative targets.

Arguably, what most matters for the design of an NDCs cycle is a different time frame or target year. In order to allow a collective assessment of ambition and an understanding of comparable efforts, there were opinions for setting a common end year for every country contribution. However, some Parties prefer a five-year period of NDCs, arguing that a short cycle can prevent locking in low ambition for too long. Others prefer a ten-year period, stating that longer implementation periods can provide greater long-term certainty for investors. In the end, Parties were not able to agree on a common time frame for NDCs at COP20. In fact, while a few INDCs (for example, those of Brazil, Gabon, Marshall Islands and the US) have a five-year implementation period (2020-2025), the majority has a ten-year implementation period (2020-2030).[8] How to deal with the difference in the length of implementation periods is one of key challenges for designing an INDC cycle.

Parties can communicate their undertakings on adaptation in their INDCs. Although almost all the INDCs from developing countries include adaptation components, no Annex I Parties' INDCs include adaptation components. It should also be emphasised that no developed countries have included their contributions to the provision of means of implementation (finance, technology and capacity building) in their INDCs so far. At COP20, some developing countries argued that developed countries should include information on contributions of financial, technological and capacity-building support in their INDCs. However, developed countries opposed this and no consensus was reached at COP20. The absence of the information on financial, technological and capacity-building support in developed countries' INDCs reflects their negotiation stance. The fact that no INDCs of developed countries include a financial contribution poses a challenge for establishing a link between the mitigation cycle and the assistant cycle.

4. Review of Parties' views on an NDC process/cycle

Many Parties recognised the importance of a process or a cycle process in order to raise the ambition level of NDCs. Seven Parties made submissions which included some details of the *ex-post* process or cycle for NDCs (See Table 3.2). In addition, some Parties including Canada, Republic of Korea, the least developed countries (LDCs), Mexico, Norway, Switzerland and Turkey argued for regular *ex-post* review process but did not provide detailed descriptions on the review process. These proposals were made before COP20 so they did not reflect the Decision at COP20 and development thereafter. It should also be noted that there are countries which are not so supportive to the idea of the process for ratcheting up ambition periodically. In particular, the Like-Minded Developing Countries (LMDCs), which had strongly opposed to the establishment of an *ex-ante* consultation process at COP20, expressed some concerns that such a periodic process for ratcheting up ambition could dilute the differentiation between developed and developing countries.[9] This section reviews different views on the cycle from three viewpoints: approaches for raising the level of contributions; the anchoring of NDCs; and scope of the cycle.

Table 3.2 Parties' views on ex-post process / cycle

	Scope	Process of raising ambition	Anchoring of intended nationally determined contributions (INDCs)
AILAC	—	• Improvement in transparency • No backsliding	• To be kept in a non-legal instrument, while the 2015 Agreement should contain legal obligations to "submit" and "implement" NDCs
Brazil	Mitigation and support	• Improvement in transparency • No backsliding • Obligation of adjustment of each country's contribution	• To be kept in a non-legal instrument, while the 2015 Agreement should contain legal obligations to "present" and "periodically adjust" NDCs
EU	Mitigation	• Improvement in transparency • No backsliding	—
Japan	Mitigation	• Improvement in transparency	—
Marshall Islands	—	• Improvement in transparency • No backsliding	• To be inscribed in a core agreement or another legal instrument
South Africa	Mitigation and support	• Improvement in transparency • No backsliding • Mandatory adjustment	• To be formally inscribed in a legal instrument after adoption
US	Mitigation	• Improvement in transparency	• To be kept in a non-legal instrument, while a core agreement would provide for each Party to "submit" NDCs

Source: Submissions from AILAC (2014), Brazil (2014), the EU (2014), Japan (2014), the Marshall Islands (2014), South Africa (2014) and the US (2014).

Note: AILAC stands for the Association of Independent Latin American and Caribbean states, which is a negotiation group consisting of Colombia, Chile, Costa Rica, Guatemala, Panama and Peru.

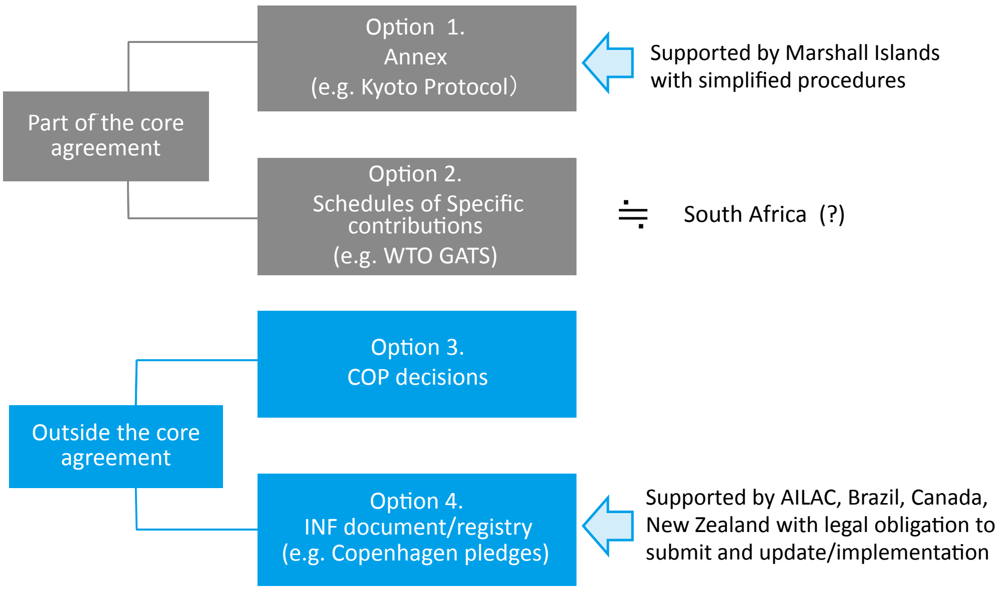
4.1 Approaches for raising the level of contributions

All seven Parties converge on the improvement in transparency, which is seen as a foundation for Parties to raise their ambition level of their INDCs. Transparency is expected to form the basis of the so-called "reciprocity" in which a country adjusts its efforts to reflect others' efforts (Axelrod 1984; Keohane 1984). In the context of international climate negotiations, "multilateral reciprocal scrutiny" can be designed as an international process to facilitate such reciprocity (Schelling 2002). By improving mutual understanding about NDCs and their implementation, this international process is expected to provide a basis for collective action to increase the level of NDCs.

However, some Parties envision more proactive roles in international processes. Brazil, South Africa, the Marshall Islands, AILAC and the EU support the concept of "no-backsliding", something Parties also managed to agree on at COP20 (Decision 1/CP.20, para. 10). Furthermore, AILAC and South Africa propose that the result of the *ex-post* process should trigger a compliance mechanism. Brazil proposes that Parties would be legally obliged to adjust their NDCs in light of the outcomes of the *ex-post* assessment process. These issues are related to the legal nature of NDCs, which has not been intensively discussed by Parties so far since they insisted on first discussing substance.

4.2 The anchoring of NDCs

How INDCs are anchored or inscribed in the 2015 agreement has implications for the flexibility of revisiting and strengthening them, thereby influencing the design of the cycle. This flexibility is key, but at the same time legal clarity and stringency is also important in terms of collective action as well as domestic effects. Maljean-Dubois et al. (2014) identified several options for anchoring NDCs in the 2015 agreement. These options can be categorised into two groups: one contains options for anchoring NDCs inside the core agreement (e.g. a new protocol); and the other contains options for anchoring NDCs outside the core agreement. Each group has two distinct options. These options will be examined from legal clarity and flexibility.



Source: Adapted from Maljean-Dubois et al. (2014).

***Figure 3.3** Options for anchoring NDCs and some Parties' views*

Option 1 Annex: With the first option, NDCs would be inscribed in either a core agreement itself or one of several annexes of the core agreement (or another legal instrument). The annex or annexes would be an integral part of the protocol (or another legal instrument), and would have the same legal force as a legally-binding treaty. A typical example of this option is Quantified Emission Limitation and Reduction Objectives (QELROs) of the Kyoto Protocol.

One of the advantages of this option is legal stringency. Forming part of a treaty, NDCs would be legally binding for Parties to the agreement. This option has three disadvantages, however. First, it requires that NDCs of all Parties need to be ready for inscription by the time of COP21. Thus, there is less flexibility in terms of the timing. Second, this option is rather rigid in terms of amendment and ratification, since the revision and amendments of the annex requires consensus in principle, but a three-fourths majority vote of the Parties present and voting at the meeting (see UNFCCC Art. 15).

The Marshall Islands support this option, though it is not clear whether NDCs would be inscribed in a new Protocol or its annex (Marshall Islands 2014). It should also be noted that the Marshall Islands' proposal argues for the use of a simplified adjustment procedure, similar to the "ambition mechanism" utilised for the Kyoto Protocol second commitment period.[10]

Option 2 Schedules of specific commitments: With this option, each Party's NDC would be kept in its national schedule of contributions, which is not part of the legally binding agreement at the time of its adoption, but will be integrated into the agreement afterwards.[11] By doing so, contributions would not be easily withdrawn. "Schedules of specific commitments" under the General Agreement on Trade in Services (GATS) are the model of this option. GATS also allows Parties to add to or improve their commitments at any time.

Compared with the first option, this second option has a distinct advantage: it is less constraining in terms of timing, while maintaining the same legal clarity as the first option. Like the first option, however, the legally binding nature of NDCs may be difficult for some countries to accept domestically. This could also be one disadvantage of this second option.

Albeit not explicitly using the term national schedules, the South African proposal contains the basic idea of this second option: NDCs would be formally inscribed in a legal instrument (in case of their proposal, annex to the 2015 agreement) after adoption and such an instrument would form an integral part of the 2015 agreement (South Africa 2014). The South African proposal foresees that the 2015 agreement will integrate NDCs after adoption by a specific clause that forms an integral part of it.

Option 3 COP decisions: This option is to inscribe NDC in a COP decision. Under this option, at COP21 or subsequent COP meetings, a COP decision inscribing NDCs would be adopted, and would be endorsed at COP/MOP1 of the new protocol (if the 2015 agreement is a protocol). Revised or new NDCs could also be included in following COP or COP/MOP decisions.

One of the merits of this option is some degree of bindingness. Though COP and COP/MOP decisions are legal instruments, they are not legally binding by themselves. Since the adoption of COP and COP/MOP decisions is based upon consensus, however, Parties have a moral obligation to apply them in good faith. In addition, COP and COP/MOP decisions have some legal effects, since such decisions serve as implementing measures of the international treaty and Parties to the treaty are expected to sincerely follow the decisions. Flexibility is another merit. However, no Parties seem to explicitly support this option.

Option 4 Non-legal instrument: The fourth option is to keep NDCs in a non-legal instrument, such as a registry maintained by the UNFCCC Secretariat, outside the legally-binding agreement. This option is similar to the mitigation pledges under the Copenhagen Agreements. The Copenhagen pledges were compiled in an INF document, and the NAMA registry has also been developed to record developing countries' nationally appropriate mitigation actions (NAMAs).[12] This option allows flexible timing for some adjustments after COP21, as well as the updating of NDC in a subsequent period without any legal and ratification processes.

The US seems to support this option. It proposed that the COP21 outcome should include a core agreement, related COP decisions, and a compilation of NDCs, and that the core agreement would provide for each Party to submit, upon joining the agreement, and to maintain thereafter, a schedule reflecting its mitigation contribution (US 2014). While several Parties support the idea of inscribing NDCs in a non-legal instrument, there is some variation on such instruments: "repository of country contributions" (AILAC 2014); "an online registry of national mitigation targets, actions and/or schedules" (Brazil 2014); "national schedules" (Canada 2014, New Zealand 2014a and 2014b)[13]; and "schedules" (US 2014).

This option has the greatest flexibility among the four options, but the weakest in terms of legal effects. To address this problem of weak legal stringency, some Parties proposed that the core or legally binding agreement would contain legal obligation for all Parties to "submit" and "implement" an NDC (AILAC 2014), "present" and "periodically adjust" an NDC (Brazil 2014), and, "put forward" and "regularly update" an NDC (Canada 2014). These ideas intend to provide a legal basis for NDCs, while making it more flexible for NDCs to be updated afterward.

Though the four options examined above have pros and cons, with a view to establishing a long-standing and dynamic cycle of mitigation contributions, Option 4 combined with a provision in the core, legally-binding agreement merits serious and further consideration. On the one hand, the core agreement would legally mandate Parties to submit, implement and regularly update NDCs. On the other hand, submitted NDCs would be kept in a registry outside the core agreement, which could allow Parties to adjust and update without re-negotiation and ratification. This approach could effectively strike the balance between legal robustness and flexibility. The core or legally-binding agreement should provide a legal basis for NDCs, and, in particular, the agreement should provide for each Party to not only submit, but also implement and regularly (five-year cycle) update its NDC. These arrangements can strike a balance between legal clarity and flexibility, thereby providing a foundation for collective action for adjusting NDCs in a regular manner.

4.3 Scope

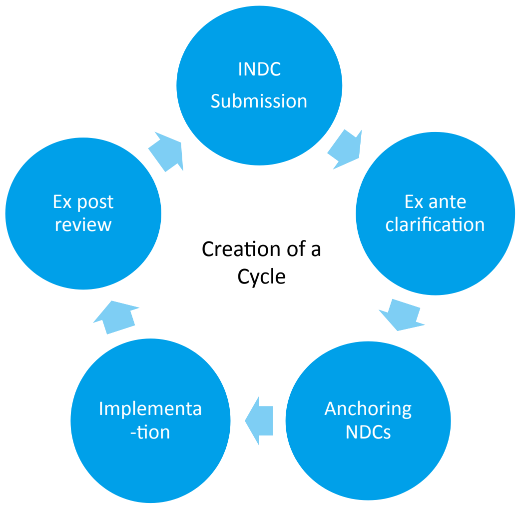
With regard to the scope of the *ex-ante* process/cycle, there was divergence among Parties. Brazil and South Africa explicitly referred to the assessment and ratcheting-up of developed countries' support in the improvement cycle (Brazil 2014; South Africa 2014). On the other hand, the EU, Japan and the US prefer to limit the scope of the *ex-post* process/cycle only to mitigation contributions (EU 2014; Japan 2014; US 2014). As examined in the previous section, no INDCs from developed countries include support components so far. This reality makes it difficult to establish an *ex-post* process/cycle for support based upon NDCs. It is also worth mentioning that there is also discussion of adaptation cycles (Morgan et al. 2014).

5. Proposal for a mitigation cycle

Reflecting the review of various opinions and options related to the design of the cycle, this section proposes a concrete design for the cycle.

5.1 Five-year cycle with scientific inputs

A cycle can consist of five stages: (1) the first stage is the submission of NDCs; (2) the second stage is *ex-ante* clarification. Though Decision 1/CP.20 significantly narrowed the scope of a formal *ex-ante* clarification process in the lead-up to COP21, there should be adequate time for future contribution cycles to include this *ex-ante* process; (3) at the third stage, NDCs are anchored in an international agreement, which means the formalisation of NDCs. As discussed in the previous section, NDCs should be anchored in a non-legal instrument, like a registry, outside the core agreement, while the core agreement provides legal obligations to communicate, update and implement NDCs on a regular five-year basis; (4) the fourth stage is the actual implementation; and (5) the fifth stage is *ex-post* review of implementation. The results of such *ex-post* review could be inputs to subsequent NDCs.



Source: Prepared by authors.

Figure 3.4 ***A cycle through which nationally determined contributions are submitted and strengthened***

Through the cycle process of NDCs, each Party's NDC needs to be reviewed from three viewpoints: (1) equity (including the principle of common but differentiated responsibilities and respective capabilities); (2) mitigation potential (an assessment of untapped mitigation potential in each country); and (3) opportunities (an assessment of the benefits that domestic climate action can deliver). In addition, a periodic assessment of aggregate ambition or adequacy of NDCs should also be incorporated into the cycle (Aldy et al. 2014; Höhne et al. 2014a; Höhne et al. 2014b).[14]

An equity viewpoint cannot be eliminated from the current negotiations. Some Parties oppose the idea of creating the mitigation cycle, because they have concerns that such a mechanism could dilute the differentiation between developed and developing countries, and could impose inequitable burdens on developing countries. To alleviate such concerns, the cycle mechanism should take equity into account. Indeed, the allocation of a global carbon budget among countries based upon equity and other indicators can provide benchmarks for assessing each Party's relative contribution to the 2°C target in terms of equity and adequacy.

However, an equity discussion may turn out to be a zero-sum game over the allocation of the right to emit among countries, and the discussion would be brought to a standstill. To avoid such a deadlock, two other viewpoints—mitigation potential and opportunities—are important. Identifying mitigation potential which is untapped by NDC is one starting point for the ratcheting-up of individual NDCs.

An assessment of opportunities and benefits that mitigation actions can bring is another vital piece of information for the proposed cycle. The New Climate Economy Report (2014) actually identified many sectors in which ambitious mitigation actions can deliver benefits, including urban development, local pollution and congestion, agriculture, energy efficiency, fiscal reform, energy security, financial innovation and technological innovation. Specifying concrete benefits that fit with each Party's national interests and priorities can move beyond the traditional burden/effort-sharing discussion, and motivate an increase in mitigation efforts.

5.2 Synchronising two different contribution periods

The next question is how to deal with different time lines of NDCs. As examined earlier, all the INDCs that have been communicated, except those from Gabon and the USA, regard 2030 as the end of implementation period (2020-2030). Gabon and the USA have a five-year implementation period (2020-2025). Among those Parties which have a ten-year implementation period, the EU proposes a five-year cycle of regular review of the ambition of mitigation efforts (EU 2014, ENB 2015). However, it is not clear how the ten-year implementation period and the five-year cycle of regular review are interlinked, and more specifically how the results of review will be used for the next round of NDCs. Therefore, it is necessary to set out details on the modalities of the cycle which can synchronise different implementation periods.

One approach could be to have an interim review every five years for ten-year period NDCs in parallel with *ex-post* review of five-year period NDC every five years. Chronological flows are as follows:

2018/2019: Those Parties with five-year period NDCs are requested to submit their NDCs for the next round of implementation period (i.e. 2025-2030). Those Parties with ten-year period NDCs are requested to provide information on the projected level of emissions for 2025-2030. Both 2025-2030 NDCs and the 2025-2030 projected emissions should reflect the latest status of domestic mitigation policy as well as be based upon the latest scientific knowledge.

2024: Those Parties with five-year period NDCs are requested to inscribe their NDCs for 2025-2030 in a registry, and to adjust upward, if possible.

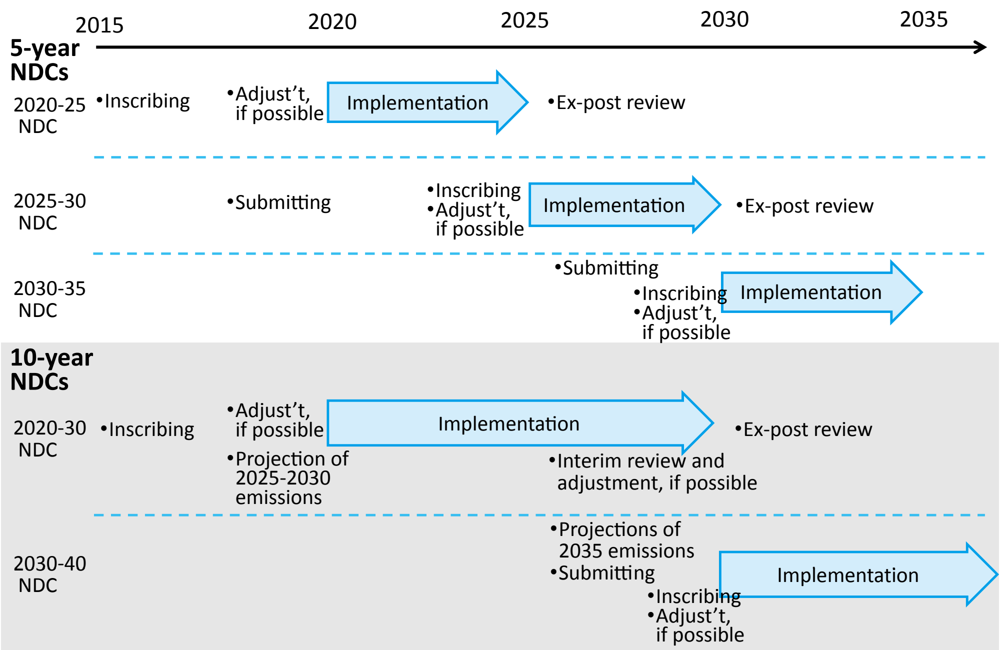
2026/2027: Those Parties with five-year period NDCs are subject to an *ex-post* review of the implementation of 2020-2025 NDCs. Reflecting the results of the *ex-post* review, they are expected to submit NDCs for 2030-2035.

Those Parties with ten-year period NDCs are subject to an interim review of 2020-2030 NDCs. They are also required to adjust their 2020-2030 NDCs upwards, if possible, reflecting the results of the *ex-post* review. Furthermore, they are expected to submit NDCs for 2030-2040. The results of the interim review of 2020-2030 NDCs as well as the latest scientific knowledge would become inputs to the formulation of their 2030-2040 NDCs.

2029: Those Parties with five-year period NDCs are requested to inscribe their NDCs for 2030-2035 in the registry.

2031/2032: Parties with five-year period NDCs will follow the same procedures for 2026/2027. They are subject to an *ex-post* review of 2025-2030 NDCs. Reflecting the results of the *ex-post* review, they are expected to communicate NDCs for 2035-2040.

Those Parties with ten-year period NDCs are subject to an *ex-post* review of their 2020-2030 NDCs. They are also required to communicate projected emissions for 2035-2040. Furthermore, they are expected to submit NDCs for 2030-2040.



Source: Prepared by authors.

Figure 3.5 ***Synchronising two different implementation periods***

These arrangements could synchronise review processes of different implementation periods and make regular reviews in the same year. They also provide regular opportunities for both five-year cycle and ten-year cycle Parties to revisit NDCs on a regular basis. In other words, collective efforts to increase the level of mitigation contributions will take place in a five-year cycle.

6. Proposal for a finance cycle[15]

Various climate finance-related cycles have been created during the pre-2020 period. These cycles include the biennial assessment (BA) cycle of financial flows undertaken by the Standing Committee on Finance (SCF); the every-four-year replenishment cycle of the operating entities of the Financial Mechanism of the UNFCCC, namely the Global Environment Facility (GEF) and the Green Climate Fund (GCF); and the biennial reporting cycle of developed countries' Biennial Reports (BRs) and developing countries' Biennial Update Reports (BURs). The existing assistance cycles are crucial vehicles for mobilising climate finance and enhancing finance transparency for pre-2020 and should be kept and enhanced for post-2020.

The finance component for the post-2020 period can be composed of three key elements: (1) the predictability of future funding scale; (2) developing countries' strategies to enhance enabling environments and scale up domestic climate finance; and (3) the transparency of financial inputs and resulting impact. Although no INDCs submitted include information on assistance, a link between the mitigation cycle and the finance cycle can be established so as to support the progression of ambition for post-2020. The 2015 Agreement therefore should encourage Parties to making contributions at an increasing scale every five years, using both bilateral and multilateral channels (ACT2015, 2014a).

6.1 Predictability of future funding scale

Collectively, developed countries are committed to provide long-term, scaled-up, new and additional finance and to jointly mobilise USD 100 billion annually by 2020, with funding from public and private, bilateral and multilateral, including alternative sources (UNFCCC 2011). The USD 100 billion target has created the momentum to ramp up overall climate finance, although it has not yet been decided how to define the key terms such as "additional" and "private" as well as the end point and the pathway to achieve this commitment.

For the post-2020 period, a quantitative target is the first step in providing a certain degree of predictability. To enable the progression of ambition, the quantitative finance target should be developed along with a review process. The SCF is the UNFCCC entity that has the mandate to assist COP in exercising its functions with respect to the Financial Mechanism, and as such, should undertake the review process biennially during 2016-2020, taking into consideration inputs from the reviews suggested in the mitigation cycle.

The SCF should develop a finance synthesis report, in a similar way that the UNFCCC Secretariat prepares the INDC synthesis report, in its second BA in 2016. Although none of the developed countries included support components in their INDCs, many developing countries proposed conditional INDCs, indicating the volume of funding needed for implementation. For example, Cambodia states that it would require USD 1.27 billion to support the implementation of activities included in the sectoral climate change action plans up to 2018 (Cambodia, 2015); and Ethiopia suggests that the full and effective implementation of the Green Economy Strategy requires an estimated expenditure of more than USD 150 billion by 2030 (Ethiopia, 2015). The SCF therefore should synthesise this financial information and provide an analytical backing for the quantitative finance target. Meanwhile, developed countries should communicate their intended contributions for 2025 and 2030 as well as their intended distribution channels in their BRs. Furthermore, those developing countries that proposed conditional INDCs should communicate their estimation of international support needed and domestic strategies to scale up domestic climate finance and enhance enabling environments in BURs.

Based on the first review of NDCs suggested in the mitigation cycle, the SCF should then assess the gap between international support indicated by developed countries and the finance needs for realising the 2°C target in its third BA in 2018. The SCF should also assess the gap between available international support and developing countries' expectations and suggest an estimation of a global aggregate amount needed by 2025 and 2030 to implement developing countries' NDCs in its third BA in 2018. Developed countries should consider SCF's figure as a reference and communicate their increased level of intended contributions for 2025 and 2030 in their BRs and developing countries should update their national strategies to scale up domestic finance and enhance enabling environments in BURs.

The SCF should evaluate again whether developed countries' increased level of intended contributions could bridge the finance gaps in its fourth BA in 2020. If the finance gaps continue to exist, the SCF should investigate alternative finance sources for post-2020. Meanwhile, developed countries should finalise their 2025 commitment and report their plans for disbursement during 2020-2025. Developed countries should also indicate whether they intend to increase their contribution level for 2030.

Another approach of ensuring funding predictability is to make sure that the GCF can channel developed countries' commitments. It should be noted that the Parties to the UNFCCC are not strictly legally bound by the GCF and their obligations to the GCF are not enforceable, because the GCF is constituted through a soft law (a COP decision), not a hard law (ratified treaty text). Moreover, the USD 100 billion pledge, relevant for the pre-2020 period, is not directly linked to the GCF and the level of precision regarding how much money will be made available to the GCF is low. For the post-2020 period, clear replenishment targets will definitely enable the GCF to plan, programme, and implement activities in a more efficient and effective way. The GCF therefore should establish no-backtracking replenishment targets and communicate these targets in their reports to the COP. Countries should also agree to establish a replenishment process for the GCF every four years with a view to achieving GCF's replenishment targets (ACT2015, 2014b).

6.2 Transparency of finance

In addition to funding predictability, clarity and transparency of financial inputs and resulting impacts should be another centrepiece of the 2015 Agreement. The SCF has a mandate to enhance guidelines for MRV of support provided by developed countries and could be given another mandate at the upcoming COP21 in Paris to develop methods for developing countries to report financial support received and use of finance. Table 3.3 summarises potential areas for improvement to increase transparency of finance.

Table 3.3 Areas for improvement to increase transparency of finance

Entity	Area	Improvement
Developed countries	Common tabular format	Clarity on point-of-measurement (committed vs. disbursed)
		Definition of multilateral climate funds and a complete list of multilateral climate and non-climate funds
		Clarity on what proportions of contributions to certain funds as climate-specific core contribution and definition of climate-specific contribution
		Inclusion of project-level information
		Definition of mobilised private finance
	Additional information	Strategies for ensuring a balanced allocation between mitigation and adaption
		Intended contributions to the collective achievement of the USD 100 billion pledge
Developing countries	Receipt of finance	Sources of finance, sectors receiving finance, and types of finance
	Use of finance	Mitigation (including REDD+) and adaptation
	Domestic finance	Developing countries' strategies for scaling up domestic climate finance and enhancing the enabling environment
MDBs	Government contribution	Finance flows to developing countries and resulting impacts
	Other channels of resource mobilisation	Clarity on the proportion of non-government contributions in MDBs' finance flows.

Sources: Various submissions for consideration at SBSTA 42 under Views on methodologies for the reporting of financial information, as referred to in decision 2/CP. 17, para 19. Synthesised by the authors

6.2.1 Developed countries

Developed Parties are using the Common Tabular Format (CTF) for reporting finance provided. However, it should be noted that finance reporting should not be limited to the CTF and more information should be provided. Additional information such as developed countries' strategies for ensuring a balanced allocation between mitigation and adaptation and their intended contributions to the collective achievement of the USD 100 billion pledge should be reported together with the CTF. Although the CTF has presented a snapshot of the supply-side of global climate finance, it has several areas that need improvement:

First, it should provide further clarity on the point-of-measurement used for the basis of reporting, such as whether finance reported in a given year X reflects the committed amount or disbursed amount. Financial commitments indicate funding decisions of a donor country, whereas disbursements are the result of existing decisions. Considering that different countries use different budget cycles for budget appropriation, it is suggested that commitment rather than disbursement should be used for point-of-measurement in future finance reporting. The CTF should add another item for reporting disbursement.

Second, the CTF only lists a handful of multilateral channels/funds and does not provide a definition of climate funds. Without such a definition, some countries report their contributions to the Montreal Fund in the CTF, while others do not. Moreover, as the

CTF lacks a definition for multilateral finance, providers do not differentiate facilities managed by multiple stakeholders (partnerships among various countries managed by multiple stakeholders, such as the Global Climate Partnership Fund) from multilateral entities (institutions managed by one stakeholder, such as the World Bank and regional development banks). Making a distinction between multilateral and multiple-stakeholder facilities will increase consistency and comparability in finance reporting.

Third, the CTF does not indicate what proportion of contributions to certain funds should be reported (i.e. whether all contributions to the GEF could be considered as core contribution or only the proportion that is climate-specific could be considered as core contribution) and does not provide a definition of climate-specific contribution (i.e. whether climate should be the primary or co-benefit objective). Consequently, Germany reports 40% of its GEF contribution as climate-specific, core contribution, while other countries count their entire contributions to GEF as core contribution without clarity on the climate-specific proportion.

Fourth, the CTF only provides an aggregate figure of finance provided and does not require reporting on project-level information. Although several countries have supplemented the CTF with project-level information, many countries have not. Without project-level information, it is not possible to implement verification.

Finally, the CTF should provide a definition and method of accounting mobilised private finance. As developed countries are using very different definitions, it is extremely difficult to compare private finance across developed countries.

6.2.2 Multilateral development banks

A group of seven multinational development banks (MDBs) now report jointly on their climate finance flows to developing countries on an annual basis. Since the finance flows of MDB is mainly from government contributions from developed countries, an appropriate reporting avenue should be created to avoid double counting of Parties' contributions across MDBs. Because the MDBs cannot be required to report to the UNFCCC, a body under the UNFCCC should take the responsibility of initiating and facilitating the discussion with MDBs on this process.

The MDBs have also increased their efforts of evaluating the impact of climate finance. As the GCF is developing its Results Management Framework (RMF) (GCF 2014), it is suggested that the MDBs adopt the GCF's RMF so that a coherent framework is used for the evaluation of climate finance effectiveness across MDBs as well as assessing the alignment between finance provided and developing countries' nationally identified needs.

In addition to government contributions, the MDBs capitalise on their capacity to leverage additional resources from multiple sources—public and private—and mobilise funding on international capital markets. There is a lack of clarity on the proportion of non-government contributions in MDBs' finance flows, so the picture of MDBs will be clearer if this information is provided.

6.2.3 Developing countries

Finance information released from BURs indicates a lack of clarity and consistency on the receipt and use of finance as well as finance mobilised domestically in developing countries. The SCF therefore should develop a common reporting format for developing countries, taking into consideration the capacity of different countries. With regard to the receipt of finance, information such as sources (multilateral, bilateral, other sources, and providers), sectors receiving finance (energy, transportation, water, agriculture), and types of finance received (concessional, non-concessional, loans, grants) should be reported.

With regard to the use of finance, developing countries should report how much money received from international sources is spent for mitigation (including REDD+) and adaptation in a given year X. The GCF, the GEF and other MDBs should provide supplementary information regarding the resulting CO_2 reduction impacts and outcomes according to their Results Management Framework.

Finally, country ownership of international climate finance will not be fulfilled without the appropriate enabling environments and domestic institutional arrangements in developing countries. The gap will not be closed between available international finance, developing countries' expectations, and finance needs from the 2°C target, if developing countries do not develop robust national strategies for scaling up domestic climate finance. The BURs therefore should include developing countries' efforts to mobilise domestic climate finance and their strategies for enhancing enabling environments.

6.3 Proposed timeline

IGES proposes the following cycle for 2016-2030 to enhance the link between the existing finance vehicles and the need for increasing predictability and transparency of finance (Figure 3.7). The finance cycle for 2016-2030 can be divided into three phases, each of which has a duration of five years. The three phases are—Phase 1 (2016-2020) for the progression of ambition; Phase 2 (2021-2025) for the implementation of the 2025 commitment; and Phase 3 (2026-2030) for the implementation of the 2030 commitment.

Phase 1 (2016-2020): Progression of ambition

2016: The SCF, in its second BA, should develop a finance synthesis report, in a similar way that the UNFCCC Secretariat prepares the INDC synthesis report

Using SCF's synthesis report as the analytical backing, developed countries should communicate their intended contributions for 2025 and 2030 as well as their intended distribution channels in their BRs. Developing countries should communicate the amount of international support needed by 2025 and 2030 and their strategies to scale up domestic climate finance.

The GCF should make decisions on policies, procedures and documents necessary for the first formal replenishment process.

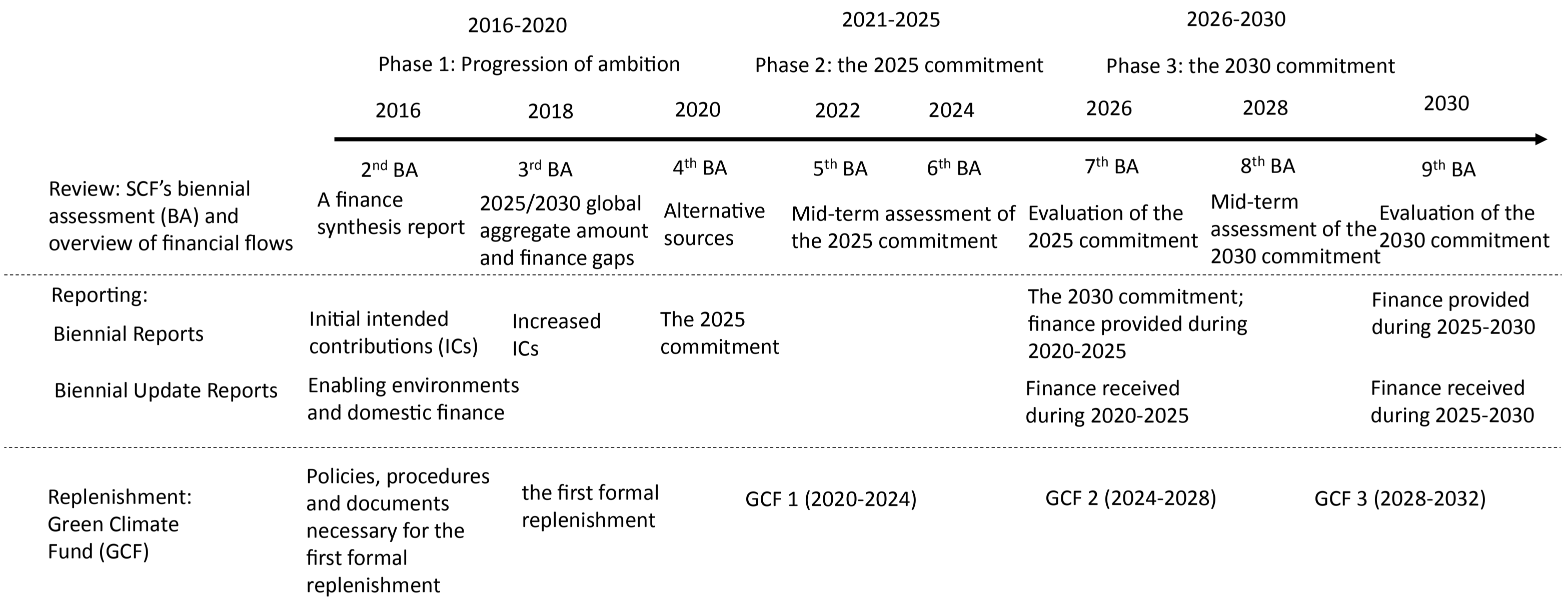


Figure 3.6 ***The finance cycle***

2018: The SCF should undertake its third BA, taking into consideration of inputs from the first review of NDCs suggested in the mitigation cycle. The SCF should assess: (1) the gap between available international finance and developing countries' expectations; (2) the gap between the global 2025/2030 aggregate amount and the finance needed to realise the 2°C target; and (3) the alignment of finance delivery and developing countries' national priorities. Based on the assessment, the SCF should suggest an escalated target for 2025 and 2030.

Developed countries should communicate their increased level of intended contributions by 2025/2030 and their intended distribution channels in their BRs. Developing countries should update the amount of international support needed and their strategies to scale up domestic climate finance in their BURs.

The GCF should trigger its first formal replenishment process.

2020: The SCF, in its fourth BA, should investigate the alterative financial sources that could bridge the finance gaps aforementioned, if these gaps continue to exist after developed countries increase their contribution level and developing countries enhance their domestic finance strategies.

Developed countries should finalise their intended 2025 contributions, communicate whether they intend to increase the 2030 contribution level, and report their plans for disbursement for 2020-2025 in their BRs. Developing countries should communicate their intended investment plans in their BURs.

The GCF should implement programmes, activities, and actions during the GCF-1 period.

Phase 2 (2021-2025): Implementation of the 2025 commitment

2022 and 2024: The SCF, in its fifth and sixth BAs, should provide an overview of finance flows and give a mid-term/preliminary assessment of resulting impacts and outcomes.

Developed countries and developing countries should report finance information in BRs and BURs.

The GCF should trigger the second replenishment process.

Phase 3 (2026-2030): Implementation of the 2030 commitment

2026: The SCF should undertake its seventh BA, taking into consideration of inputs from the *ex-post* assessment of 2020-2025 NDCs suggested in the mitigation cycle. The SCF should assess the implementation and effectiveness of the 2025 finance commitment.

Developed countries should report their delivery of the 2025 finance commitment and finalise their 2030 contributions in their BRs. Developing countries should report finance received, the use of finance, and domestic climate finance during 2020-2025 in their BURs.

The GCF should implement programmes, activities, and actions during the GCF-2 period.

2028: The SCF, in its eighth BA, should provide an overview of finance flows and give a mid-term/preliminary assessment of resulting impacts and outcomes.

Developed countries and developing countries should report finance information in BRs and BURs.

The GCF should trigger the third replenishment process.

2030: The SCF, in its ninth BA, should assess the implementation and effectiveness of the 2030 finance commitment.

Developed countries should report their delivery of the 2030 finance commitment in their BRs. Developing countries should report finance received, the use of finance and domestic climate finance during 2025-2030 in their BURs.

7. Summary and way forward

By overviewing the current status of INDCs, related decisions and various proposals, this chapter argued that the 2015 agreement should establish a cycle for reviewing and submitting subsequent NDCs through which each Party's NDCs' ambition will be ratcheted up. Concrete recommendations were made related to the five stages of the cycle, including the anchoring of NDCs in the 2015 agreement and synchronising two different implementation periods.

The cycle can consist of five stages: (1) submission of INDCs; (2) *ex-ante* clarification; (3) anchoring NDCs in an international agreement; (4) actual implementation; and, (5) *ex-post* review. The results of such *ex-post* review could be inputs to the subsequent NDCs. For such a cycle to be effective and dynamic, it is critical to strike a balance between legal stringency and flexibility, as well as deal with different implementation periods (i.e. five years versus ten years). For the former, the 2015 Agreement should contain legal obligations for all Parties to submit and implement NDCs, while they will be kept in a non-legal instrument (like the registry for Copenhagen/Cancun pledges). For the latter, by conducting interim reviews for ten-year period cycle countries, it is possible to have a review process every five years for both ten- and five-year period cycle countries.

A dynamic cycle for reviewing and submitting subsequent nationally determined contributions (NDCs) after the initial submission should be established in the 2015 agreement. NDCs targeting 2025 or 2030 are part of longer-term efforts to transition to low-carbon societies. In addition, an ambition gap between expected emissions based upon INDCs and global emissions pathways consistent with 2°C target is likely to remain in 2025/2030. Thus, continuous efforts to raise the level of ambition after the initial submission of INDCs are imperative.

Through the cycle process of NDCs, in addition to an assessment of aggregate NDCs, each Party's NDC needs to be reviewed from three viewpoints: (1) equity (including CBDR-RC); (2) mitigation potential (an assessment of untapped mitigation potential in each country); and (3) opportunity (an assessment of the benefits that domestic climate action can deliver). Chapter 4 will discuss further how these inputs can be generated through a consortium of research institutes.

In addition to the mitigation cycle, this chapter also discussed approaches to enhance climate finance. The finance component for post-2020 should be composed of three key elements: (1) the predictability of future funding scale; (2) developing countries' strategies to enhance enabling environments and scale-up domestic climate finance; and (3) the transparency of financial inputs and resulting impacts. Although no INDCs submitted include information on assistance, a link between the INDC cycle and the finance cycle should be established so as to support the progression of ambition for post-2020.

IGES therefore proposes a three-phase cycle during 2016-2030 to enhance the link between the existing finance vehicles and the post-2020 objectives of predictability and transparency. These three phases include the first phase (2016-2020) of enabling the progression of ambition, the second phase (2021-2025) of implementing the 2025 commitment, and the third phase (2026-2030) of implementing the 2030 commitment.

Finally, IGES proposes several areas that need improvement regarding developed countries' finance reporting, including further clarity on point-of-measurement used for the basis of reporting (committed amount vs. disbursed amount), clearer definitions of climate-specific contribution and multilateral climate funds, inclusion of project-level information, and improved methodologies for tracking mobilised private finance. The SCF should also develop a common reporting format for developing countries, taking into consideration the capacity of different countries, to report financial support received, use of finance, and their efforts and strategies to scale-up domestic finance and improve enabling environments. Information-sharing on finance flows channelled by multilateral development banks (MDBs) should also be enhanced to provide a more complete picture of international climate finance.

Notes

1. It should be noted that INDCs can also include adaptation. There are proposals for a cycle for strengthening adaptation actions. See, for example, Morgan et al. 2014.
2. In this chapter, INDCs refer to initially submitted NDCs before COP21, and NDCs refer to nationally-determined contributions after COP21.
3. See, for example, "Co-Chairs' Tool: A Non-Paper Illustrating Possible Elements of the Paris Package" Available at http://unfccc.int/bodies/awg/items/9176.php
4. According to the definition used by IPCC AR5, the term "as likely as not" means 33%-66% probability.
5. https://www.whitehouse.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change
6. A notable exception is Denmark. Its new government announced to reduce its GHG emissions by 40% from 1990 levels by 2020 through domestic action in October 2011. See http://www.wri.org/blog/2011/10/denmark-committed-40-emissions-reduction-2020
7. http://unfccc.int/focus/indc_portal/items/8766.php
8. See http://unfccc.int/focus/indc_portal/items/8766.php Brazil and Marshall Islands present 2030 targets as an indicative one.
9. The LMDCs group is a loose negotiation group consisting of for example Bolivia, China, Cuba, India, Nicaragua, Malaysia and Venezuela.
10. Regarding the second commitment period of the Kyoto Protocol, the adjustment "shall be considered adopted by the Conference of the Parities serving as the meeting of the parties to this Protocol unless more than three-fourths of the Parties present and voting object to its adoption." In addition, its entry into force is automatic (i.e., does not require Parties' ratification).
11. Though Maljean-Dubois et al. (2014) called this option "national schedules," the concept of "national schedules" was put forward by Australia in 2009 with different meaning (which rather similar to the option 4 in this paper) and supported by Canada, New Zealand and others in the context the current negotiation. To avoid confusion, this paper calls the second option "schedules of specific contributions," drawing on the model of "schedules of specific commitments" of the WTO GATS.
12. An Information document (INF document) is an official document prepared by the UNFCCC to compile and communicate specific information. For further detail of the NAMA registry, see http://unfccc.int/cooperation_support/nama/items/7476.php.
13. What Canada, New Zealand and the U.S. called "national schedules" or "schedules" is different from Option 2. "[N]ational schedules are necessary to and sit alongside the legal agreement but are not part of it" (New Zealand 2014b). For further details, see footnote 6.
14. For further discussion on inputs to the cycle, see Chapter 4.
15. Finance, technology and capacity building are not clearly distinguishable forms of assistance and these three ways are referred as "means of implementation". Although we recognise the importance of technology and capacity building for post-2020, this chapter focuses on climate finance.

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