Designing the Rules of the Paris Agreement:

# Creating a Workable Framework beyond Transparency


Naoki Matsuo

IGES
Institute for Global Environmental Strategies

# Designing the Rules of the Paris Agreement:

# Creating a Workable Framework beyond Transparency

Naoki Matsuo

Contributor
Kunihiro Ueno

Institute for Global Environmental Strategies (IGES)

**Institute for Global Environmental Strategies (IGES)**
2108-11, Kamiyamaguchi, Hayama, Kanagawa, 240-0115, Japan

Phone: +81-46-855-3700 Fax: +81-46-855-3709
E-mail: iges@iges.or.jp
URL: http://www.iges.or.jp/

**Designing the Rules of the Paris Agreement:**
**Creating a Workable Framework beyond Transparency**

Naoki Matsuo

IGES is an international research institute conducting practical and innovative research for realising sustainable development in the Asia-Pacific region.



ISBN 978-4-88788-205-8



Printed and bound by Sato Printing Co. Ltd.

Printed in Japan.

# Designing the Rules of the Paris Agreement:

# Creating a Workable Framework beyond Transparency

Naoki Matsuo

## Table of Contents


Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/5dec.html)

# Foreword

Climate change has been the core part of strategic research at IGES since its launch just after the adoption of the Kyoto Protocol. Now, climate policy for mitigation of climate change is in a very important stage for designing the rules of the Paris Agreement. This report, as an IGES Flagship Report, focuses on the core element of the rule design. It is a strategic research report of comprehensive but concrete set of proposal of the international framework, based on the unique opinions.

The author of this report, Dr. Naoki Matsuo, IGES senior research fellow, used to be a researcher who led IGES climate policy research project when IGES was launched just after the Kyoto Conference (COP 3). At that time, he released many climate policy design proposals on the rules of the Kyoto Protocol, as well as on domestic policies and measures.

In this sense, he is one of the pioneers in this field. Based on his rich experience, this report is based on broad but deep insights.

He has now returned to IGES and has noticed that "NDC and national reporting/review system" is the most important issue of the Paris Agreement. He made several proposals on the relevant rule design and has compiled them in this report.

The Paris Agreement rulebook is planned to be adopted at COP 24 at the end of this year. I hope that the goal and contents of the report will be reflected in the rulebook somehow.

In addition, the *design* of the rules, following several tools and design/ implementation of the capacity building programme for *operation* of the rules are important topics of IGES strategic research. Situating this report as the basis of such following, I strongly expect that this study will be enhanced to become policy research which is useful in a practical sense and will have high impact internationally.

Prof. Kazuhiko Takeuchi

President
Institute for Global Environmental Strategies (IGES)

# Preface and Acknowledgement

I released several proposals for a design of the Kyoto Protocol itself as well as its rulebook design for 1996–2001.

Once the rules were completed as the Marrakech Accords, I left IGES and undertook consultancy activities to *operate* the rules in the field of CDM, *etc*., based on my experience to *design* them. The strategic research at IGES bore fruit to receive approval of the first CDM methodology.

Now we are at the stage of designing the rules of the Paris Agreement as an international framework. There are limited instruments to make the Agreement effective by ensuring the function of the NDC process properly under several constraints. I judged that the most significant one is the national reporting and its reviewing arrangements.

Fortunately, since I have been involved in the In-depth Review process of the first National Communications for more than 20 years before the launch of IGES, I accumulated knowledge and experiences of the process.

I emphasised that the GHG MRV—for CDM, NAMA, *etc*.— should be designed to be a part of PDCA-cycle for improvement of the performance. This Report also emphasises this point. The underlying thoughts is that it is meaningless if it does not contribute to promote actions, but only for transparency and accountability. It seems strange that there is almost no evidence of such a statement.

Taking this opportunity, I summarised my various thoughts into a milestone report with concrete proposals in order to contribute to the international framework, having returned to IGES. This comprehensive Report is based on my 27 years of experience on climate change and energy. Therefore, I believe that the Report is also useful for people who are willing to study the international dimension of climate change issue again.

From now on, I am expecting to contribute to climate change issues by materialising my thoughts shown in this Report, through inputs to the actors of international negotiations, preparation of more detailed guidance and templates, design and implementation of capacity building programmes, *etc*.

This Report and preceding papers are based on supports, useful opinions and information by many people.

From IGES, Mr. Kunihiro Ueno contributed to the data/information collection of NDC, CDM, NAMA, Keidanren's actions in addition to various discussions.

Dr. Mark Elder, Dr. Peter King, Mr. Matthew Hengesbaugh, Ms. Emma Fushimi, Ms. Sayaka Yano, and Ms. Eiko Kitamura supported the finalisation of this report intensively from Research and Publication/Strategic Management Office of IGES. Especially, Mark contributed quite extensively from the contents, English proofreading and publications.

For the contents, Prof. Hironori Hamanaka, Prof. Kazuhiko Takeuchi, Mr. Hideyuki Mori, Dr. Kiyoto Tanabe, Prof. Kazuo Matsushita and Mr. Satoshi Tanaka provided various comments. Especially, Prof. Hamanaka gave me detailed comments based on his rich experiences as the decision-maker. Mr. Shigemoto Kajihara commented strategical aspects to propagate the thoughts.

From outside of IGES, Mr. Naoyuki Yamagishi of WWF Japan and Dr. Yasuko Kameyama sent me their comments. The Report also incorporates several information provided by UNFCCC Secretariat, esp., Ms. Katia Simeonova, Ms. Xuehong Wang, Ms. Kyoko Miwa, Mr. Tomonori Aizawa and Mr. Kenjiro Suzuki.

The idea to incorporate future generations is inspired by the discussion with Prof. Tatsuyoshi Saijo (Research Center for Future Design Engineering, Kochi University of Technology), who is an authority of experimental economics.

I also got many insights from Mr. Yasuo Takahashi, Mr. Hiroshi Ono, Mr. Kazumasa Nagamori and Ms. Masako Ogawa of the Ministry of the Environment, Japan; Mr. Hiroyuki Suematsu and Takayuki Hirabayashi of the Ministry of Economy, Trade and Industry, Japan; Mr. Kisho Tanigawa of Keidanren (The Commitment to a Low Carbon Society) and Dr. Tadashi Aoyagi (Universal Energy Institute) and Mr. Hiroki Kudo (The Institute of Energy Economics, japan) who are involved in the internal and governmental review processes of Keidanren's actions.

Ms. Asako Yamamoto did extensive efforts for translation to English.

My wife Tomoko supported me to utilise several functions of MSWord.

I would like to express my deepest gratitude to all these people for supporting me to develop this Report.

Naoki Matsuo

Principal Policy Researcher / IGES Senior Fellow
Institute for Global Environmental Strategies (IGES)


MEETINGS OF CONVENTION BODIES

# List of Boxes, Tables, and Figures

## Boxes



## Tables

## Figures

# Abbreviations and Acronyms

| | |
|---|---|
| AAUs: | Assigned Amount Units |
| APA: | Ad-Hoc Working Group on the Paris Agreement |
| APEC: | Asia-Pacific Economic Cooperation |
| BaU: | Business-as-Usual |
| BR: | Biennial Report |
| BUR: | Biennial Update Report |
| CBIT: | Capacity Building Initiative for Transparency |
| CDM: | Clean Development Mechanism |
| CERs: | Certified Emission Reductions (CDM credits) |
| CGE: | Consultative Group of Experts on National Communication from Parties not included in Annex I to the Convention |
| CMA: | Conference of the Parties serving as the meeting of the Parties to the Paris Agreement |
| CMS: | Current Measures Scenario |
| COP *n*: | *n*-th session of the Conference of the Parties (to the UNFCCC) |
| ERUs: | Emission Reduction Units (JI Credits) |
| (EU) ETS: | (EU) Emissions Trading System |
| FREL: | Forest reference emission level and/or forest reference level |
| GEF: | Global Environmental Facility |
| GHG: | Greenhouse Gas |
| IAR: | International Assessment and Review |
| ICA: | International Consultation and Analysis |
| ICTU: | Information to facilitate clarity, transparency and understanding (for NDC Guidance) |
| IET: | International Emissions Trading |
| INDC: | Intended Nationally Determined Contribution |
| IPCC: | Intergovernmental Panel on Climate Change |
| JI: | Joint Implementation |
| KP: | Kyoto Protocol (to the United Nations Framework Convention on Climate Change) |
| KPI: | Key Performance Indicator |
| LDCs: | Least Developed Countries |

| | |
|---|---|
| LULUCF: | Land-Use, Land-Use Change and Forestry |
| MPG: | Modalities, Procedures and Guidelines (of the Transparency Framework) |
| MRV: | Measurement, Reporting and Verification |
| NAMA: | Nationally Appropriate Mitigation Action |
| NC: | National Communication |
| NDC *n*: | *n*-th Nationally Determined Contribution |
| NTS: | NDC Target Scenario |
| PA: | Paris Agreement (under the United Nations Framework Convention on Climate Change) |
| PaMs: | Policies and Measures |
| PDCA: | Plan-Do-Check-Act (or Adjust) |
| PMS: | Planned Measures Scenario |
| REDD+: | Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries |
| RMP: | Rules, Modalities and Procedures (of Article 6.4) |
| RMUs: | Removable Units (LULUCF credits in Annex I countries) |
| SDGs: | Sustainable Development Goals |
| SIDS: | Small-Island Developing States |
| UNDP: | United Nations Development Programme |
| UNFCCC: | United Nations Framework Convention on Climate Change |

# Executive Summary

The Paris Agreement is now in the process of making specific rules, which are to be adopted as a package at COP24. Like the saying, "God is in the details", the success of the Paris Agreement will depend on how these operational rules are designed.

Nationally determined contributions (NDCs), which are the most significant feature of the Paris Agreement, should collectively contribute to the goal of limiting the global average temperature increase by 1.5–2°C above the pre-industrial level, by requiring all Parties—including developing countries—to set their reduction targets, which are expected to be strengthened every five years. However, the enhancement of NDC mitigation targets or ambitions alone will not ensure any changes are actually made. They will be meaningless unless they are followed by national domestic measures.

Under the Paris Agreement, the Parties' NDCs and policies and measures will be decided voluntarily; however their formulation and communication (every five years), and their reporting and review of progress (every two years) are mandatory. Therefore, whether this reporting and review system works effectively will be the key for the effectiveness of the Agreement. This Report will address this issue, especially on how the communication system of national reports can be designed so that each country can meet and strengthen its target(s).

The UNFCCC has 24-years of experience of communications of national reports since their first submission. However, the author of this report, with 20-years experience of being involved in the review process, is concerned that the current system of pursuing transparency and completeness is not sufficient to promote the enhancement of countries' domestic measures.

The Report examined and analysed several schemes other than the UNFCCC and found that experience in Japan's industrial sectors can be a good example of a similar type of voluntary-based scheme that has improved the validity of actions. These examples are Keidanren's Voluntary Target and Action Plan, and the Energy Management System under the Energy Conservation Law.

One of the characteristics of these schemes is to specify in detail, in their reporting templates, setting and monitoring of indicators to evaluate the effectiveness of actions, as well as the solution and progress assessment for the enhancement of the actions,

so that report preparers can just fill in items in the templates. In other words, it is quite a rational process with more net benefit than burden.

The Paris Agreement requires each Party to prepare and communicate its NDCs and national report biennially. This is quite a burdensome process but can provide an excellent "opportunity" for capacity building as well as for putting actions into the Plan-Do-Check-Act (PDCA)-cycle. The Paris Agreement reporting and review systems should be designed with such awareness.

Being aware of such opportunities, this Report organises and summarises good practice concepts for rule-making, formulating five objectives and eight means to realise them.

The Report also proposes a method for progress assessment of achieving the NDC mitigation targets, which is simple and easy to understand with broad applicability for various types of targets.

It also proposes a method for a simple factor analysis that allows "self-analysis" on countries' past state through to their future NDC targets.

These methods allow appropriate quantitative analysis without requiring any statistical expertise. The latter is expected to be used broadly as a method to provide comparability between past and future conditions and among countries.

As for the mitigation aspects of the NDC Guidance and the Transparency Framework Guidelines of the Paris Agreement Rulebook, the Report also proposes elements to materialise the eight means.

The Report compares these proposals with the negotiation texts for the latest climate conference in May 2018. It also considers remaining concerns (*e.g.*, whether such schemes can work well for almost 200 Parties) and makes proposals for addressing them.

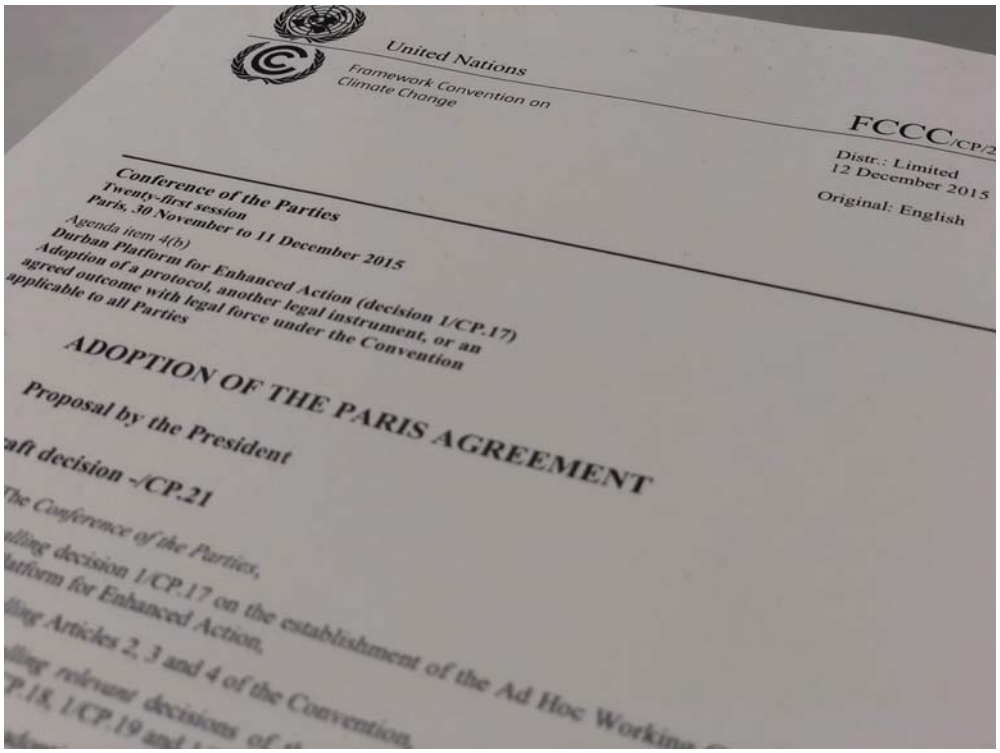
There will be two more negotiation processes, including COP24 in December 2018 when the rules are planned to be adopted. However, it is likely that various tools in the form of guidance and templates that are operational in developing countries will be needed even after the development of the Rulebook.

The Report introduces rather new approaches that are practical and effective not only

for developing countries disadvantaged in resources and capacity, but also for most developed countries. It is hoped this Report will be reflected in the Paris Rulebook.

# CHAPTER 1

# Objective and Problem Statement


United Nations
Framework Convention on Climate Change
FCCC/CP/
Distr.: Limited
12 December 2015
Original: English
Conference of the Parties
Twenty-first session
Paris, 30 November to 11 December 2015
Agenda item 4(b)
Durban Platform for Enhanced Action (decision 1/CP.17)
Adoption of a protocol, another legal instrument, or an agreed outcome with legal force under the Convention applicable to all Parties
ADOPTION OF THE PARIS AGREEMENT
Proposal by the President
aft decision -/CP.21
The Conference of the Parties,
lling decision 1/CP.17 on the establishment of the Ad Hoc Working
latform for Enhanced Action,
lling Articles 2, 3 and 4 of the Convention,
lling relevant decisions of
P.18, 1/CP.19 and

# Chapter 1

# Objective and Problem Statement

The Paris Agreement established an extraordinary challenging goal on atmospheric mean surface temperature rise, and thus the NDCs set by developed and developing country Parties must be strengthened steadily every five years. If this is not done, the Paris Agreement is bound to end in failure.

The Paris Agreement has progressed in the sense that it now covers all countries under the framework of voluntary regulations specified by the NDCs. On the other hand, each country freely decides what type and what level of targets it will set, and what measures it will develop and implement.

To supplement this weakness of voluntary actions, each country is required to report progress on NDC implementation, and this will be reviewed internationally under the "Transparency Framework" every two years.

Mitigation targets must be achieved timely if they are to be strengthened subsequently. Therefore, this chapter sets out the problem that will emerge, acknowledging that the current institutional approach to increase transparency and completeness is insufficient to put pressure and enable Parties to meet their targets [**Problem Statement**].

This chapter, therefore, analyses this problem including its cause, and then provides basic ideas and outlines for a set of solutions to aggressively tackle this problem [**Objective of the Report**].

# 1. PARIS AGREEMENT: ESSENCE AND CHALLENGES

## 1.1. Background to the Paris Agreement

Efforts to tackle climate change after 2020 will be implemented globally based on the Paris Agreement and its detailed rules under the United Nations Framework Convention on Climate Change (UNFCCC). The Paris Agreement was adopted in 2015, entered into force in 2016, and now is in the process of seeking to design rules to ensure the Agreement is effective, moving towards the adoption of a package of detailed rules scheduled for COP24 at the end of 2018.

The Paris Agreement is an international agreement under the UNFCCC, comprehensively addressing the issue of climate change after 2020. The essence of the Agreement is to provide and operate new instruments to advance climate change mitigation.

There are several different approaches that can be taken to address climate change, but this report focuses on mitigation (*i.e.*, greenhouse gas (GHG) reductions), if not otherwise specified.

The evolution of the international system to address climate change leading to the Paris Agreement can be summarised as follows.

The UNFCCC (entered into force in 1994)—signed at the UNCED (United Nations Conference on Environment and Development, also known as the Earth Summit) in Rio, Brazil in 1992—is the framework underlying the first global response to this issue. It established several key elements:

(a) Ultimate objective of the UNFCCC is to "stabilize GHG concentrations at a non-dangerous level" (Article 2);

(b) Principle of "common but differentiated responsibilities and respective capabilities" is established;

(c) There is no obligation for quantified targets. Rather, the commitment from developed country Parties is to adopt and implement actions, recognizing the importance of stabilization of GHG emission at 1990 levels, by 2000. In fact, most developed countries committed relevant voluntary targets.

(d) Institutional arrangements are made for regular communication and review of national reports on the actions, GHG inventories, *etc.*

(e) Policies and measures should be taken in a cost-effective manner; and

(f) Regular negotiation processes are prepared (through the Conference of the Parties (COP) and two Subsidiary Bodies).

Since the UNFCCC is the parent treaty of the Kyoto Protocol and the Paris Agreement, these points have been evolved as follows:

(A) The Paris Agreement set a specific goal on "holding the increase in the global average temperature to 1.5–2°C above pre-industrial levels" as the interpretation of "a level that would prevent dangerous anthropogenic interference with the climate system". In addition, a process is introduced to check whether targets are on course to meet this goal globally;

**Box 1 [Ultimate objective of the UNFCCC]**

Decisions on "dangerous anthropogenic interference" are value judgements through socio-political processes, not scientific conclusions.

The Synthesis Report of the Third IPCC Assessment Reports clarified its role that the Report can provide the relevant information as an input for policy makers in such value judgement.

The Paris Agreement represents such a value judgement as to hold the global average temperature rise range to 1.5–2 °C above pre-industrial levels.

(B) The UNFCCC specifies whether countries are included or not in Annex I, and this categorization of Annex I (*i.e.*, developed) countries and non-Annex I (*i.e.*, developing) countries has been fixed up to now, although both categories are covered equally by the Paris Agreement;

(C) International fora selected the approach of legally binding emissions targets[1] through the Kyoto Protocol for climate change based on the success of the stratospheric ozone layer depletion issue. However, at COP15 in Copenhagen, the Parties failed to extend this approach to developing countries. Therefore, after six years, an alternative approach was chosen in the form of the Paris Agreement, allowing each country voluntarily—without legal obligation—to set the type and level of its target, and this approach was successfully extended to all countries;

(D) National reporting processes have been prepared for the National Communications (4-year cycle) and Biennial (Update) Report. These obligatory processes are also applied to developing countries (except for least developed

[1] The Kyoto Protocol regulates developed countries to meet their emissions targets by specifying the target levels in its Annex B. This is their legal obligation internationally. The operation of such an approach is difficult due to hard negotiations to set the targets as well as its inflexible nature. Developing countries have a major emotional barrier to accepting it.

It should be noted that the reason why Parties could agree to launch such a Protocol with legally binding targets was that the UNFCCC has a provision of "adequacy of commitments" (a review whether current commitments under the UNFCCC are sufficient to meet its ultimate objective to be undertaken at COP1) which led to launch the process for new treaty (Article 4.2 (d)); *i.e.*, its necessity was strategically prepared in the UNFCCC, in advance.

countries (LDCs) and small island developing states (SIDS)). They include follow-up processes of review or assessment. Developed countries are subject to a strict annual review of their GHG inventories. This review with its stringent quantified targets system was the basis for the Kyoto Protocol. For actions on reducing emissions, the importance of quantification through measurement, reporting and verification (MRV) has been recognised, with new instruments created such as nationally appropriate mitigation actions (NAMAs). Current transparency arrangements of national reports and their reviews will be enhanced to become the "Transparency Framework" under the Paris Agreement;

(E) The concept of "cost effectiveness" led to the creation and use of market mechanisms, *e.g.*, the clean development mechanism (CDM) under the Kyoto Protocol. However, their role as regulations for an entire country was weak; rather, they have been used by countries to regulate entities domestically (in particular, the European Union Emissions Trading System (EU ETS)). Subsequently, several developing countries, such as China, have recognized the merits and utilized these mechanisms. The Paris Agreement also has an article to develop/utilise market mechanisms (*i.e.*, Article 6);

(F) In addition to regular negotiation processes—COP every year and Subsidiary Body meetings twice a year—ad-hoc processes have been launched to prepare the new treaty and its rules. Currently, the Ad-Hoc Working Group on the Paris Agreement (APA) is working on the design for the rulebook of the Paris Agreement, *etc*.

The UNFCCC was signed in 1992, and through its 26-year history, the international system has gone through a range of experiences, and currently, it is at the stage of developing the rules of the Paris Agreement.

Countermeasures against climate change are not only those carried out by the central government. Initiatives by private enterprises and local governments have become a major trend in recent years. However, this report deals with the rules of the Paris Agreement at the national level and does not directly discuss other actors.

## 1.2. Essence of the Paris Agreement

As mentioned above, the UNFCCC set "stabilization of GHG concentrations in the atmosphere at a level that would not be dangerous" as the ultimate objective in Article 2 of the Convention. The Paris Agreement restates this as a specific goal and advocates "holding the increase in the global average temperature to 1.5–2 °C above pre-industrial levels". This is an extremely challenging goal, and it is widely known that current national mitigation goals do not go far enough to achieving either target.[2]

[2] This is also specified in COP 21Decision 1/CP.21, which has adopted the Paris Agreement.

[Preamble] (The Conference of Parties) *Emphasizing* with serious concern the urgent need to

To address this challenge, the Paris Agreement has prepared a process of developing and submitting each Party's emission reduction targets every five years, to check whether the sum of these targets is on the right trajectory to achieve the temperature goal (*i.e.*, Global Stocktake). This process will confirm the necessity of strengthening country targets (and putting pressure on each Party), and striving for more stringent targets every five years.

Behind this ratcheting up approach lies the fact that COP15 negotiations in Copenhagen failed and the Kyoto-type approach, which is "to enhance emission regulations in a top-down manner with strong enforceability", collapsed. Therefore, the Paris Agreement has been designed so that each Party declares its targets voluntarily and achieves them in the same way as its parent agreement of the UNFCCC.

However, the Paris Agreement has also shown important progress as an international scheme, in that:

- it covers *all* countries; and
- it provides a system (NDCs) whereby each Party re-establishes and submits its targets every five years.

In response to that, each country has prepared the following:

- Fundamentals for quantitative assessment of emissions and the effect of actions; and
- System for inter-ministerial planning and decision-making for measures to address climate change.

Such preparations can be considered as progress on the outcome of continuous efforts since the adoption of the UNFCCC in 1992.

address the significant gap between the aggregate effect of Parties' mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C, …

[para. 17] (The Conference of Parties) *Notes* with concern that the estimated aggregate greenhouse gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions do not fall within least-cost 2°C scenarios but rather lead to a projected level of 55 gigatonnes in 2030, and *also notes* that much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2°C above pre-industrial levels by reducing emissions to 40 gigatonnes or to 1.5°C above pre-industrial levels by reducing to a level to be identified in the special report referred to in paragraph 21 below; …

The heart of the Paris Agreement is the Nationally Determined Contributions (NDCs) scheme. Every country shall formulate its NDC and communicate its progress every five years, aiming to achieve its objectives, especially the mitigation target as its core element (Paris Agreement, Article 4). The Paris Agreement aims to limit the rise of global mean surface temperature to well below 2°C above pre-industrial (in other words, normal) levels by taking stock of the implementation of the Agreement to assess progress ensuring that the earth's "heart beats" get progressively healthier every five years.

**Box 2 [How severe is 2 °C?]**

An analogy to body temperature is an easy way to create an image of the index of the average temperature rise of the Earth's surface.

A 2°C rise can be compared to a person whose base body temperature rises 2°C (*e.g.*, a person's temperature rises from a normal 36°C to 38°C). Although it is possible to live even at 38°C, the burden on the human body is greater. We can easily imagine the severity of +4°C state.

Given that the impact on the ecosystem is the core part of global warming, this analogy has an essential meaning beyond the simple impact on the human body, which is one biological part of the ecosystem.

The UNFCCC is a so-called "Pledge and Review" type agreement, which has an international "Reporting and Review" system to complement and prevent its voluntary targets being undermined, and this is called a transparency arrangement. This has continued for 24 years since the submission of the first National Communications in 1994 when the UNFCCC entered into force. It is now being operated as a 4-year and 2-year cycle system[3] for Parties, including developing countries, with the review being conducted in two phases: an expert review and a multilateral assessment.

In the Paris Agreement, this system is going to play a more important role as an enhanced 2-year cycle system.

The Paris Agreement is designed so that it will be able to maximize its effect within the limitations of a voluntary target system, building on the experience of the UNFCCC and the Kyoto Protocol.

The NDC, which is the core part of the Agreement, is a new initiative, but in its pilot version of intended nationally determined contribution (INDC), 192 countries developed and submitted their own commitments. This means almost all countries in the world have shown their willingness and readiness to a commitment to implement a 5-year NDC cycle in the form of reporting on tangible actions.

As was stated during the process of negotiations, however, the mitigation targets—the core of the NDC—are quantified "targets" that countries commit to, but they imply a certain "ambition". In other words, there is a possibility that such voluntary targets will not (cannot) be achieved in many countries.

[3] The submission of National Communications every four years and Biennial (Update) Reports every two years is mandated. However, the submission rate of these reports from developing countries is still not high, which is a future challenge.

To address such concerns, an international reporting and review system in the form of an enhanced "Transparency Framework", will be put in place, building on the existing system which is based on the experience of its parent treaty of the UNFCCC, as stated above. By implementing a progress report and review for NDC achievement every two years under this system, it is intended that each Party will properly implement actions including progress management, thereby achieving its targets and not letting them end up as mere "ambition".

The essence of the Paris Agreement consists of the 5-year PDCA-cycle to correct the course for "near-term emission targets" on a global level, and the 2-year PDCA-cycle for "actions" at the national level, with NDC linking these two cycles.

In other words, the Paris Agreement would be meaningless without proper/anticipated operation of this NDC system (*i.e.*, for each Party to be able to continuously achieve and strengthen its NDC).

Prior to upgrading its target, however, each Party should make sure that any specific actions (existing, strengthened, and new) are effective enough to achieve its existing NDC targets, as a basic condition.

To this end, the Paris Agreement, as an international system, should establish detailed rules to facilitate such efforts. What kind of rules should be developed? — this question will be the major subject of this report.

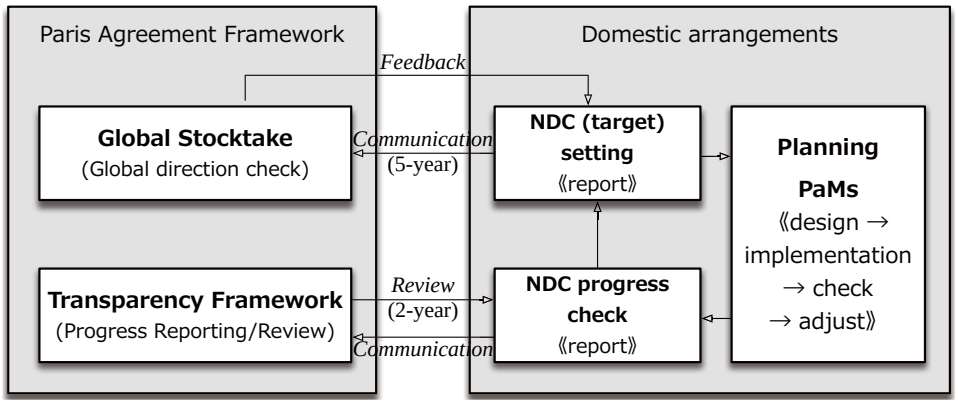



**Figure 1: Essence of the operation of the Paris Agreement framework**

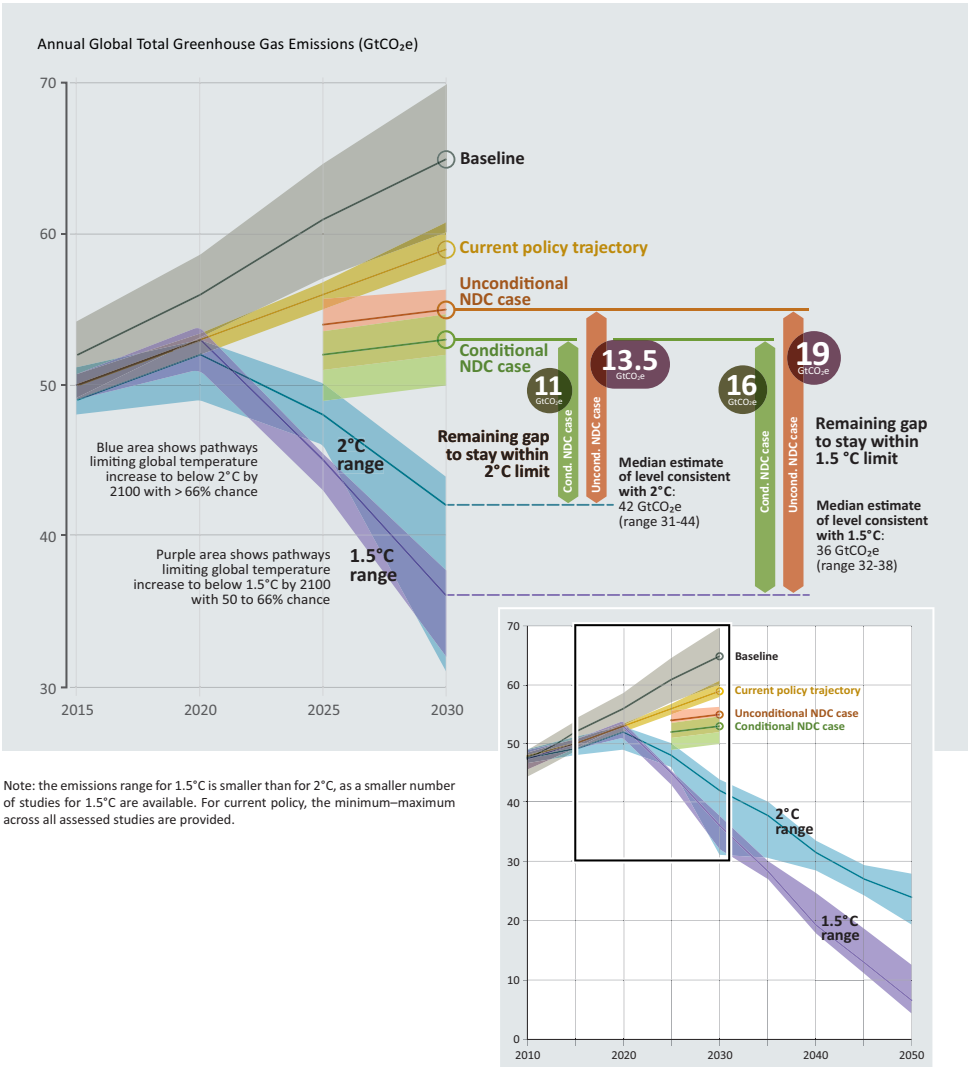
Actions for climate change mitigation do not only serve to reduce GHGs, but also have the "proper" or primary purpose, which is usually more important than climate mitigation. In other words, what should be prioritised in implementation is to improve performance to achieving their proper goals. For example, renewable power is intended to contribute to business-based energy supplies, not only reduce GHG emissions.

This means that implementing and improving performance for such actions is not a

cost but a benefit for each country and is aligned with their sustainable development goals (SDG) policy and programmes.

## 1.3. Challenges of the Paris Agreement

As mentioned above, the temperature goal of the Paris Agreement is highly ambitious, and exceeds the total mitigation targets of Parties' current NDCs. This means that it will not be possible to limit the temperature increase below 2°C above pre-industrial levels, not to mention below 1.5°C, unless Parties are committed to more stringent targets.




Note: the emissions range for 1.5°C is smaller than for 2°C, as a smaller number of studies for 1.5°C are available. For current policy, the minimum–maximum across all assessed studies are provided.

**Figure 2: Gap between aggregated NDCs and trajectories to temperature goal** (UNEP, 2017)

At the core of NDCs is a "quantified target", but there is also the implication of a level of "ambition". That is, to submit and declare more ambitious numbers is more meaningful than achieving them. In addition to the level of the targets, each country can exercise discretion on which, and how, measures are to be implemented and enhanced —this is not bound by international rules.

This could result in an undesirable spiral affect outlined below:

(1) Many countries are not taking enough actions to achieve their expected performances, leaving the current NDC targets unachieved, while targets for the next phase are strengthened;

(2) The system of the Paris Agreement and its 2°C goal becomes so unrealistic that it demotivates Parties, or long international negotiation processes are restarted to establish a new agreement; and

(3) Global warming is aggravated during the above processes, resulting in damages caused by climate change. This leads to an irreversible point of no return.

Therefore, some international instruments need to be prepared to avoid falling into such a vicious cycle, even though we cannot guarantee it. The main subject of this report is to provide methods to do this.

## 1.4. On-going rule-making processes of the Paris Agreement

The Paris Agreement, targeting post-2020, was adopted in 2015 at COP21 with the supplemental COP decision of 1/CP.21, and entered into force in 2016. The process of deciding its operational rules is now ongoing, and negotiations have been implemented for different items through:

- APA: Ad-Hoc Group on the Paris Agreement;
- SBI: Subsidiary Body for Implementation; and
- SBSTA: Subsidiary Body for Scientific and Technological Advice.

The rules are planned to be adopted as a package[4] at COP24 at the end of

**Box 3 [Rule-making processes in the past]**

The operational rules of the Kyoto Protocol were to be adopted at COP6 (the Hague Conference), but Parties could not reach an agreement. Therefore, they held COP6.5 in Bonn to adopt the core part of the rulebook as the Bonn Agreement. Then, at COP7, the rulebook was completed as a set of agreements known as the Marrakech Accords.

However, this report does not assess the possibility of reaching agreement on the rulebook at COP24.

[4] In international negotiations, where there needs to be balance among different items, rules are

2018.

The articles of the Paris Agreement that are relevant for this report are, mainly, Article 4 (Mitigation), and Article 13 (Transparency Framework), together with Article 6 (Market Mechanisms), Article 11 (Capacity Building), Article 14 (Global Stocktake), and Article 15 (Compliance Mechanism).

The rule-making process for these items is as follows:

**Table 1: Negotiation items of the Paris rulebook**

| PA Art. | Forum | Agenda item | Theme |
|---|---|---|---|
| 4 | APA | 3 | NDC Guidance<br>• Features of NDCs<br>• Information to facilitate clarity, transparency and understanding of NDCs<br>• Accounting Parties' NDCs |
| 13 | APA | 5 | Modalities, procedures and guidelines for the transparency framework for action and support |
| 14 | APA | 6 | Matters relating to the global stocktake<br>• Identification of the sources of input for the global stocktake<br>• Development of the modalities of the global stocktake |
| 15 | APA | 7 | Modalities and procedures for the effective operation of the committee to facilitate implementation and promote compliance |
| 4 | SBI | 6 | Development of modalities and procedures for the operation and use of a public registry |
| | | 5 | Common time frame for NDC |
| | SBI/ SBSTA | 17(b) 9(b) | Modalities, work programme and functions under the Paris Agreement of the forum on the impact of the implementation of response measures |
| 6 | SBSTA | 11(a) | Guidance on cooperative approaches referred to in Art. 6, para. 2, of the PA |
| | | 11(b) | Rules, modalities and procedures for the mechanism established by Art. 6, para. 4, of the PA |
| | | 11(c) | Work programme under the framework for non-market approaches referred to in Art. 6, para. 8, of the PA |
| 14 | SBSTA | 8(b) | Advice on how the assessments of the IIPCC can inform the global stocktake (completed) |

Articles 4 and 13 are the most relevant items for this report.

likely to be decided as a package rather than being decided or deferred partially.

Negotiations for each item will be implemented in parallel, with coordination with other items as appropriate, paying attention to duplication and interactions of the contents.

There will be two more negotiation processes after the one in May—in September (Bangkok) and December (Katowice) in 2018 for finalizing the rules.

## 2. OBJECTIVE AND APPROACH OF THE REPORT

The purpose of this report is to make proposals on rule-making which will be workable for the mitigation part of the Paris Agreement.

The main subjects of this report are:

- Setting NDC mitigation targets and items to be reported, and
- Biennial progress assessment of NDC target achievement and its reporting items as well as its review.

Therefore, the proposals mainly target "the NDC Guidance" and "the Guidelines for the Transparency Framework" in the previous sub-section, but other elements related to mitigation are also relevant. However, REDD+ as well as finance and technology are beyond the scope of this Report.

Underlying the proposals, this report:

(A) Raises issues to be addressed in **Chapter 1**;

(B) Identifies the basic concept (elements concerned with the Paris Agreement related to mitigation) and considers means to realise them in **Chapter 4**;

(C) Compiles them in a more specific way as proposed rules in **Chapters 6** and **7**;

(D) To supplement the above, introduces and examines existing schemes as references in **Chapter 2**, and explains about the instruments of the Paris Agreement in **Chapter 3**, and about analysis tools in **Chapter 5**;

(E) Compares the proposed rules with the current negotiation texts in **Chapter 8**, (with the proposals based on it in the **Annex**) and discusses areas for future consideration in **Chapter 9**.

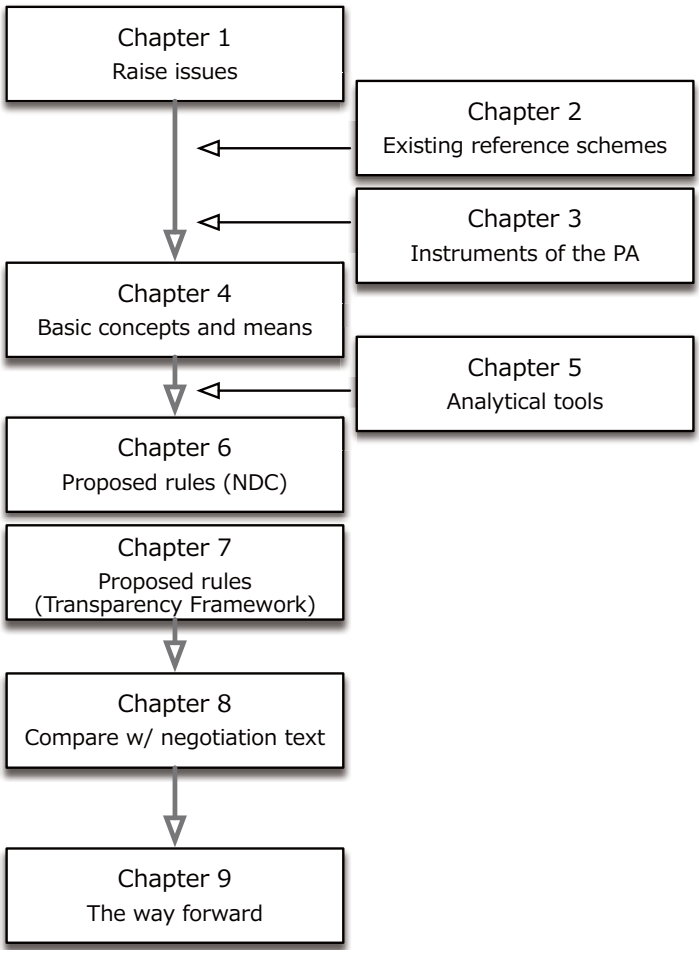



**Figure 3: Structure of this report**

The main process to be addressed in this report is reporting of NDCs and biennial national reports. Preparing such reports is quite a tough job but can be used as an excellent opportunity for reviewing policy and for capacity building. This report, while emphasising transparency and comparability as well as proposing a methodology based on that idea, takes the stance that the reporting system should be designed as a beneficial process effectively utilised by countries, and should contribute to their SDGs and to the reduction of GHGs.

The report aims to set out guidelines, guidance and templates for reporting items so that various objectives will be fulfilled automatically just by completing the reports (by surveying, analysing, and documenting necessary items). In addition, the use of common templates will help to enhance comparability among countries.

# CHAPTER 2

# Analysis and Lessons Learned from Current Instruments and Practices


Kingdom of Bhutan
Second National Communication
Cambodia's
Second National Communication
INDONESIA
République du Sénégal
TROISIEME COMMUNICATION
NATIONALE DU SENEGAL
A La Convention Cadre Des Nations-Unies
Sur Les Changements Climatiques
SECOND BIENNIAL
UPDATE REPORT OF BRAZIL
2000 - 2004
SEGUNDO INFORME BIENAL DE ACTUALIZACIÓN
DE LA REPÚBLICA ARGENTINA A LA
CONVENCIÓN MARCO DE LAS NACIONES UNIDAS
SOBRE EL CAMBIO CLIMÁTICO

# Chapter 2

# Analysis and Lessons Learned from Current Instruments and Practices

Several existing arrangements preceding the Paris Agreement—which have quantified target setting, reporting and review—are analysed to extract lessons learned. Utilisation of these experiences can allow us to design the Paris Agreement rules to be effective.

Analyses cover the principal arrangements under the UNFCCC as well as others different review schemes.

Focus is on the experiences of over 20 years by Japanese industry sectors with high performance in energy efficiency, despite being based on voluntary actions, namely, Keidanren's "The Commitment to a Low Carbon Society"—voluntary target and action plan—as well as the Energy Management System under the Energy Conservation Law.

In addition, the MRV perspective, which is the key cross-cutting element of the Paris Agreement, is analysed and assessed for the arrangements under the UNFCCC and the Kyoto Protocol.

Furthermore, the implications for the Paris Agreement rule design are extracted for the cross-cutting elements of a quantified target system, reporting system, review system and MRV.

# 1. OUTLINE AND ANALYSES OF SIMILAR CURRENT INSTRUMENTS/PRACTICES

## 1.1. Viewpoints for the analysis

This section overviews several existing schemes with similarities, and extracts their characteristics/merits, limitations, challenges and lessons, as they are expected to apply in the rules of the Paris Agreement.

The schemes to be examined are (i) the targets and the reporting and review systems under the UNFCCC and the Kyoto Protocol; (ii) the reporting and review system for the voluntary targets and action plans by Japanese industry; (iii) the regular reporting systems under Japan's Energy Conservation Law; and (iv) the review systems for energy policies by the International Energy Agency (IEA) and the Asia-Pacific Economic Cooperation (APEC).

## 1.2. "Pledge and Review" arrangements under the UNFCCC

### *1.2.1. Setting quantified emission reduction target*

The UNFCCC does not directly require Annex I Parties to be committed to their quantified targets. They are simply required to take measures (recognising the importance of stabilisation of GHG emissions at 1990 level by 2000) (Art. 4.2). However, developed countries set their respective voluntary targets and commit themselves to achieve them.

To support this "voluntary initiative", which is not bound legally by the UNFCCC, the following set of reporting and review processes for regular national reports by each country has been introduced. The submission of these reports is mandated, with the aim of enhancing the validity of the Convention.

### *1.2.2. National Communication, Biennial (Update) Report and their assessment process*

Currently under the UNFCCC, processes of reporting and assessment with 2-year and 4-year cycles[5] have been implemented for developed and developing countries.

[5] Since the word "review" is used only for Annex I Parties, and not for non-Annex I (developing)

**Table 2 Reporting and Assessment Processes under Current Transparency Arrangement**

| Party Category | 4-year cycle | 2-year cycle | 2 components of IAR and ICA |
|---|---|---|---|
| Annex I | NC (reporting) ➤IDR (review) | BR (reporting ➤ IAR (review) | Expert review (by experts) + Multilateral assessment (int'l) |
| Non-Annex I | NC (reporting) | BUR (reporting) ➤ ICA (assessment) | Technical analysis (by experts) + Facilitative sharing of views (int'l) |

For developed country Parties, the guidelines for preparation of National Communications (NCs) and Biennial Reports (BRs) have been prepared, and items indicated by "shall" are mandated to be provided, in addition to those with softer terms of "should" and "may".

In the review process, reviewers confirm whether such "shall" items are described completely and transparently, according to the relevant checklist. Basically, only unsatisfactory items are pointed out as recommendations to be corrected by the next submission.

The following are important "shall" items (those related to policies and measures and emission projections), whose effect is quite limited from the perspective of "whether they are helpful in facilitating measures":

- Each sector **shall** have its own textual description of the principal policies and measures, as set out in section D below, supplemented by table 1.
- The presentation of each policy and measure **shall** include information on each of the subject headings listed below: (a) name and short description of the policy or measure; (b) objectives of the policy or measure; (c) the greenhouse gas or gases affected.
- At a minimum, Parties **shall** report a 'with measures' projection, in accordance with para. 29 and may report 'without measures' and 'with additional measures' projections. A 'with measures' projection **shall** encompass currently implemented and adopted policies and measures.
- Projections **shall** be presented on a sectoral basis, to the extent possible, using the same sectoral categories used in the policies and measures section.

Parties, now the word "assessment" is used to refer to the process for both.

Submission of a national GHG inventory is required for developed country Parties every year, separately from NCs and BRs, while it is required for developing countries every two years as a part of their NCs and BURs. Although the GHG inventory is an important part of such reporting, this report does not deal with it in detail except for its MRV aspects.

- In addition, projections **shall** be provided in an aggregated format for each sector as well as for a national total, using global warming potential (GWP) values agreed upon by the Conference of the Parties.
- Parties **shall** provide an estimate of the total effect of their policies and measures, in accordance with the 'with measures' definition, compared to a situation without such policies and measures.
- To provide the reader with an understanding of emission trends in the years 1990 to 2020, Parties **shall** present relevant information on factors and activities for each sector. This information on factors and activities may be presented in tabular format.

This indicates that, according to the current guidelines, preparation of a "policies and measures" table, which is mandatory information, may serve as a "motivator" for policymakers to reconsider the measures, but self-analysis on each policy and measure (for example, about progress in target achievement and necessity of additional measures) is not mandated.

As for "emission projections", provision of information about factors is required in the final paragraph. This information is useful to facilitate understanding of the country's emission profile from past to future projections, but a specific methodology is not provided. Self-analysis is limited on how this relates to the overall reduction target.

Also, in principle, expert reviewers find it difficult to undertake analyses of their own actions or other external experts. They cannot make any recommendation or give encouragement on what they think relevant countries should implement. In addition, the review is NOT a review of the "contents of the climate change policies" but mainly of the completeness of the descriptions of the national report. (In contrast, energy policy review by IEA, mentioned below, reviews the "contents of the energy policies" of the country).

The review is implemented based on a 5-day visit in principle, except for small countries. A review team hears presentations by relevant ministries in the country being reviewed, and presents provisional findings on the final day of the review. In many cases, only environment-related ministries, as a focal point, attend the final day's presentation, with the rare participation of energy and industry related ministries, which somewhat limits feedback on the review. A presentation and opinion exchange at a Subsidiary Body for Implementation (SBI) workshop is the next step in the process.

On the other hand, for developing countries, "expert analysis" and presentation and opinion exchange at an SBI workshop will be implemented, but this only applies to the biennial update reports (BURs).

For BURs, countries are required to provide information on each NAMA to the extent possible.

For each mitigation action or groups of mitigation actions, developing country Parties **shall**

provide the following information, to the extent possible:

(a) Name and description of the mitigation action, including information on the nature of the action, coverage (*i.e.* sectors and gases), quantitative goals and progress indicators;

(b) Information on methodologies and assumptions;

(c) Objectives of the action and steps taken or envisaged to achieve that action;

(d) Information on the progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;

(e) Information on international market mechanisms.

If carried out properly, the above guidelines are better than the NC guidelines for developed countries, in that they can serve as a good exercise of reviewing their own actions (although as mentioned below, a remaining problem still is that the number of NAMAs with concrete actions is limited).

The International Consultation and Analysis (ICA) process is implemented in a manner that is non-intrusive, non-punitive and respectful of national sovereignty, but without any assessment of the validity of policies and measures. In fact, the technical analyses of ICA only describes what is written in BURs, without any suggestion about how to advance relevant actions.

On the other hand, as a UNFCCC process for supporting preparation and reporting, and as an assessment process of National Communications by developing country Parties, various tools, training materials and workshops have been provided by the Consultative Group of Experts on National Communication from Parties not included in Annex I to the Convention (CGE). In addition, technical and financial support by the GEF and other donors has also been provided.

Recently, processes have been introduced to offer places for presentation and Q&A sessions at SBI workshops: the Multilateral Assessment in the International Assessment and Review (IAR) for developed countries, and the Facilitative Sharing of Views in the International Consultation Analysis (ICA) for developing countries, both of which allow more friendly exchange of opinions than in negotiations.

However, no reporting and review guidelines require sharing and learning from lessons of other countries. In addition, it is difficult to make suggestions based on the knowledge and assessment of individual experts from the perspective of uniformity among countries.

Although there is only a limited number of National Reports submitted by developing country Parties (almost half of the countries obliged to submit BURs), the number of

BURs submitted by developing country Parties has significantly increased since the introduction of REDD+, mainly about forestry activities, as a reporting item of BURs. This is because the chance of receiving results-based financial support for REDD+ activities will be lost unless those countries provide the assessment results of their REDD+ activities with MRV in their BURs. Although the description about REDD+ is also voluntary, this serves as an incentive for developing countries to prepare their reports (Handbook on Measurement, Reporting and Verification for Developing Country Parties).

### *1.2.3. Legally binding quantified targets under the Kyoto Protocol*

The Kyoto Protocol sets legally binding quantified targets for Annex I countries.

While the Protocol secures strict quantified targets, it does not specify how to achieve them. This is left the discretion of the implementers.

To check and confirm the compliance of such quantified targets, the Kyoto Protocol provides a rather strict arrangement as follows.

Compliance with the Kyoto Protocol is judged by comparing countries' actual emissions and the amount of their emission permits, which is their initially given emission allowances (assigned amount units—AAUs) equivalent to their quantified emission targets, plus/minus emission reduction credits from/to the emissions market and sinks.

**Box 4 [Irrationality of decisions]**

Focusing only on the quantified target is one of the characteristics of a cap-and-trade system (including the Kyoto Protocol) such as the EU ETS.

The background of this idea is the assumption that "the market can discover the most rational (the lowest cost) reduction method and realize it".

This makes sense when each regulated entity has enough information to do that and has the capacity to make a rational decision (despite the market being short-sighted).

However, if not (*e.g.*, when the regulated entity is a country, especially a developing country with limited capacity), it will face difficulties to find out, choose and implement the most rational appropriate actions. Therefore, it would be better and preferable to "give guidance on how to identify measures rationally" in some way, to improve the effect or the level of achievement.

- *Articles 5, 7, and 8*

  Details about the GHG inventory system, the registry system, which serves as the bank for emission allowances, the international transaction log and the relevant reporting and review of information are strictly stipulated.

- *Article 12*

  System for generating certified emission reductions (CERs or CDM credits) from emission reduction projects in developing countries. It requires a rather strict and highly conservative MRV system because this mechanism allows emission reduction transfer from developing countries that have no quantified emission targets (thus no AAUs).

- *Article 6*

  Mechanism for transferring emission reduction credits (ERUs) generated from emission reduction projects in developed countries with quantified targets (thus with AAUs). Therefore, its MRV does not need to be as strict as that for CDM.

- *Article 17*

  Mechanism dealing with transboundary transfer of AAUs, ERUs, CERs, and removal units (RMUs).

- *Compliance Committee*

  Consists of the Enforcement Branch for dealing with compliance in achieving quantified targets and the Facilitative Branch for dealing with facilitating actions to achieve the targets. The former implements compliance assessment.

Taking a closer look at the negotiation process to decide the quantified targets, the following points can be noted:

Although the quantified targets of Kyoto are subject to various political and other pressures, a Party is not ultimately bound by the Protocol unless it agrees to (*i.e.*, accepts) the target level. Plus, even if the government has agreed to the targets during the negotiation process of the Protocol, the Party may not ratify it due to an objection from its congress or parliament, such as the case of the US; or they may withdraw, as Canada did, to avoid having to make stringent efforts for compliance. The penalty for non-compliance is non-punitive and without major economic impacts; rather, it is simply an embarrassment for the countries concerned.

Therefore, although it has a legally-binding nature under the international treaty and despite requiring domestic legal measures, there is no hardship involving economic sanctions such as trade agreements and nuclear non-proliferation agreements. It is more like a "gentleman's agreement" and not substantially different from voluntary targets under the Paris Agreement.

## 1.3. Reporting and review scheme of voluntary targets and actions by Keidanren

Japan Business Federation (hereinafter, "Keidanren") has implemented a scheme—now called the Commitment to a Low Carbon Society—for 20 years, where each industrial association sets its voluntary quantified targets, makes reports and has them reviewed. This scheme shares much in common with the Paris Agreement.

What lessons can be taken from their experiences for designing rules for the Paris Agreement?

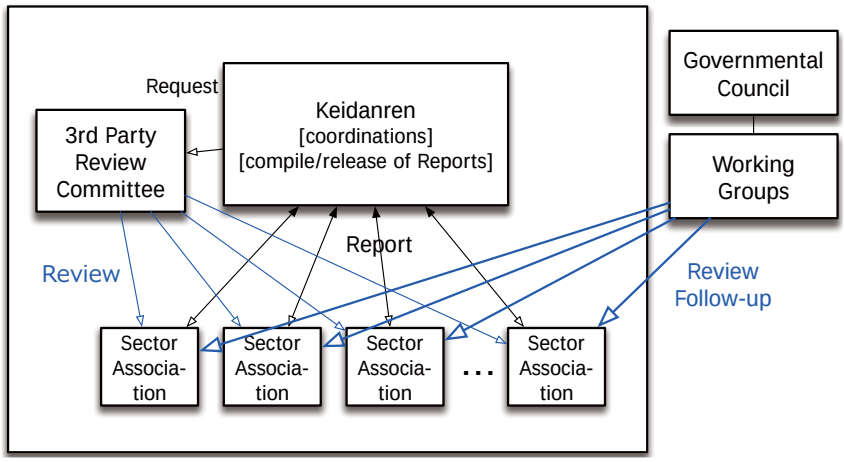



**Figure 4 Arrangement for Keidanren's Voluntary Action Plan/ Commitment to a Low Carbon Society and Its Review Scheme**

In this scheme, the voluntary targets and action plans were developed and implemented by 62 different industry associations (31 associations from the industry sector, 3 from the energy conversion sector, 16 from the commercial sector, and 7 from the transport sector) respectively (as of FY2016) and coordinated by Keidanren.

Under this programme, each industry association prepares and submits its own report every year, and these are compiled by Keidanren to make its comprehensive report. Keidanren has set up a third-party committee consisting of external experts to implement self-assessment. Additionally, a more detailed annual review is implemented by working groups under governmental councils. A strict PDCA-cycle is implemented in this scheme.

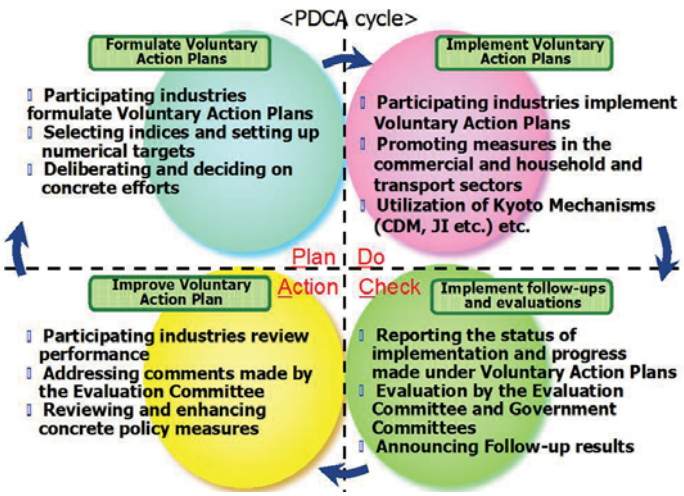



**Figure 5: PDCA-cycle of Keidanren's Voluntary Action Plan/ Commitment to a Low Carbon Society**

At the time of its launching, coinciding with the Kyoto Protocol (1997), the scheme was introduced to support Keidanren's declaration that they could do what they should do in a more rational way because they knew well about the details of the actions needed, rather than objecting to hard-hitting regulatory policies and measures like a carbon tax or emissions trading.

Recently the scheme changed its name from the Voluntary Action Plan on the Environment to the Commitment to a Low Carbon Society, extending its timeline from 2020 (Phase I) to 2030 (Phase II), and has increased its pillars of scope from only domestic internal business activities to include enforcement of partnership among domestic entities, promotion of international contribution, and technological innovation.

What is noteworthy about this scheme is:

- A broad range of 62 industry associations participates;
- They set various types of targets including those on total emissions, energy consumption, intensities, and gaps from the BaU scenario;
- Several industry associations have strengthened their targets voluntarily;[6]
- Their reports are based on templates with a broad range of reporting items including progress assessment and measures to be taken; and
- The reports are reviewed in technical detail in a governmental review, which is one of two reviews they undergo.

The scheme thus has quite a lot in common with the Paris Agreement.

On closer inspection, the following characteristics may be noted:

- The basic principle for implementing measures is to fully realise those that can recover their costs (with net benefits).
- Members are very knowledgeable about the industry sector they belong to and can make rational judgements, selection and implementation. The scheme allows them to choose the most appropriate indices and to take the best actions for this purpose.
- Many sector-specific cases are observed such as to share/expand the best practices and standardisation within the industry sector.
- The voluntary targets are enhanced either when they have already been

[6] As for FY 2016, 35 out of 51 industry associations have already achieved the expected level for their target achievement in FY 2020. With this, 6 industry associations have strengthened their targets as of the mid-year review for FY 2016, and 5 others are now upgrading their targets.

achieved, or when they have not been achieved but are expected to be achieved.

- Reporting templates provide items to be reported, such as "details of the measures and their effects", so that they can be routinely reported and incorporated into the PDCA-cycle.
- Although there are no reporting guidelines, items to be reported are clearly identified by detailed reporting templates (with slightly different versions for Keidanren and for the Government, and subject to flexible revision under a collegial system on an occasional basis). The contents of the reports have been refined through reviews.
- The reporting templates include a progress statement, Key Performance Indicators (KPIs) (in intensities), self-analysis and evaluation (*incl*. factor analysis), *etc*. which contribute to economically rational decisions (see Table 3 below).
- Reviews put more focus on "the evaluation of specific actions" and "the level of target achievement" than completeness.
- Even without the guidelines, the decision on whether to upgrade the targets is also pointed out and recommended in the reviews in some cases.
- Reviews are done in an atmosphere with some degree of tension. The governmental review is conducted from a particularly higher technical perspective with *ex ante* Q&As for detailed data/information.
- The governmental review is conducted for relatively homogeneously associated groups (from the perspective of efficiency and consistency in review).
- The plans and their reviews are included in the government action plan.
- Recently, the scheme intends to actively promote coordination among different entities, not only within the same industry but also across various sectors in the society (also implementing potential evaluation).
- In addition, the effect of technology transfer is estimated as an international contribution.

The above points indicate that achievement of this planned regular reporting of detailed facts and self-analysis not only ensures transparency but also allows appropriate judgement of the situation, leading to enhancement of the voluntary targets in some cases. This can be used as a good reference for NDCs and the Transparency Framework design for the Paris Agreement.

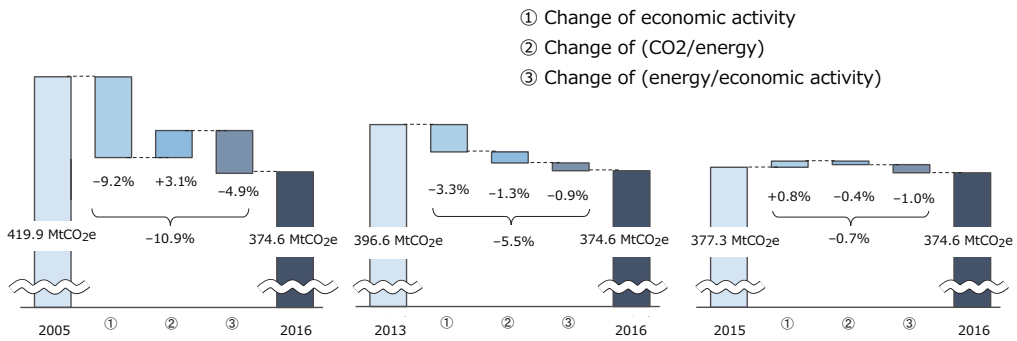



**Figure 6: Factor Analysis of Industrial Sector in the Reports Compiled by Keidanren (for 3 different timeframes)**

**Table 3: Items for FY 2016 Reporting Templates to the Government for Industry Sectors by Keidanren (◂ indicates items to be noted)**

☐ Commitment to a Low Carbon Society for the Relevant Industry Sector (Target for 2020)

☐ Commitment to a Low Carbon Society for the Relevant Industry Sector (Target for 2030)

- Quantified Reduction Targets (2020 and 2030) ◂
- Basis for Target Setting ◂
- (Qualitative) Plan for Other Target Areas

---

I. Outline of Business in the Relevant Industry Sector

(1) Main Business

(2) Coverage within the Relevant Industry Sector

(3) Companies and Offices Participating in the Plan

① List of companies participating in Commitment to a Low Carbon Society [Excel]

② Target level and actual performance for companies [Excel]

(4) Efforts to Increase Coverage

① Prospect of coverage within the industry

② Specific efforts to increase the coverage

(5) Data

① Calculation method

② Indexes for production activities and the rationale for the choice ◂

③ Boundary adjustment among industry sectors (to avoid double counting) ◂

④ Methodology for BaU emission calculation ◂

---

II. Emission Reduction Targets for 2020 and 2030 in Domestic Corporate Activities

(1) Reduction Targets

① Background of the reduction targets

② Prerequisites
【Target business area】
【Prospect of production activities in 2020 and 2030 together with the rationale for setting】◂

③ Rationale and validity of target index and target level ◂
【Rationale for target metrics selected】
【Rationale for target level and demonstration that it is the highest possible level】
【International comparison and analysis】
【BAT assumed to be introduced, reductions estimated for Best Practices, and their calculation basis】

④ Actual energy consumptions in the business areas with targets ◂
【Actual energy consumptions by process, area, and application】
【Ratio of electric and fuel consumption ($CO_2$ base)】

(2) Outline of Actual Performances

① Summary table of actual performances
【Summary table】[Excel]
【Power emission factor】
【Information about emission factors to be used for performance assessment for 2020 and 2030】

② Summary of actual performances in the latest fiscal year ◂
【Actual performances against the targets】
【Actual $CO_2$ emissions】

③ Data collection (ratio of response to survey), and notes
【Timeframe for survey】
【Number of target companies for survey】
【Response ratio】
【State of boundary adjustment among industry sectors】(to avoid double counting) ◂
【Notes】

④ Actual performances of production activity, energy consumption and intensity, and $CO_2$ emission and intensity
【Index for production activity and rational for choice】◂
〈〈Actual performances for the latest fiscal year〉〉
〈〈Performance trend〉〉
(Review on the performances for the relevant fiscal year based on the past trend)
【Energy consumption and intensity】◂
〈〈Actual performances for the latest fiscal year〉〉
〈〈Performance trend〉〉
(Review on the performances for the relevant fiscal year based on the past trend)

〈〈Comparison with other schemes〉〉

【$CO_2$ emission and intensity】◂

〈〈Actual performances for the latest fiscal year〉〉

〈〈Performance trend〉〉

(Review on the performances for the relevant fiscal year based on the past trend)

【Factor Analysis】[Excel] ◂

⑤ Discussion on implemented actions, investment amount and reduction effect ◂

【Summary table】[Excel]

【Actual efforts in the latest fiscal year (FY 2015)】

(Cases of the implemented efforts)

(Discussion on the implemented efforts)

【Efforts to be implemented in next fiscal year (FY 2016) and after】

(Future prospect of implementing actions and their expected uncertainties)

【Progress in introduction of BATs and best practices】

【Successful cases in the relevant industry, best practices, efforts of information sharing and horizontal deployment】

⑥ Result of comparison and analysis, and self-evaluation on expected levels (prospects) and actual performances ◂

【Calculation of the progress ratio against the target index】

【Self-evaluation and analysis】

〈〈Description of self-analysis and factors〉〉

(Description of self-analysis and factors, and reason for not stating prospects when they are not provided)

(Areas for improvement in the next fiscal year based on self-evaluation)

⑦ Prospects for the next fiscal year ◂

【Prospects for the next fiscal year (FY 2016)】

(Base and assumption for the prospects)

⑧ Probability of target achievement in FY 2020

【Calculation of the progress ratio against the target index】◂

【Self-evaluation and analysis】◂

〈〈Self-evaluation and description〉〉

(Current progress ratio and prospect of its future development toward target achievement)

(Assumption and plan of making specific efforts for achieving the targets)

(Consideration of upgrading of the target when the progress ratio is over 100% of the 2020 target)

⑨ Probability of target achievement in FY 2030

【Calculation of progress ratio against the target index】◂

【Self-evaluation and analysis】
(Uncertainties in target achievement) ◂
(Consideration of upgrading of the target when the progress ratio is over 100% of the 2030 target)

⑩ History and plan of using emission credits, and case studies
【Efforts in the relevant industry sector】
【Actual use of credits】[Excel]
【Efforts by individual companies】
【Case studies】

III. Efforts in Office Sector (Offices *incl.* HQs) and Transportation Sectors

(1) Efforts in Company Offices Including HQ Building

① Emission reduction targets for offices including HQ buildings

② Actual energy consumptions and $CO_2$ emissions

③ Implemented actions and their reduction effect
【Summary table】[Excel]
【Actual efforts in the latest fiscal year (FY 2015)】
(Cases of the implemented efforts)
(Discussion on the implemented efforts)
【Efforts to be implemented in the next fiscal year and after】
(Future prospect of implementing actions and their expected uncertainties)

(2) Efforts in Transportation Sector

① Emission reduction targets for the transportation sector

② Actual energy consumptions and $CO_2$ emissions

③ Implemented actions and their reduction effect
【Summary table】[Excel]
【Actual efforts in the latest fiscal year (FY 2015)】
(Cases of the implemented efforts)
(Discussion on the implemented efforts)
【Efforts to be implemented in next fiscal year (FY 2016) and after】
(Future prospect of implementing actions and their expected uncertainties)

(3) Efforts in Household Sector (*incl.* environmental household accounts, *etc.*) and Others

IV. Contribution to Other Sectors by Low Carbon Products and Services

(1) Outlines of Relevant Low Carbon Products and Services, and Its Estimated Reductions and Calculation Procedures

(2) Actual Efforts in the Latest Fiscal Year (FY 2015)

(3) Efforts to be Implemented in Next Fiscal Year (FY 2016) and After

V. Contribution in Overseas Emission Reduction

(1) Outline of Contribution in Overseas Emission Reduction, and Its Estimated

Reductions and Calculation Procedures

(2) Actual Efforts in the Latest Fiscal Year (FY 2015)

(3) Efforts to be Implemented in Next Fiscal Year (FY 2016) and After

VI. Development and Introduction of Innovative Technology

VII. Provision of Information and Others

(1) Provision of Information

① Efforts in the relevant industry group

② Efforts by individual companies

③ Contribution in academic assessment and analysis

(2) Implementation of Verification

① Whether or not verified by a third-party on data and quantified analysis at the time of designing and implementing the plan

② Whether or not to make public the fact about verification by a third party, in a case it is "requested by the relevant industry sector".

Items indicated by "◂" are noteworthy and any industry sector can operate its PDCA-cycle quite effectively by clearly showing, analysing, and communicating these items on an annual basis.

What is more noteworthy is that these specific items have been included in reports by Keidanren—though some items might be recommended to be included by reviewers—as important items for implementing the PDCA-cycle. It means that Keidanren has decided to put these items into its reporting templates to properly visualise its improved performance, which is useful to raise its performance continuously. Similar practices (as a part of a PDCA-cycle know as KAIZEN) have been undertaken in companies to improve their production performance.

For major companies in Japan, this top-down approach by high-level management coordinated by Keidanren has created a synergistic effect with a bottom-up approach (the PDCA-cycle of energy management under the Energy Conservation Law) at plant- or site-levels as outlined below.

In the context of the Paris Agreement, this can be considered as an example of a link between the field-level PDCA-cycle and the top-down policy-level PDCA-cycle for actions.

## 1.4. Regular reporting using Energy Management System under the Energy Conservation Law of Japan

Japan's Energy Conservation Law, built on its predecessor of the Heat Management Act (1951) was established in 1979 after the second oil crisis. Since then, it has been

providing a basis for Japanese plants and their products to achieve the world's highest energy efficiency.

Regulations under the Energy Conservation Law largely consists of: (i) regulations for energy management at plants and offices, *etc*.; and (ii) efficiency of energy consuming equipment (also covering transportation as well as housing and buildings). This report focuses on the former, especially those for plants with energy consumption over a certain threshold.

Business operators are required to:

1. Understand overall energy consumption of their business;
2. Report the state of energy consumption;
3. Be designated by the government as a specified business (businesses over 1,500 kl/yr (oil-equivalent) in total and several additional categories);
4. Appoint energy management administrators, *etc*. (qualification system by examination is available);
5. Implement energy management by individual business operators; and
6. Submit annually a mid/long-term plan looking at the next 3–5 years, and a regular report.

Each plant has a "non-binding" target to improve energy consumption intensity at 1% or more per year on average for the mid-to-long term, which is not mandated. However, the above procedures (especially development and submission of the mid/long-term plans and regular reports) are mandated, which is quite similar to the system of the Paris Agreement.

What should be noted here is that:

- For plants, *etc*., with energy use over a certain threshold, the appointment of qualified experts through an examination procedure is mandated. Therefore, there is a wide variety of examination/training systems (capacity building programmes), guidance, and supporting tools for this purpose in place.
- The Government specifies checklists on major technologies, and qualitative and quantitative "evaluation criteria"[7] for implementing energy management.

[7] Each operator must set up "management standards" that define ways for operation management, measurement and recording, as well as maintenance and inspection by energy saving area or by types of energy consuming equipment, to work for streamlining of energy consumption. The "evaluation criteria" consists of those for standards and for targets.

- Based on the criteria, business operators must develop "management standards"[8] and produce annual reports on actual performance as well as corrective plans based on the standards according to the relevant guidelines, to implement the PDCA-cycle.
- Basically the "energy intensity per unit of product" (*plus*, intensity for power load levelisation is also used recently as an index) is used as the most important index, and this should be calculated and included in the regular reports.
- The sectoral energy saving benchmarks to be aimed for in the mid/long-term are designated for certain business categories and areas, for which the state of progress for achievement must be reported in the regular reports.

Therefore, it is ensured in the scheme that at least one qualified energy expert is stationed at each plant and appropriate quantitative information such as reference benchmarks and technology are provided so that the PDCA-cycle is duly implemented. This system can contribute to significant savings in energy. There are also capacity building programmes in place to support the system.

In addition, the reporting system under the Energy Conservation Law requires reporting in GHG emissions equivalent aligning with reporting under the Act on Promotion of Global Warming Countermeasures.

Under the context of rule-making for the Paris Agreement, the following can be key to make a workable system:

- Providing benchmarks for performance improvement to show what should be done in a bottom-up manner and to what extent;
- Providing guidance on how to achieve the benchmarks;
- Providing capacity building programmes and tools for implementers; and
- Having in place a system to implement the PDCA-cycle.

## 1.5. Energy Policy Reviews by IEA and APEC

This report also looks at other examples of international peer review processes on

[8] This is a manual that defines measures for management of energy consuming equipment (measures for operation management, measurement and recording, maintenance and inspection, and new introduction) to ensure rational energy consumption, and should be developed by each business operator in a way that is the most appropriate for his/her own plant. It also specifies target management levels for air-fuel ratio, heat rejection temperature, furnace wall temperature, illumination criteria, and ventilation standard.

energy policy, which are highly relevant to GHG emissions, although they are independent from the UNFCCC system. The Energy Policy Review for countries by IEA is introduced, as well as similar processes by APEC (Peer Review on Energy Efficiency (PREE), and the Peer Review on Low Carbon Energy Policies (PRLCE)).

### *1.5.1. Energy Policy Review by IEA*

For the Energy Policy Review by IEA, a review team consisting of experts from member countries and staff from the secretariat visits a reviewee country. The team exchanges opinions with divisions of related ministries and various stakeholders in the country and develops a detailed review report (approximately 150–200 pages) on the state of energy policies of the country, its assessment and recommendations (every four years for each country). Shared Goals[9] adopted through a consensus by member countries are the benchmarks for the review.

Major characteristics of the review are as follows. These points provide insights for considering similar processes for the Paris Agreement in the future:

- The review is not implemented for items described in the national report from the member country but for energy policies and measures *per se* with various analyses based on data and information;
- The reviewee countries do not have to prepare and submit national reports, so they cannot take opportunities to review their own national policies;
- The review is enormously rich in detail, producing review reports with a large

[9] Shared Goals of IEA (adopted in 1993) consist of nine items:

1. Diversity, efficiency and flexibility within the energy sector;
2. Energy systems should have the ability to respond promptly and flexibly to energy emergencies;
3. The environmentally sustainable provision and use of energy;
4. More environmentally acceptable energy sources;
5. Improved energy efficiency;
6. Research, development and market deployment of new and improved energy technologies;
7. Undistorted energy prices;
8. Free and open trade and a secure framework for investment; and
9. Cooperation among all energy market participants.

These may not include controversial elements. It seems possible to agree on a similar set of goals to be shared by Parties to be included in the review guidelines for climate change as well.

number of pages;

- As the review is done for a limited number of countries every 4–5 years (approx. six countries each year), it can afford to take a relatively large amount of time and effort (in contrast, the Paris Agreement covers many more countries, including developing countries);
- Based on the Shared Goals already agreed, quite strict requests for policies and measures can be presented in the review in the form of "Recommendations";
- The review allows direct input to the relevant energy policy divisions, (in contrast to the case of climate change, where the focal points are usually environment or meteorology related divisions, which are not line ministries for implementing effective policies and measures in many cases); and
- Policymakers who serve as experts (reviewers) from different countries can use the review to consider the implications of other countries' policies on their own domestic policies. In addition, interactions among expert reviewers and with experts in the reviewee countries can serve as a good exercise to deepen their mutual understanding.

### *1.5.2. Energy Policy Review by APEC*

Reviews by APEC are implemented as a simplified version of IEA's review. Two types of review—Peer Review on Low Carbon Energy Policies (PRLCE) and Peer Review on Energy Efficiency (PREE)—are coordinated by the Asia Pacific Energy Research Centre (APERC), an affiliate agency of the Institute of Energy Economics, Japan (IEE), as the secretariat.

A relatively high number of reviewers are policymakers from the member countries and reviewing other countries' policies is a good opportunity to consider implications on their own domestic policies. Also, the review process serves as good opportunity to deepen their mutual understanding. The bottleneck, however, is a limited budget.

The reviews by IEA and APEC are for countries' energy policies, not for the contents their national reports. Nevertheless, they can provide strong recommendations. One of reason is that, especially in the case of IEA, it is an internal review within the developed countries' community with a relatively similar capacity level, and they have agreed with on a common (though ambiguous) base for the Shared Goals. However, even if they do not follow the recommendations, they are not subject to any penalties.

# 2. SCHEMES/MECHANISMS REQUIRING MRV UNDER THE UNFCCC AND THE KYOTO PROTOCOL

MRV, which requires *ex post* quantification, will be a key element in the NDC mitigation target system. This section overviews MRV for GHG emissions or reductions, included in several schemes and mechanisms under the UNFCCC and the Kyoto Protocol.

## 2.1. National GHG Inventory System

National GHG inventories make up a database of information on how much and where GHGs have been emitted in each country and what were the past trends. These inventories play an important role especially under the Kyoto Protocol, where the economy-wide absolute amount of emissions is regulated.

However, when asking "whether this information has been useful for promoting emission reduction activities", the inventories have limitations due to the following reasons:

- Although calculations are based on activity amounts, important information for implementing actions (*e.g.*, intensity for efficiency and costs) is not included;
- Statistics of activity amount, which is the base for GHG calculations, are assumed to be accurate (without any checking functions);
- There is no guidance on how to use the GHG inventories;
- Data collection and compilation requires intensive labour by a limited number of climate-related government staff, especially in developing countries; and
- Communication is limited between GHG inventory developing divisions and policymaking and implementing divisions.

Although preparation, submission and review of the national GHG inventories requires inter-ministerial coordination at the early stage and at the core part of the current transparency arrangement, this report does not deal with this subject as related to the Paris Agreement rule-making due to the reasons above.

## 2.2. Nationally Appropriate Mitigate Actions (NAMAs)

NAMAs are mitigation actions with MRV in developing countries, with a high degree of freedom in their coverage from macro-economic target setting to emission reduction for individual projects. Both existing and future actions can be covered and

are to be reported in the BURs. NAMAs played a significant role in the preparation of the INDCs in developing countries, as a precursor.

Developing countries can expect additional financial support from developed countries by introducing MRV into their NAMAs (there are only 10 NAMAs which do not have the benefit of additional financial support). However, information from the NAMA Registry indicates that the system has not been functioning well, with only 18 NAMAs out of 157 receiving such support (as of June 8, 2018).

One characteristic of NAMAs is the application of MRV, which is generally considered as an "additional burden". However, this burden can be implemented only after additional finance has been provided as an incentive. Developing countries rarely consider MRV as an incentive that should be willingly implemented for promoting actions.

Whether and how a country is implementing NAMAs is described in BURs submitted by the developing country every two years.

## 2.3. REDD-Plus

REDD-Plus (REDD+) is mechanism to provide economic support (funding, *etc*.) to developing countries when they have reduced GHG emissions by limiting deforestation and degradation of forests or preserved/increased carbon accumulations by forest conservation.

A rough sketch of the framework for REDD+ was drawn up at COP16 (2011), and the basic framework was decided at COP19 (2013) as the Warsaw Framework. It was specified in Article 5 of the Paris Agreement, but there are no plans to introduce new rules specific to the Agreement.

In terms of MRV, it has a system of results-based finance/payment, where the result of relevant actions is evaluated *ex post* and necessary finance is provided accordingly.

The MRV for REDD+ activities involves a two-step process:

(1) a technical assessment of the proposed forest reference emission level and/or forest reference level (FREL).

(2) the actual results compared to the assessed FREL are submitted in a technical annex to the BUR of a developing country Party seeking to obtain and receive payments for results-based actions, and these results undergo a separate technical analysis.

The Land Use, Land Use Change, and Forestry (LULUCF) experts undertaking the technical analysis check whether data and information provided in the technical annex

is transparent, consistent, complete and accurate; consistent with the assessed FREL and guidelines for technical annexes with REDD+ results; and that results are accurate, to the extent possible.

Thanks to this incentive, the BUR submission ratio of countries that wish to implement REDD+ is becoming higher.

## 2.4. Clean Development Mechanism (CDM)

The CDM is a market mechanism for GHG emission reduction activities in developing countries without economy-wide emission reduction targets. Therefore, the mechanism has a quite strict MRV system to avoid the case where GHG emissions will increase globally due to the project implementation (since it means the increase of emissions in the credit buyer country).

By 8 June 2018, 7,801 project activities and 313 Programs of Activities (PoAs) have been registered. To date, 1.914 billion tonnes of CERs (CDM credits) have been issued in total, and the expected amount of total GHG emission reductions by the end of 2020 is 2.8 billion tonnes. By the end of the crediting periods, reductions will come to 9 billion tonnes. Emission reductions from CDM account for approximately 5% of the total GHG emissions in developing countries. The number of projects that have initiated their validation processes is 12,880, almost one third of which have not been registered.

The median time it takes from validation to registration is 14 months for all CDM projects, while it has taken up to 23 months for projects registered in the past year. Additionally, it takes 55 months from registration to the issuance of the first CERs (also due to delays in project implementation).

In addition, for new types of projects that have no existing methodologies to be applied[10], the development and approval of new methodologies is required. This is also another burdensome process, requiring a prohibitively long time period (after completing the draft of methodology): 311 days (for approval) and 213 days (for rejection) for full-scale projects; 209 days (for approval) and 178 days (for rejection) for small-scale projects; and as long as 360 days (for approval) and 172 days (for rejection) for LULUCF projects. For re-submitting after rejection, approval takes almost more than one year.

Despite various barriers, the reason why so many CDM projects have been implemented by private companies was that the market value of CERs was very

[10] Almost 200 already approved CDM methodologies, which are tremendous assets of the mechanism, should be applied (though some correction might be needed) in the operation of the new market mechanisms under Art. 6.4 of the Paris Agreement. This would be a significant difference from the CDM, where everything had to be done from a scratch.

attractive.[11] On the other hand, there have also been many projects that could not overcome the barrier of MRV requirements, which are highly complicated and take a lot of time and expense. These projects no doubt gave up before validation, although no statistics are available. Also, projects with less than 10,000 tons of $CO_2$ reduction (such as ordinary energy-saving projects for plants, *etc.*), despite their huge potential, only account for 10% of the total registered projects, which suggests that the burden of CDM (additional costs and time loss) outweighed the benefits.

The priority for the CDM Executive Board and its Methodology Panel is "to ensure not to over-issue CERs than the actual emission reductions". The idea of alleviating the risk of giving up projects because of strict MRV procedures (*i.e.*, losing opportunities for emission reduction) has not been adopted either in the Marrakech Accords (Modalities and procedures for a CDM) or its various sub-rules and is not taken into consideration in actual operation.

For project implementers, MRV is just an additional burden and a barrier for project implementation. From the viewpoint of losing opportunities for reduction, possibly CDM puts too much focus on transparency and accountability by MRV.

# 3. IMPLICATIONS EMERGING FROM EXISTING PRACTICES

The experiences from the existing schemes provide the following implications:

## 3.1. Voluntary Quantified Target Scheme

If the planning and implementing entities of relevant measures have enough information for effective measures (technology, potential, costs, and barriers, *etc.*,) and can make rational judgements (*e.g.*, to implement lowest cost measures first), the targets could be rationally achieved just by implementing a system with strict MRV and compliance enforcement, together with flexibility provided by market mechanisms. Thus, only the pursuit of "transparency" is would be enough.

However, these conditions are far from reality:

- When regulatory targets are entities like countries (non-business), especially those with limited capacity like developing countries; or
- When the power of regulations to enforce compliance is weak,

[11] In other words, in the current situation where CER demand has been significantly limited due to the conditions of CER usage introduced by the EU, it is hard to say that the CDM is functioning effectively as a system, with the collapsing market value of CERs. However, the PoA (program CDM), which is less influenced by such constraint, is not on a declining trend.

In such cases, there would be little possibility of achieving a target based on rational plans and measures alone, leading to inefficiency and higher costs.

In most cases, the following points would be more useful than trying to demonstrate transparency for external stakeholders:

(a) Providing capacity development for those who develop and/or implement the plans (*i.e.*, capacity to obtain and analyse appropriate information, and to develop and implement the plans, *etc*.);

(b) Providing templates of specific steps and required contents for progress management as well as tools and arrangements that facilitate appropriate information gathering, analysis, and course correction, just by following the templates; and

(c) Putting the whole process into the PDCA-cycle.

These measures are not independent, but interrelated. They can be included in the scheme and put into practice through on-the-job-training.

Especially for (b) and (c), it is helpful to set up the PDCA-cycle as a system, to include progress checking and reporting. A progress check based on specific values (which is effectively done with templates) allows accurate comprehension of the current state and improves the effectiveness of measures.

To this end, it is desirable for the reporting templates to cover information necessary and effective in PDCA-cycle operation.

Since the type of necessary information for effective measures (*i.e.*, not only items but also a method of quantitative assessment) is not always well known, specific guidance for this purpose would be effective.

It also requires the full engagement of relevant ministries that implement measures. Therefore, coordination at the level of ministries that serve as the focal points of climate change or at the level of the president/prime minister will be significantly effective.

In most cases, climate change mitigation measures do not aim for climate mitigation as their main purpose, so they need to focus on the achievement of their primary goals. In other words, a good approach would be for beneficial measures and opportunities to be realized as fully as possible.

The level of target achievement can be improved by incorporating factors into the policies that invoke a sense of rivalry, shared responsibility, honour and shame, as well as incentives. In that sense, the results of target achievement should be expressed clearly in a quantitative manner, not in a vague, qualitative manner.

## 3.2. Review Scheme

Objective assessment and review will only be available with clear (quantitative, if possible) standards or bases (*i.e.*, quantitative assessment is only meaningful when it is "compared" with something).

These include quantitative methodologies like a progress assessment method as well as qualitative objectives like the IEA's Shared Goals. Reviewing the adequacy of policies is difficult for climate change under the UNFCCC and the Paris Agreement negotiations so far, but such review is being implemented for energy policies in some cases.

A mutual understanding between reviewer and reviewee, and inclusion of sharing experiences and lessons would be useful in a review scheme. Reviewers can also make use of that experience for domestic cases by implementing reviews.

## 3.3. How a GHG MRV scheme should be designed

Where a large amount of resources must be spent on GHG MRV, there is a concern that more important things than transparency and accountability (such as improving performance of implementing measures) could be neglected.

GHG emissions and reductions are calculated with several parameters. By choosing KPIs of activities as the parameters (*i.e.*, defining a function accordingly), GHG MRV can be incorporated in the PDCA cycle of the relevant actions.

In other words, the requirement of GHG MRV should lead to the development of the PDCA-cycle.

Conversely, an MRV methodology that only serves to calculate GHG is not really worth implementing except in a case like market mechanisms where GHG estimates *per se* have financial values.

# CHAPTER 3

# Overall Picture and Roles of Means under the Paris Agreement for Mitigation


Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/12dec.html)

# Chapter 3

# Overall Picture and Roles of Means under the Paris Agreement for Mitigation

This Chapter reviews the mitigation aspects of the Paris Agreement related to its institutional setup, the roles of each arrangement and the relationship among them.

By doing so, the Chapter clarifies the points of the detailed rule design of these arrangements.

# 1. OVERALL PICTURE OF THE PARIS AGREEMENT FRAMEWORK

The Paris Agreement (and the COP21 decision to support it) follows the pledge-and-review arrangement under the UNFCCC, with approaches introduced by its parent treaty of the UNFCCC.

The overall picture of the Paris Agreement Framework centring on mitigation is shown in Figure 8 as the relationship between the Transparency Framework.

Note that the NDCs introduced in the Paris Agreement serve as an interface for each country's domestic future target and for the global future direction, not only for mitigation, but also for adaptation, which shares a similar relationship.

The proposed institutional setup to make such "future images" realistic is the Transparency Framework, supported by other institutions for finance and technology, *etc.*, in its implementation.

The time schedule to implement NDCs centring on mitigation is as follows (Figure 6):

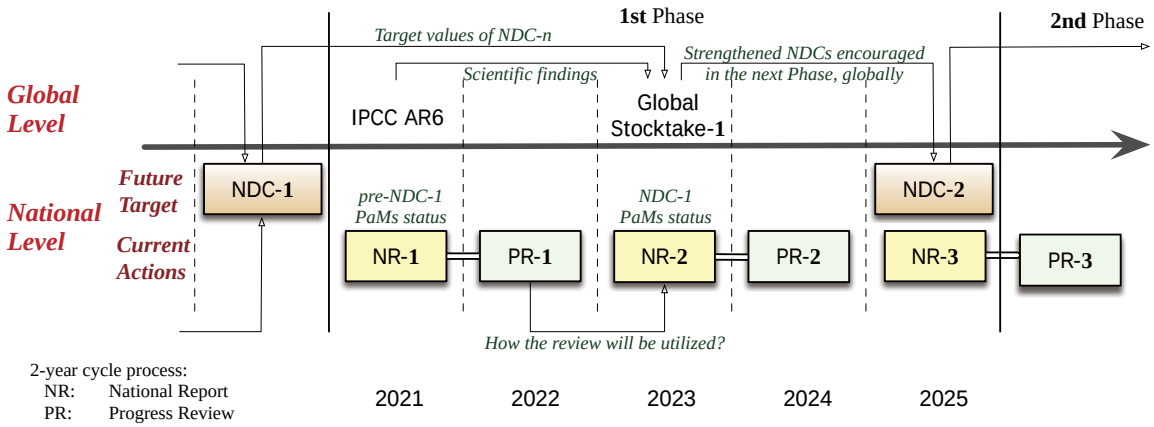



**Figure 7: Time Schedule for Mitigation Aspects of the Paris Agreement**

Whether or not they are able to upgrade the targets supported by necessary actions every five years will be a major challenge for countries in future.

Hopefully, the IPCC will release its assessment reports based on the best available and credible scientific knowledge at that time, possibly synchronising with the above 5-year cycle. Meanwhile, global stocktaking will be implemented building on the insight of this assessment report (and regardless of each country's national interest), showing

the overall direction for the world.

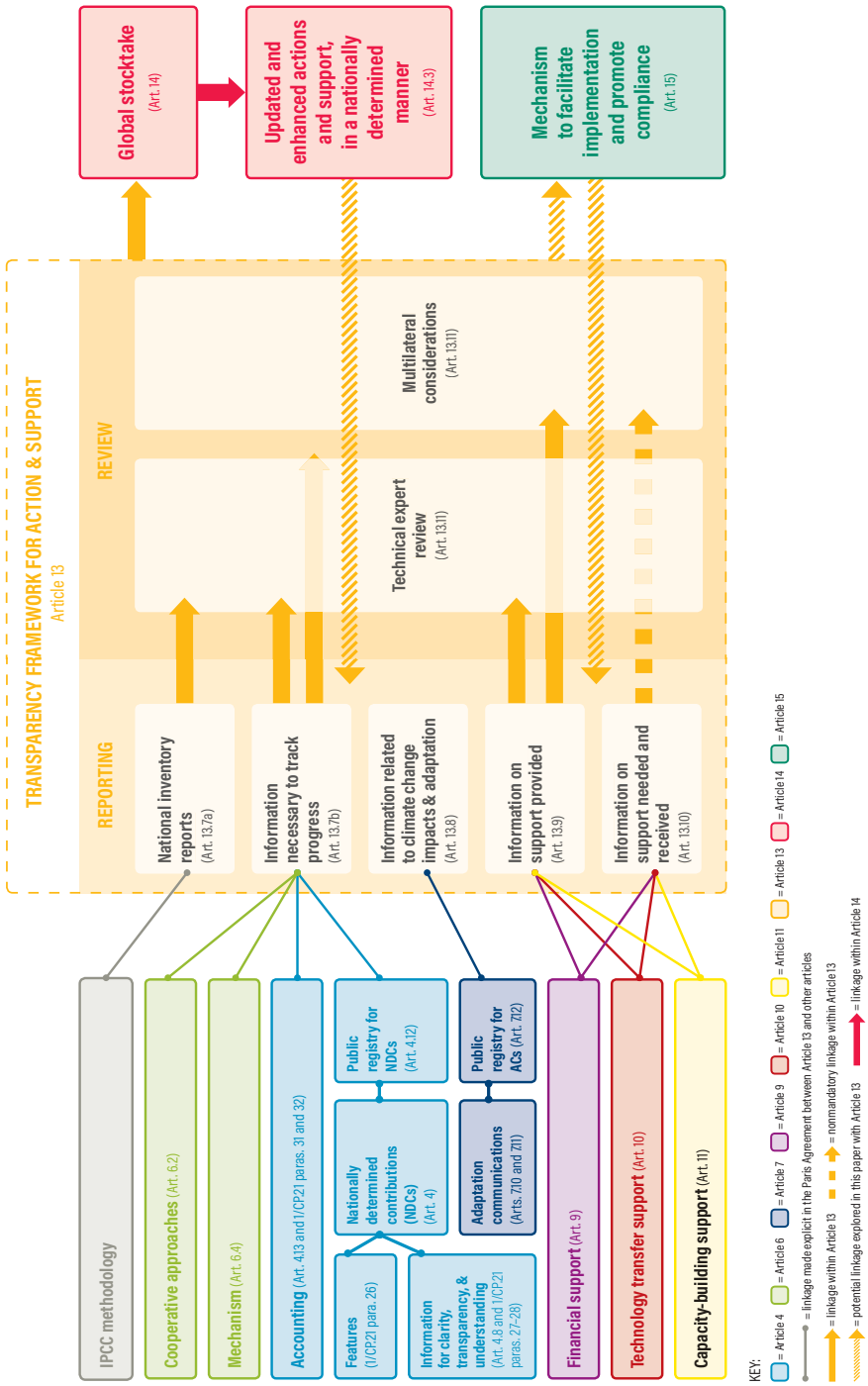



**Figure 8: Overall picture of the Paris Agreement in relation to the Transparency Framework**

# 2. INSTRUMENTS FOR MITIGATION AND THEIR CHARACTERISTICS

## 2.1. NDC mitigation target

The 5-year NDC process, where Parties including developing countries voluntarily set their domestic emission reduction targets and report them as their NDCs, is one of the core features of the Paris Agreement, together with the Global Stocktake, which assesses the sum of the NDCs.

NDCs declare how each country *intends* to make its national contribution in mitigating climate change.

The NDC mitigation targets, in addition to their freedom of choice in expressing them in per GDP intensity or in deviation from BAU, can be set by each country and have no penalties for non-compliance. They indicate *ambition*, rather than being a firm *target*. By only focusing on the future and not on past performance, NDCs alone will not ensure effectiveness.

Countries will explain their methodology for calculating NDCs, with the CMA deciding on the guidance for their comparability, *etc*., in 2018. The methodology must be applied consistently from the past to the future.

Information to be included in the coming second round of NDCs (NDC 2) for submission has been specified in a COP 21 decision as follows:

- Information on the reference points (base year, *etc*.) and timeframe;
- Scope/coverage of emission sources, *etc*.
  [Justification must be provided for exclusion];
- Planning processes; and
- Methodology for calculating emissions, *etc*., and the assumptions [such as a method for baseline setting, *etc*. The common method must be used for NDC submission and implementation].

In other words, the NDC makes up one complete national report (that can also include other elements than mitigation).

This issue is now being discussed in the rule-making process for the Paris Agreement under APA Agenda Item 6, under the slogan of "information to facilitate clarity, transparency and understanding (ICTU)":

Further guidance has been issued in relation to the mitigation section of decision 1/CP.21, on:

- features of nationally determined contributions, as specified in paragraph 26;
- information to facilitate clarity, transparency and understanding of nationally determined contributions, as specified in paragraph 28; and
- accounting for Parties' nationally determined contributions, as specified in paragraph 31.

Under this guidance, the NDC process can be a good exercise for policymakers to implement objective self-analysis and to deepen their understanding on what their countries can do.

The reporting items for the NDC mitigation targets and their progress assessment are addressed in this report as one of its main subjects.

## 2.2. Global Stocktake

The sum of the NDC mitigation targets by each country is checked under the Global Stocktake process every five years from 2023, and an assessment will be made of whether or not the planet as a whole is on target to achieve the 2 °C temperature goal (PA, Article 14).[12] It is important to understand what is meant by "the quantitative additional GHG reduction needed to meet the temperature goal and the necessity to do so", which can be "shared", and whether it can be used to strengthen the NDC mitigation targets of each country.

The Global Stocktake process can be interpreted as part of the PDCA-cycle process of climate initiatives in terms of both checking global progress plus a process to correct the trajectory, but the NDC is a "target" and/or an "ambition" and does not mean "achieved" reductions.

The Global Stocktake process is linked to implementation of domestic measures in each country via the "NDC formulation and communication" process, in principle.

Although this report does not discuss the modalities of the Global Stocktake, the rules associated with NDC and Transparency Framework may influence items up for discussion.

This issue is now being discussed in the rule-making negotiation for the Paris Agreement under APA agenda item 6:

[12] This prelude is the Talanoa Dialogue to be completed at COP 24 at the end of 2018. Since the total current NDCs fall far short of achieving the 2°C goal, the Talanoa Dialogue is the first effort to consider how to go beyond the unique circumstances of each country to the global common goal.

Matters relating to the Global Stocktake referred to in Article 14 of the Paris Agreement:

a) Identification of the sources of input for the Global Stocktake; and

b) Development of the modalities of the Global Stocktake.

## 2.3. Transparency Framework

Building on the existing arrangements for transparency, such as NC/BR/BUR/IAR/ICA, Modalities, Procedures and Guidelines (MPG) for the transparency framework of the Paris Agreement will be decided in 2018.

Each country "shall" provide the following information on a regular basis:

(1) GHG inventory

(2) Progress in implementing/achieving its NDCs

(3) Influence of climate change and adaptation (should).

(4) Support for finance/technology/capacity building ("shall" for developed countries and "should" for supporting countries).

(5) Ditto ("should" for supported countries).

The submitted reports shall be reviewed by technical experts on the following points:

- Information of the progress in implementing/achieving NDCs;
- Identification of areas for improvement in the relevant country; and
- Whether they conform to the guidelines (with the situation and capacity of the relevant developing country taken into consideration).

Just for reference, the Transparency Framework does not only cover "actions" but also "support", however that will not be discussed in this report.

While mitigation targets in NDCs (5-year cycle) represent countries' future ambition, the Transparency Framework (2-year cycle) is considered as a checking mechanism for "the status of implementation".

What is noteworthy among the elements of Modalities, Procedures and Guidelines (MPG) for National Communication in the Transparency Framework is:

- Necessary information to trace the progress in implementing and achieving NDCs;
- Recognition of the necessity of consistency and comparability in addition to transparency, accuracy and completeness;

- Flexibility given according to the capacity of developing countries;
- Consistency of a methodology for NDC reporting and that for progress reporting; and
- Replacing the conventional MRV process with this Transparency Framework.

Wisely formulating the MPG for the NDC reporting and review can make this Transparency Framework an important component not only for securing transparency but also for promoting implementation of measures.

This issue is addressed in the ongoing Paris rule-making negotiations under the APA agenda item 5:

> Modalities, procedures and guidelines for the Transparency Framework for action and support referred to in Article 13 of the Paris Agreement,

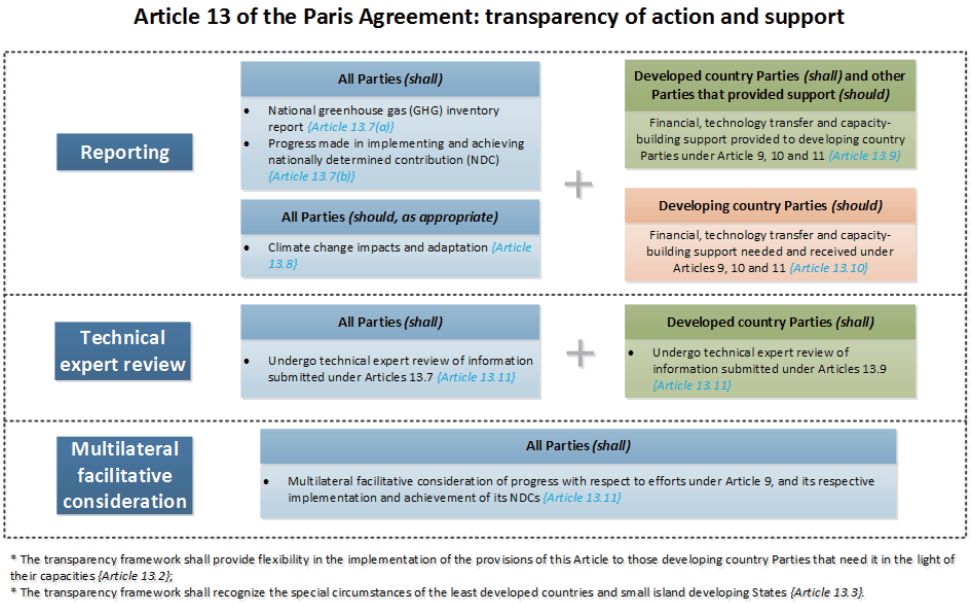



**Figure 9: Outline of the Transparency Framework (Paris Agreement, Article 13)** (UNFCCC)

## 2.4. Compliance mechanism

Article 15 of the Paris Agreement provides for the establishment of a committee-based mechanism for promoting compliance.

Since the achievement of the NDC mitigation targets are not mandated in the Paris Agreement, the mechanism is assumed to bear similar responsibility with the

Facilitative Branch of the Compliance Committee under the Kyoto Protocol, and is expected to relate with processes for NDC and the Transparency Framework.

It is a highly political negotiation item, which is not covered in this report, but is likely to be influenced by the rules for the Transparency Framework, in that it is objective and requires counteractions by each country based on consistent assessment.

The issue is addressed in the ongoing Paris rule-making negotiations under the APA agenda item 7:

> Modalities and procedures for the effective operation of the committee to facilitate implementation and promote compliance referred to in Article 15.2 of the Paris Agreement.

## 2.5. Market mechanisms

Article 6.4 of the Paris Agreement stipulates the establishment of the centralised market mechanism, for which Rules, Modalities and Procedures (RMP) are also to be decided in 2018.

This new mechanism is likely to be similar to the Kyoto Mechanisms, building on the experiences of CDM and JI (as well as NAMAs). The question is:

- How can lessons learned from CDM and JI be applied?

The most important lesson is that it will not work without "a large amount of demand", which is a problem to be solved outside the system. These emission reduction credits from the new mechanism are expected to be used for several emission trading schemes and other offset mechanisms including Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) of the International Civil Aviation Organisation (ICAO) (starting from 2022). Sometime in the future, major demands from the International Maritime Organisation (IMO) can also be expected.

In relation to the "inside" of the mechanism, a system should be designed to be truly workable for easier implementation of GHG emission reduction projects (*i.e.*, where MRV is not a barrier to implementation).

However, this report will not go further into the design of such market mechanisms, although it is somewhat relevant to compliance assessment.

This issue is addressed in the ongoing Paris rule-making negotiation as items for the Subsidiary Body for Scientific and Technological Advice (SBSTA):

> Guidance on Cooperative Approaches referred to in Article 6.2 (internationally transferred mitigation outcomes - ITMOs), and

Rules, Modalities and Procedures for the Mechanism Established by Article 6.4.

# CHAPTER 4

# Key Thoughts on Designing the Proposed System


Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/5dec.html)

# Chapter 4

# Key Thoughts on Designing the Proposed System

Following the previous discussion on existing arrangements, this Chapter offers thoughts on potential approaches, and outlines five crosscutting objectives, as well as eight means to materialise them.

Taken together, these serve as the groundwork for the continuous development of PDCA processes, directing implementation of the Paris Agreement to provide net benefits and enhance the effectiveness of actions.

# 1. KEY THOUGHTS ON APPROACHES

## 1.1. Approaches

The approach here is to put forward high-level objectives, in line with specific means of implementation, based on the following key thoughts.

Key thoughts are to keep in mind that:

- The reporting and review processes should be useful for countries not only in terms of demonstrating external transparency but also for internally developing and implementing measures.

This Chapter illustrates how international arrangements can be useful for domestic implementation of the Paris Agreement outlining five objectives and describing specific means of materialising them.

## 1.2. How the reporting process could be beneficial to the country

Although countries have been wary of taking on additional responsibilities in international climate negotiations, all Parties have already agreed to work together to *enhance* existing arrangements under the Paris Agreement's Transparency Framework.

NDCs and the biennial reporting system for the Transparency Framework are the same in the sense that both are *national* reports.[13] This suggests that:

- A great amount of effort will be required for developing mitigation targets, especially for NDCs;
- Inputs from relevant ministries and agencies are required in terms of developing the contents of reports;
- Drafting of a report will be necessary to compile such information; and
- Ministerial coordination will be required to produce final outputs.

[13] On the other hand, there is a difference of importance between domestic target and plan setting processes requiring inter-ministerial coordination (5-year cycle) and performance reporting process with limited coordination (2-year cycle).

At the same time, report-drafting processes present a valuable opportunity to enhance the skills and capacities of those persons responsible.

Since this process is useful for improving the overall quality of analysis, helping to raise awareness for decision-makers of the country and leading to actual improvements in the performance of actions, report drafting can be seen as an enabling approach rather than as an additional burden.

The main benefits of reporting can be listed as follows for each authority concerned:

- **For the persons to prepare the report**, investigating and analysing necessary reporting items enables them to realise the relationship between parts and the whole, thereby contributing to individual's capacity development.
- **For the person in charge of compiling the report**, compiling the report enables him/her to grasp overall progress, especially that of key measures. It also lets him/her strengthen inter-ministerial coordination capacity, especially among those responsible for climate policies, helping to ensure coherence between arrangements and procedures.
- **For the ministry or agency responsible for climate change policy and/or communication of the report**, it also lets them to grasp overall progress with strong points and weak points properly.
- **For the implementing ministries/agency of measures**, climate change issues present an important opportunity to introduce the PDCA-cycle to effectively implement relevant policies, measures and programmes, as well as learning about and understanding ways to improve performance.
- **For the heads of the government and the parliament**, reporting offers the prospect to reaffirm their countries' positions in the international climate arena, and better consider how they can operate strategically.

Ideally, the reporting and review systems of the Paris Agreement should be designed to realise these benefits to the fullest extent possible.

Moreover, it is worth designing incentives, as in the case of the BUR submission rate increasing substantially by the institutional requirement of the report of the REDD+ activities seeking result-based financing in the BUR.

## 2. SETTING FIVE OBJECTIVES

This Chapter puts forward five crosscutting objectives aimed at generating both domestic benefits as well as promoting international transparency:

(1) Strengthen transparency with enhanced comparability and consistency through

quantification;

(2) Build the Party's capacity by self-analysis aimed at deeper understanding of actions;

(3) Trigger domestic actions to introduce a PDCA-cycle including GHG MRV aimed at enhancing performance;

(4) Promote sharing of experiences and lessons learned among Parties; and

(5) Include the perspectives of future generations and over the long-term.

Each of these objectives are explained in detail below.

## 2.1. Strengthening transparency with enhanced comparability and consistency through quantification

As discussed above, transparency, consistency, comparability, and accuracy have already been defined as reporting criteria under the Paris Agreement for NDCs and national reports communication (see Annex I for details).

On the other hand, the importance of quantitative assessment under the UNFCCC and the Kyoto Protocol: MRV has been recognised as one of the important means for these purposes.

This report proposes setting a set of international rules for NDC mitigation targets in terms of formulation, communication, as well as progress reporting under the Transparency Framework, with a key focus on enhancing MRV, especially for its aspects of methodological assessment.

This proposal emphasises the importance of "user friendliness", so that it is:

| Easy to assess progress and easy to understand. |
|---|

This feature not only has the merits of improving the international transparency and objectivity of the review process, it also helps domestic decision-makers to better understand their respective country situation.

It is also essential that:

| The mitigation target(s) of each country should be well-defined. |
|---|

In sum, this will ensure that:

| Once a target has been committed to by a country, its compliance will not be ambiguous and it should be able to be assessed exactly thereafter. |
|---|

Although this will not be an obstacle for developed countries that have experience with the Kyoto Protocol compliance system, it may prove challenging for developing countries that possess weak GHG inventory systems.

It is presumed that the GHG inventory[14] in question is already established (i.e., will be independently developed). This proposal also seeks to minimise the ambiguity[15] of the "definition of the NDC mitigation target" and the "evaluation of its progress". Quantitative evaluation is expected to be applied for both self-evaluation and third-party evaluation.

For the mitigation aspects of NDCs, the following quantification methods and reporting elements are proposed with four categories (A to D below) targeting:

(1) the NDC Guidance (APA agenda item 3 (b)), and

(2) The Transparency Framework Guidelines (APA agenda item 5):

(A) A simple method to track the progress of the NDC mitigation target(s) (for Transparency Framework Guidelines, partially related to NDC Guidance for its preparation);

(B) Necessary information to formulate well-defined NDC target(s) and communication elements (for NDC Guidance);

(C) An analytical tool for assessing progress on $CO_2$ mitigation part within the NDC target (for NDC Guidance and Transparency Framework Guidelines); and

(D) Reporting elements on progress toward NDC mitigation target(s) (for Transparency Framework Guidelines).

These quantification methods/tools can increase the level of transparency and comparability for:

I. Descriptive elements of the communication of the NDC (every 5 years) and biennial national reports of each country, which are mandatory under the Paris Agreement; and

II. The basis of the international review and compliance facilitation processes.

[14] One notable limitation of the GHG inventory system is that it does not include useful information for implementing countermeasures and that it cannot facilitate elaboration of the underlying statistics (*e.g.*, energy statistics), which are more important from the viewpoint of SDGs than the GHG inventory. These points are not discussed here.

[15] This does not mean requesting unnecessary stringency at the expense of GHG MRV. "Unnecessary" means "MRV is meaningful only in the context of GHG reduction" for climate change mitigation. The promotion of countermeasures is required under MRV, including through properly monitoring and defining KPIs and applying the PDCA-cycle as a part of self-analysis.

In addition, this proposal recognises that:

III. Each country should fully understand and analyse its own situation properly in order for decision-makers to develop domestic plans and implement policies and measures.

This latter aspect represents a more important objective, taken into account when designing the proposal for the rules.

Moreover, from the perspective of self-analysis, comparability between past, current and future (i.e., NDC target) performance can be regarded as more important than comparability among different countries.

In addition, any such approach must be designed in a simple and easy-to-understand manner so that government officials in developing countries can independently calculate and analyse their performance.

The items described here are not necessarily mandatory. However, by organising such items in a template and following them to the fullest extent possible, they are designed to provide persons in charge with a proper understanding about relevant processes, thereby facilitating effective implementation of countermeasures.

## 2.2. Fostering self-capacity building

In general, documentation in the form of reports is a useful opportunity for capacity building, by organising and systematising thoughts and ideas on a particular subject matter.

Developing NDCs (5-year cycle) and preparing biennial national reports (2-year cycle) are time-consuming processes. As such, it would be desirable to design international rules that enable persons in charge to build relevant skills and competencies simultaneously.

Such international rules would consist of the following elements:

- Useful description items,
- Guidance, examples and/or exercises provided *via* description, and
- Capacity building programmes.

Useful description items might include:

- Understanding the domestic situation and relevant country characteristics (trends analysis, factor analysis, sectoral analysis, and comparison with other

countries, *etc.*);

- How to decide the NDC mitigation targets (how to use simulation results, *etc.*);
- Understanding of NDC mitigation targets (comparison with past performance and factor analysis, *etc.*);
- Assessment of progress in achieving the NDC mitigation target (especially its quantitative assessment);
- Implementation of the PDCA-cycle for major policies and measures (for example, identification and monitoring procedures of KPIs, and options for course correction); and
- GHG MRV methodology and its implementation.

However, if "completeness"—which is the most important "shall" element to be checked under current review process—is required for the description of above, some developing countries may find implementation difficult. Therefore, it is expected that countries will work towards implementation in a step-by-step, sequential manner, despite some initial challenges. Consultation and advice provided should be provided as the key role of the review process.

## 2.3. Triggering PDCA-cycle for domestic actions

Strengthening the effectiveness of domestic actions represents a central principle of the proposed enhanced new Framework. As domestic actions are voluntary, new Reporting Guidelines cannot mandate Parties to implement them in particular ways. On the other hand, all Parties wish their actions to be more effective.

One notable challenge for this process, therefore, is designing how international Reporting Guidelines can encourage performance improvements in domestic actions indirectly but effectively.

Each Party is implementing a variety of policies and measures (PaMs), which include programmes and actions (hereafter, called "actions" in general) to achieve various national development goals, e.g., as specified in the SDGs and/or other targets in national development plans or policies. Some development goals can also contribute to climate change mitigation, commonly referred to as "co-benefits". Accordingly, efforts aimed at enhancing the effectiveness of actions remains crucial for achieving both their intended purpose as well as climate mitigation.

The question is how to maximise synergies among primary purposes which are mostly domestic, and the secondary purpose of climate mitigations, which has often been viewed as an international (global) rather than a domestic goal, despite the fact that such actions are implemented usually by sectoral ministries other than the Environment Ministry.

With regard to the objectives, Objective (3) should:

*Trigger domestic actions to introduce a PDCA-cycle including GHG MRV aimed at enhancing performance*

This represents a key strategy for moving beyond transparency, fostering the performance of real actions which would result in greater GHG reductions both for developed and developing countries. Although international guidelines under the Paris Agreement cannot directly require introduction of domestic arrangements for specific actions, they can encourage the introduction and operation of such domestic arrangements implicitly by providing an appropriate reporting template.

Apart from international rules, introduction of a domestic PDCA cycle (Figure 10) can make a significant contribution towards enhancing continuous performance improvement of a variety of actions. The PDCA-cycle can be flexibly applied to a specific action, to a package of actions, or to more general plans and programmes. The MPG of the enhanced Transparency Framework should include relevant elements for encouraging Parties to do so.

Under the current transparency arrangement, a Party is required to describe the *estimation* of GHG emission reductions of each PaM in its national reports. In addition, as mentioned before for Nationally Appropriate Mitigation Actions (NAMAs), a GHG MRV process —annual quantification of GHG emission reductions with monitoring—is essential for *regular checking of the performance* of the action(s).

Basically, the PDCA-cycle is used for continuous monitoring of performance, evaluating each action against selected key performance indicators (KPIs)[16]. Here, calculation of associated GHG emission reductions should be linked to the monitoring of the KPIs. In other words, GHG emission reductions should be described as a mathematical function of KPIs as its variables ($GHG = f(KPIs)$) in addition to several fixed parameters, *e.g.*, emission factors.

**Box 5 [Successful PDCA practice in Bangladesh]**

Some successful examples can be mentioned, such as the Solar Home System (SHS) Program in Bangladesh targeting off-grid households.

This programme, operated with well-elaborated arrangements, has been developed step-by-step for several years of lessons/experiences, including monitoring and internal and external reviews/ evaluations, by its supervisory body IDCOL (a non-bank public financial organization).

The programme has successfully installed around 4 million SHSs to date domestically. See, *e.g.*, M. Asaduzzaman, *et al.* (2013) for the programme evaluation. This SHS programme was registered as a CDM Programmes of Activities (PoA) (Ref. 2765) (CDM Website for PoA), integrating GHG MRV in its procedures. Noted that these arrangements have been developed and operated in Bangladesh, categorized as an LDC.

[16] For example, KPIs for the SHS Program in Bangladesh (Box 5 above) include the basic parameters such as the number of households which installed SHS, along with other relevant data such as the installation date, location and distributor, as well as the type of finance provided to users. KPIs also include the maintenance/operation status of each SHS, *etc.*

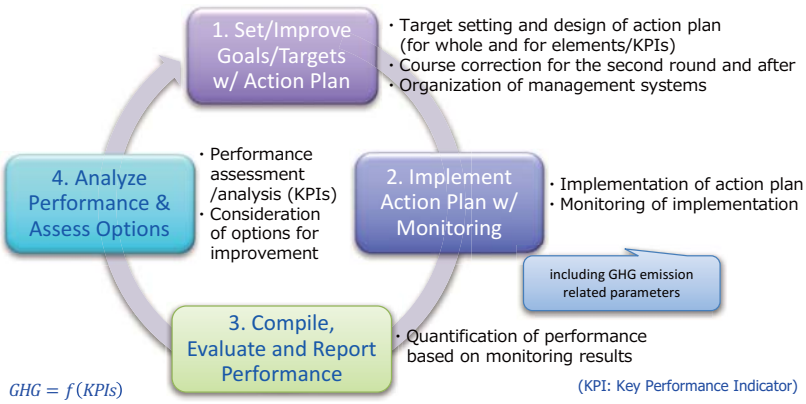



**Figure 10: Schematic Figure of an Action's PDCA-related Processes**

In sum, GHG MRV could be utilized to enhance achievement of non-climate (usually development) related actions, in line with secondary climate mitigation objectives.

## 2.4. Sharing experiences and lessons learned

Currently, national communication requirements do not include sharing experiences and lessons learned as an important element of reporting items—although this was originally expected—nor is it implemented in practice.[17] However, countries have much to learn from the experiences and lessons of others, especially from those that are in many respects similar. Many successful cases have been identified not only with regard to developed and developing countries but also between developing countries such as South-South cooperation.

However, it is generally difficult to apply best practices of one country to another as it is, requiring one more step of examination or analysis before application. In addition, it often highly effective to analyse and reflect on why a given best practice has proven successful in a relevant country, with a view to improve the performance of the practice in a different setting.

In addition, the principle of "serving others" can serve as a useful motivation, while also aligning with the underlying spirit of the UNFCCC.
As such, it is important to consider ways to incorporate knowledge sharing and exchange of country experiences in the Transparency Framework, explicitly.

It is also preferable to prepare reports and relevant guidance, especially with regard to

[17] The National Communication reporting guidelines (para. 14) states that "In reporting, Parties **should** give priority to policies and measures, or combinations of policies and measures, which have the most significant impact in affecting GHG emissions and removals and may also indicate those which are innovative and/or *effectively replicable by other Parties*.". However, almost no descriptions are found related to the *replicability*.

the compilation and analysis of good practices, to hold biennial workshops for sharing lessons learned, as well as to establish awards for knowledge sharing (more effective if both the implementers of good practices and their supporters are jointly awarded), in order to enhance the impact of knowledge sharing.

## 2.5. Inclusion of standpoints of future generations

In addition to NDC formulation and communication, each country should strive to develop and issue its own long-term (mid-century) low-GHG emission development strategy (PA Article 4, Para. 19). NDCs tend to extend over a relatively short-term period (5 to 15 years), so in the course of preparing the proposed low-carbon development strategy, it is desirable to consider policies that also require a long-term (at least several decades) perspective and reflect this (e.g., establishment of renewable energies-based energy system) in the NDC formulation. Related strategies could include power plant development, technology development, public transport and urban planning.

In addition, as highlighted in the experimental economics study conducted by Saijo (2017), by including people playing the role of (fictitious) future generations—who have no right to say now, it is observed that they input broader views in the discussion without captured by short-sighted views of reality. As such, introducing new methods and arrangements for reflecting the standpoint of future generations—intergenerational welfare—offers an interesting approach to the design of long-term mitigation pathways.

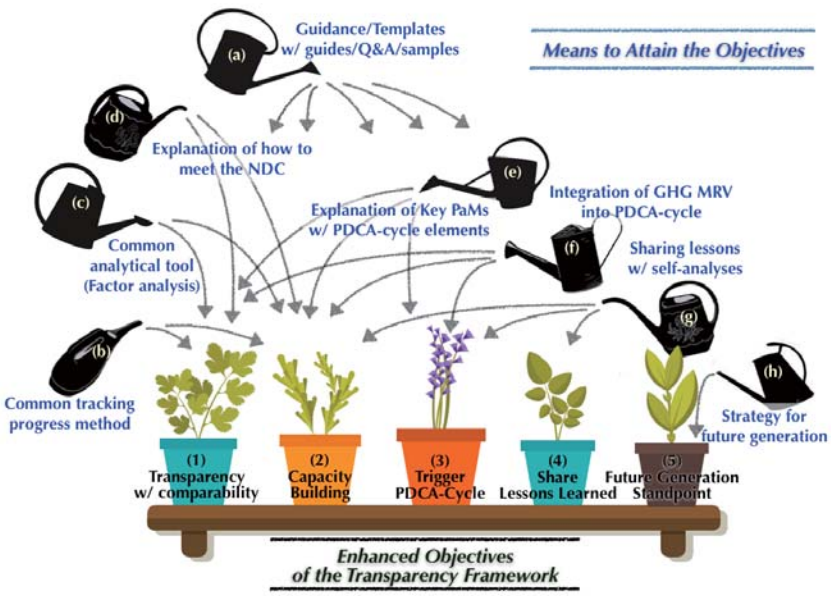



**Figure 11: Conceptual diagram illustrating the relationship between objectives and means**

# 3. DESIGNING EIGHT MEANS

In line with the above discussion on the five objectives, this section proposes specific ways to achieve them. Accordingly, the means detailed below can address several objectives simultaneously.

**Table 4: Five objectives and eight means**

| | Current Arrangements | | Proposed Framework |
|---|---|---|---|
| **Objectives**<br>(1)–(5) | Transparency<br>esp., completeness | ⇒ | (1) Strengthen transparency with comparability and consistency among Parties.<br>(2) Build the Party's capacity by self-analysis for deeper understanding.<br>(3) Trigger domestic actions to introduce PDCA-cycle with GHG MRV for better performance.<br>(4) Share lessons learned (esp., good practices) among Parties.<br>(5) Inclusion of standpoints of future generations. |
| **Means**<br>(a)–(h) | • Limited submission of national reports by developing countries with less capacities. | | (a) Guidance and templates with guides, Q&A and samples are prepared for appropriate understanding for reporting items [for (1), (2), (3), (4), (5)]. |
| | • Assessment of tracking progress to meet the target is not comparable quantitatively among Parties. | | (b) Applying a standardized and simple method to track progress to achieve the NDC target(s) in a comparable way [for (1), (2)]. |
| | • Projection section is hard to understand in continuation from its historical profile although it is linked to the target directly. | | (c) Factor analysis as the common and simple analytical tool with a template is provided for analyses of energy-$CO_2$ profiles from historical trends to future projections [for (1), (2)].<br>(d) Requirements to explain how the Party intends to meet its NDC target, preferably with scenario analyses [for (1), (2)]. |
| | • No identification of key PaMs.<br>• Limited info and analyses for each PaM, esp., on its status/trends and reasons analysis. | ⇒ | (e) Requirement to identify the key PaMs/programs/actions and explain (if not or partially installed, possible) elements of its PDCA-cycle with history [for (1), (2), (3)].<br>(f) The information on GHG MRV for the key PaMs (integrated into the PDCA-cycle processes as appropriate) [for (1), (2), (3)]. "V" could be a domestic review process of PaMs/programs. |
| | • Sharing lessons is not encouraged or not done. | | (g) Strong encouragement to share the lessons learned of the Party with self analyses (e.g., applicability conditions). Workshops and awards could follow [for (2), (3), (4)]. |
| | • Long term vision/strategy with wider standpoints is not included. | | (h) In order to include standpoints of future generations, strategic arrangement is encouraged, in addition to Long-term Low-GHG Development Strategy (PA, Art. 4.19) [for (5)]. |
| **Modalities** | NC/BR/BUR (reports) and IDR/IAR/ICA (review/assessment) | ⇒ | • NDC Guidance and Transparency Framework Guidelines (esp., for methodological requirements) should be consistent.<br>• Two (simple and detailed) (2+3)-year cyclic reporting and review/assessment processes synchronized with the 5-year NDC process (Chapter 9.4). |

[Abbreviations] **BR**: Biennial Report; **BUR**: Biennial Update Report; **GHG**: Greenhouse Gas; **IAR**: International Assessment and Review; **ICA**: International Consultation and Analysis; **IDR**: In-Depth Review; **MRV**: Measurement, Reporting and Verification; **NC**: National Communication; **NDC**: Nationally Determined Contribution; **PA**: Paris Agreement; **PaMs**: Policies and Measures; **PDCA**: Plan-Do-Check-Act.

## 3.1. Guidance and templates with guides, Q&A and samples

To present a consistent description of required items and encourage an appropriate understanding about NDC contents, reporting guidance and templates[18] should be provided in addition to the guidelines.

If guides, together with Q&A and relevant examples, were provided for each reporting item in the templates, those responsible for preparing the national report will not have to concern themselves with understanding how and what to write in terms of required reporting items, which would ultimately prove quite useful. Tips and suggestions, as well as associated written exercises in the reporting template would also be appropriate for this purpose.

As initial templates are expected after the adoption of the guidelines at the end of 2018, planned to be prepared at COP 25 scheduled for the end of 2019. It would be preferable that such templates are updated every subsequent year[19] as experiences accumulate.

Lastly, capacity building programmes on populating the templates can be carried out, either by incorporating into existing programmes, such as the GEF's Capacity Building Initiatives for Transparency (CBIT), and/or through the provision of e-Learning. This would assist with guiding understanding about the templates themselves as well as broadening the objectives of present capacity building initiatives.

## 3.2. Applying a standardised method to track progress

As mentioned in section 2.1 above, it is important that a standardised, user-friendly method is provided not only for purposes of comparability but also to ensure progress assessments can also be conducted in a straightforward manner. (This does not suggest a prohibition on the application of other methods, however).

Chapter 5 will present a specific approach for tracking progress based on a common design that can be applied to any type of quantified targets.

Chapter 5 defines "Target Index"—a simple and easy-to-understand measure that follows a standardised progress assessment (where "Adjusted Base Year" means the most recent year of data availability at the time of NDC submission).

[18] In the current transparency framework, guidance and template for expert reviews are prepared.

[19] Currently, the Lead Reviewers Meeting for the current transparency arrangement is held around March every year, where discussions focused on efforts to update templates for review and how to address recognized problems in actual reviews can serve to continuously improve operation of the system.

For an index used for the relevant target, define the level of "Target Index" for Adjusted Base Year as 0%, and that for the target year when the target is achieved as 100%, linearly interpolating the two points as the "Target Trajectory".

Progress in a given year (the most recent year specified in the biennial national report) is assessed against the "Target Trajectory", examining whether it is above or below the trajectory.

## 3.3. Applying common and simple analytical tool(s)

In addition, Chapter 5 proposes to apply a method of "factor analysis", which is a simple yet effective analytical tool for perceiving NDC mitigation targets at the time of their preparation and submission or during the progress assessment stage.

Different people often draft various chapters of national reports. This is especially the case for future projections, a central component of the NDC, which is generally handled by experts—essentially rendering the section a 'black box' to other people. To address this weakness, a simple but useful method—"factor analysis" in line with the Kaya Identity (explained in Chapter 5)—is proposed, aimed at assisting policymakers (and other actors) with better understanding of key characteristics concerning current emissions trends, based on both past and future emissions projections.

Basic factor analysis of economy-wide energy-related $CO_2$ emissions—including an explanation of trends, key parameters and milestones—shows strong potential for serving as a common analytical methodology among all Parties, given that $CO_2$ associated with energy use is the predominant source of GHGs in most countries, especially with regard to GHG emission 'variations'. Energy-related $CO_2$ emissions, rather than GHG emissions as a whole (summed up using GWPs), are more directly linked with domestic economic development. In theory, this methodology can be applied to GHG emissions instead of energy-related $CO_2$ emissions; however, doing so can somewhat blur the analyses of each factor. On the other hand, sector-wise factor analysis is also possible (depending on the availability of data—selection of activity indicator remains key), and this should be encouraged to enhance understanding about each sector's contribution.

NDC Guidance and Transparency Framework Guidelines outline this as follows:

> *Requirement to use factor analysis as the common analytical tool. A commonly agreed template should be developed for the Parties to use to analyse their energy-related $CO_2$ profiles including both historical trends and future projections.*

## 3.4. Explanation on how to meet the NDC mitigation target(s)

In developing NDC mitigation pathways, it is fundamental to consider the scale of the challenge with regard to meeting proposed targets, which are, here, assumed to be quantified economy-wide ones.

In general, the following steps may be applied for any type of quantified targets including that of "degrees of deviation from BaU scenarios":

(1) First, the country's "**Current Measures Scenario (CMS)**"—current PaMs are assumed to be continued—is defined to evaluate emissions for the designed target year.

(2) Second, reductions under the "**Planned Measures Scenario (PMS)**"—by adding the planned measures to the CMS—are estimated.

(3) Typically, the target value (NDC) is decided upon by estimating specific emissions reductions based on an extension of current measures or by taking new/additional measures into account to the PMS. Or, the appropriateness of the target value can also be assessed. Not only by examining such values in a single year, but also across a scenario trajectory, with "**NDC Target Scenario (NTS)**" can be developed as the background of the NDC target. Any difference between NTS and CMS indicates a lack of measures—which must be extended or newly introduced—necessary for meeting the NDC mitigation target.

These steps are easy to understand. The reporting items for existing National Communications from developed countries are based on a similar idea. Therefore, if possible, it is desirable to conduct a scenario analysis—at minimum, for the NTS—to assess emissions gaps, and to identify what actions must be taken to address them.

To identify what is needed for addressing such gaps, countries should examine potential actions (for example, budgetary measures, system development, removal of barriers, *etc.*), seeking to ensure that such plans are both quantifiable and realistic.

In the NDC Guidance and the Transparency Framework Guidelines, this is indicated as follows:

> *Parties should develop and report three projected scenarios, i.e., (1) current measure scenario (CMS), (2) planned measure scenario (PMS), and (3) NDC target scenario (NTS) for the timeframe of the NDC, if the NDC includes economy-wide target. If it does not include economy-wide target, such scenario analysis is encouraged to do, possibly supported by developed countries. The scenario analysis should be accompanied by the factor analysis. The difference between NTS and CMS should be clarified with the explanation how the Party intends to fill the difference by extension of existing measures and introduction of additional measures. It is*

*encouraged to describe possible measures with their relevant information, such as the potential of GHG emission reductions, budget requirement, institutional arrangement and barrier identification and how to remove it.*

Given that capacity constraints may limit some countries from implementing scenario analysis with advanced models, other simple assessment methods such as those using spreadsheets can also be applied. In any case, any such models should be clear and understandable so that persons in authority can fully comprehend the content of analysis. (Factor analysis outlined in Chapter 5 can be used for this purpose).

## 3.5. Identification of key PaMs and explanation about PDCA-cycle elements

Current National Communications present exhaustive lists of various policies and measures. Although important to correctly understand the broad range of actions implemented, such lists can also obscure which actions are ultimately most important.

Progress of key policies and measures must be examined in detail and improve their performance by allocating resources accordingly.

To this end, it is important:

(1) To identify which policies and measures are critical; and

(2) To take actions to effectively improve performance.

While (2) includes a variety of actions according to a number of diverse characteristics of the measures, this report proposes that designing the measure to fit into a PDCA cycle represents a simple and useful approach beyond diversity. Again, despite the fact that Paris Agreement rules cannot explicitly mandate domestic actions, it is possible to include specific requirements such as "describe PDCA elements, if they exist", for example.

Some actions may not include all PDCA elements, but they may include some, such as KPI-based targets, without a set feedback process. Considering missing elements is a good exercise for capacity building (Objective (2)) and may bear fruit including by triggering the introduction of certain missing elements.

The NDC Guidance and the Transparency Framework Guidelines indicates as follows:

*Requirement to identify key[20] actions (PaMs, programmes, etc.) and explanation of each element of their PDCA cycle backed by historic trends, etc. Even if a PDCA-*

[20] Key actions are those that would drive significant GHG emission reductions. Around 5–10 of the most important key actions should be identified.

*cycle is not implemented or only partially implemented by a Party for some action, nevertheless, certain key existing elements still could be described. Moreover, the absence of some elements should be noted, and Parties should be encouraged to consider the possible introduction of the missing elements.*

## 3.6. GHG MRV integrated to PDCA-cycle

As mentioned in 2.3. above, GHG MRV is useful not only for enhancing transparency, but also for improving the performance of relevant actions, when incorporated in the PDCA cycle.

The NDC Guidance and the Transparency Framework Guidelines, discusses this as follows:

*Requirement to provide available information for the GHG MRV incorporated in the PDCA cycle process of key actions, where "verification" could be a domestic review process of the performance of key actions.*

## 3.7. Experiences and lessons learned including sharing information on self-analysis

As mentioned in 2.4. above, there are several lessons and experiences regarding actions contributing to climate mitigation that can be shared internationally, even in less developed countries.

Accordingly, this report proposes that reporting guidelines under the Transparency Framework also include a chapter that considers experiences and lessons learned for sharing with other Parties. Such reporting would serve to strengthen the facilitative nature of the Framework. In addition, including a self-analysis of key lessons learned would provide a good exercise for capacity building among all countries (Objective 2), particularly by assisting countries to reflect on whether specific lessons shared are applicable or not, whether certain conditions are necessary for knowledge transfer, as well as analysing associated reasons for success and/or failure.

Workshops, together with SBI, regional seminars and awards, would be effective ways for promoting the sharing of lessons between different countries.

The NDC Guidance and the Transparency Framework Guidelines outline this as follows:

*The chapter of "Experiences and lessons learned to be shared with other Parties" shall be included in the national report. It is strongly encouraged for Parties to share the self-analyses and the lessons learned with other countries in a similar situation—especially lessons related to the actions with PDCA-cycle components.*

## 3.8. Inclusion of standpoints of future generations

By intentionally introducing the items pointed out in 2.5 above, in reporting, the perspective of future generations can be included for consideration.

They can be described in various ways (possibly without any restriction), for example:

- Listing up key points in a country's long-term low GHG development strategy as well as policies and measures with a timeframe of more than 15 years, as well as providing options to realise them, their expected effects in 2050, including, for example, expected barriers and ways to address them, *etc*.
- Establishing an inter-ministerial committee considering strategies with a long-term perspective, summarizing conclusions by the committee in a form of proposals from the future generation, and considering how to specifically incorporate such perspectives into next NDC.

The NDC Guidance and the Transparency Framework Guidelines summarise this as follows:

> *The chapter of "Long-term standpoint and strategical approach" should be included to specify the outline of the long-term low GHG strategy as well as the institutional arrangement to include future generations' viewpoints into the strategy.*

# CHAPTER 5

# NDC Description Criteria and a Method and Analytical Tool to Assess Progress for Report and Reviewd


Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/5dec.html)

# Chapter 5

# NDC Description Criteria and a Method and Analytical Tool to Assess Progress for Report and Review

For the two key reporting arrangements—NDC and Transparency Framework—under the Paris Agreement, a common and user-friendly method and tool are provided to ensure transparency, comparability and self-analysis for target setting and progress tracking.

To represent NDC mitigation targets, non-ambiguous, yet well-defined targets are encouraged so that decision-makers can track progress and adjust actions accordingly.

For tracking the progress of the NDC targets, a simple calculation method applicable to each type of target categories is provided.

In addition, a simple factor analytic tool by using Kaya Identity is provided for continuous self-analysis, comprising both past and future projections.

To effectively track progress of each policy and measure, it is essential to introduce the PDCA-cycle with identification and monitoring of KPIs.

# 1. CRITERIA FOR DESCRIBING THE NDC MITIGATION TARGETS

It is mandatory to formulate and communicate NDC mitigation targets under the Paris Agreement, however, the level and contents are voluntarily set by each country, resulting in the NDC system being less effective in reducing GHG emissions worldwide. This report aims to secure greater effectiveness by properly designing and operating the reporting system (of the targets themselves and any progress made) and further reviewing it (the NDC targets are reviewed at the global level for aggregation, while their progress is reviewed at the country level).

One theme of this report is how to express the NDC mitigation targets for an effective and workable NDC system at the country level.

## 1.1. Importance of definition

As mentioned above, five criteria—transparency, accuracy, completeness, consistency, comparability—are already defined.[21] This report proposes that the targets should include the following items in order to meet these five criteria:

| The NDC mitigation target should be "well-defined" without being arbitrary. |
|---|

If the target is not clearly defined[22] it will be difficult internationally as well as nationally to assess whether the target has been met, or whether a country is on track to meet the target. This also leaves a kind of escape route, and doubts may be expressed on the seriousness of the country's intention to achieve the committed target. Also, because evaluation would become difficult quantitatively, this goes against the spirit of MRV.

The NDC mitigation targets will be revised at least every five years. For example, NDC1's 2030 target will be outdated by the time it is evaluated, so there may be no significant meaning to the evaluation of achievement. However, performance evaluation in the form of a past target is important for the following reasons:

[21] Among these criteria, the rule on "completeness" could be loosened somewhat. Given the state of submission of national communications and biennial update reports by developing countries, a good start would be to report first, even if it is not complete. This is also consistent with the underlying aim of the Transparency Framework, which seeks to be facilitative and flexible according to the capabilities of developing countries.

[22] A case where the percent reduction from BaU is set as the NDC mitigation target, even though the BaU scenario is not well defined, for example. A considerable number of NDCs by developing countries currently fall under this category.

- It follows the transition and achievements of the NDC mitigation targets and clarifies historical efforts;
- By comparing the base year level, the past target level, the latest target level and the current situation, it is very useful for the future target setting;
- Additionally, it is very important when conducting the NDC progress assessment every two years that the target ambition is defined without being arbitrary, especially in view of country efforts to implement the PDCA-cycle process.

Some additional theoretical considerations are listed below.

A well-defined NDC mitigation target is defined as the following:

| The values of the various parameters constituting the mathematical expression of the NDC mitigation target represented by a mathematical formula are decided without being arbitrary after the target year. |
|---|

One of the criteria to be emphasised is consistency and this can be realised by using a common methodology at both the "*ex ante* = NDC formulation" stage and "*ex post* = NDC implementation" stage similar to the approach of CDM. The value of each input parameter does not need to be common either before or after, and the difference arises because the parameter is an estimated value in advance, and an actual value *ex post*. Undoubtedly, there is a difference there, and this important information is needed for the PDCA process to make stepwise improvements.

Another criterion is "comparability", as shown below. In either case, the various parameters mentioned above can be quantified and compared:

- Comparability among countries; and
- Comparability between one country's past trends and future direction.

An additional issue concerns assessing the results of the comparison to ensure that real improvements can be made.

## 1.2. Including elements of the PDCA-cycle

The core of any NDC is the mitigation target itself. In addition, any given NDC also includes an explanation of the plans and institutional arrangements showing how the country intends the target to be achieved. Such inclusion makes it possible to objectively conduct a self-assessment of any progress made and consider how to improve it. At the later reporting stage, based on these explanations in the NDC, a country can describe how it has changed in the biennial national report under the Transparency Framework, analyse the results of its self-analysis and describe what kind of changes were made.

For that purpose, it is desirable that the following information should be included in the NDC:

- *Institutional framework for implementation*
  - Which ministries/departments have developed the plan? Which ministries and agencies implement relevant actions? Which department is responsible for checking?
  - How does each responsible agency make decisions, carry out coordination and what is its line of responsibility?
- *Planning and implementation process [**P**]*
  - What is the Party's concrete plan or blueprint to achieve the target?
  - What are the key policies, measures and actions? Also, to what extent do they contribute to achieving the target?
  - Among the key policies, measures and actions, what are the prospects for expansion of existing ones? What is planned to be implemented in the near future? Any others?
- *Implementing means [**D**]*
  - Who are the actors and implementers of key policies, measures and actions?
  - What are the results so far? What is the monitoring and reporting system for KPIs? How is the aspect of GHG MRV integrated?
- *Check [**C**]*
  - How is the achievement rate of KPIs of key policies, measures and actions checked?
  - Is there a system to grasp the factors of success or failure? Is the system actually used?
- *Adjustment [**A**]*
  - How have the key policies, measures and actions been adjusted? Or will these be adjusted in the future?
  - Are the government's adjustment systems and processes prepared for the entire NDC mitigation target? What might trigger such changes?

In this way, guidelines/guidance/templates should be made to take account of the PDCA-cycle, with a view toward strengthening their effectiveness.

Doing so also presents a valuable opportunity for reaffirming and checking the content of each country's plan, even at the implementation stage.

Note that these do not pose an additional burden, given that they also should be included in the biennial national report under the Transparency Framework (including the section on adjustments).

## 2. NEED FOR COMMON ANALYTICAL TOOL(S)

NDC mitigation targets are at the sole discretion of each country, whether with regard to its level and/or method of expression.

The Paris Agreement and COP 21 decisions, however, repeatedly underline the need for transparency, comparability, consistency, and accuracy.

The underlying thought is that, rather than providing a completely free hand to each country, mutual discipline is needed to materialise transparency, comparability, consistency, and accuracy.

Such criteria[23] remain vitally important not only for the reporting itself, but also for its review. As such, it is necessary to design common tools and approaches to raise the level of ambition.

The following presents recommendations for developing a shared methodology to assess the progress on achieving NDC mitigation targets that also serves as an analytical method for NDCs themselves.

## 3. METHOD TO ASSESS THE PROGRESS TO MEET THE NDC TARGET

Each country is obliged to report on progress towards NDC mitigation target(s) every two years. What kind of expression is easy to understand to assess the progress achieving the NDC mitigation target? This aspect should be considered at the stage of target formulation, following a format that allows for a sound understanding of progress as well as provides for simple reporting. This report emphasises the following two points:

- Although there are various types of targets (see Figure 10 below), it is desirable to evaluate these on a "common scale" (from the viewpoint of comparability

[23] In addition, the notion of "completeness" may need to be addressed. Such completeness concerns whether every "shall"-requirement are described. In view of the actual situation regarding submission of developing countries' National Communications and Biennial Update Reports, this Report takes the position that completeness should not be integrated into the scheme from the start (or should not be incorporated into "shall"-requirements).

among countries); and

- A country should understand, at a glance, the status of the progress towards achievement of its target (i.e. from the point of view of comparability among countries).

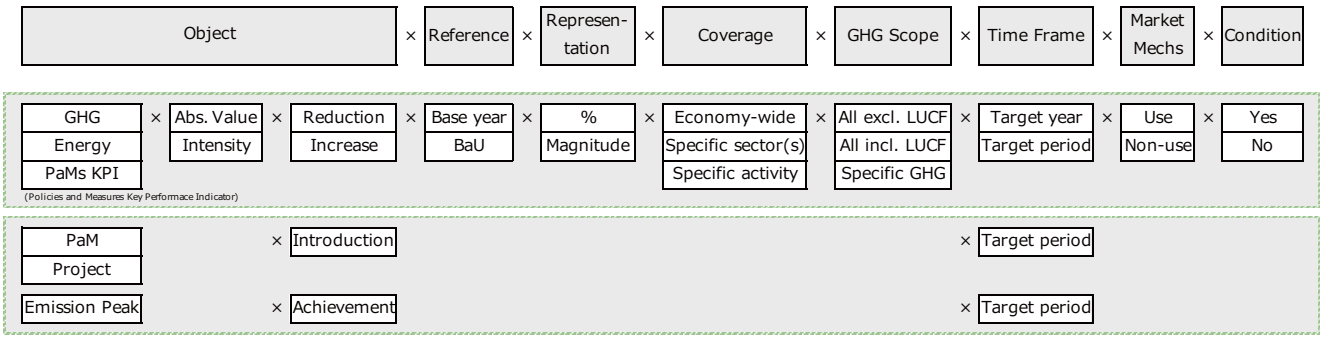



**Figure 12: Types and components of current NDC mitigation targets**

## 3.1. Progress expressed as a percentage

In the case of a quantitative target, it is necessary to reach the target level from the level of the latest year specified in the NDC, whether the target is for GHG emissions, for energy consumption, for key performance indicators (KPIs) of some policy or measure (e.g., percentage of grid-based renewable energy), or viewed as a deviation from a business as usual (BaU) scenario.

Therefore, this paper proposes a "**Target Index**", such that:

> 0% is assumed for the level in the adjusted base year (see next sub-section) and 100% for the target level of the indicator of the target.
>
> Then progress is evaluated based on whether the level achieved in a certain year (latest year specified in the report) is above or below the line (**Target Trajectory**) linearly interpolated between these two points.

(see Figure 11 below and next sub-section for the adjusted base year definition).

This method can be applied to both declining and increasing targets using the same scale. If there are multiple targets, progress can be evaluated by applying the same method to each one.

When plotting the indicator for the target on the vertical axis and time on the horizontal axis, a straight line between the two points of

(adjusted base year, its actual value)[24] and (target year, target value)

can be drawn as the "Target Trajectory".

If the performance level of the indicator of a certain year is below the Target Trajectory, it is considered to be on-track, whereas if the level is above the trajectory line, the performance is considered off-track (for declining targets, and vice-versa for increasing targets), as shown in Figure 11 below.

Note that the Target Index might range from below zero (i.e., worse than the adjusted base year) to over-100% (i.e., over achievement of the target). It also should be noted that the assessment of on-track or off-track should be judged whether the level of a certain year is below or above the "Target Trajectory" for declining targets (or vice-versa for increasing targets) as opposed to whether the Target Index is 100% for the years prior to the target year.

In the course of progress evaluation in the middle of the period up until the target year— as there is fluctuation depending on the year— the value of each single year has little significance. Therefore, it is more appropriate to assess the progress over a period of several years (whether it is above or below the Target Trajectory). This method enables a more accurate evaluation of progress (as the "check" part of the PDCA-cycle).

[24] As shown in the next subsection, the latest year specified in the NDC refers to the adjusted base year.

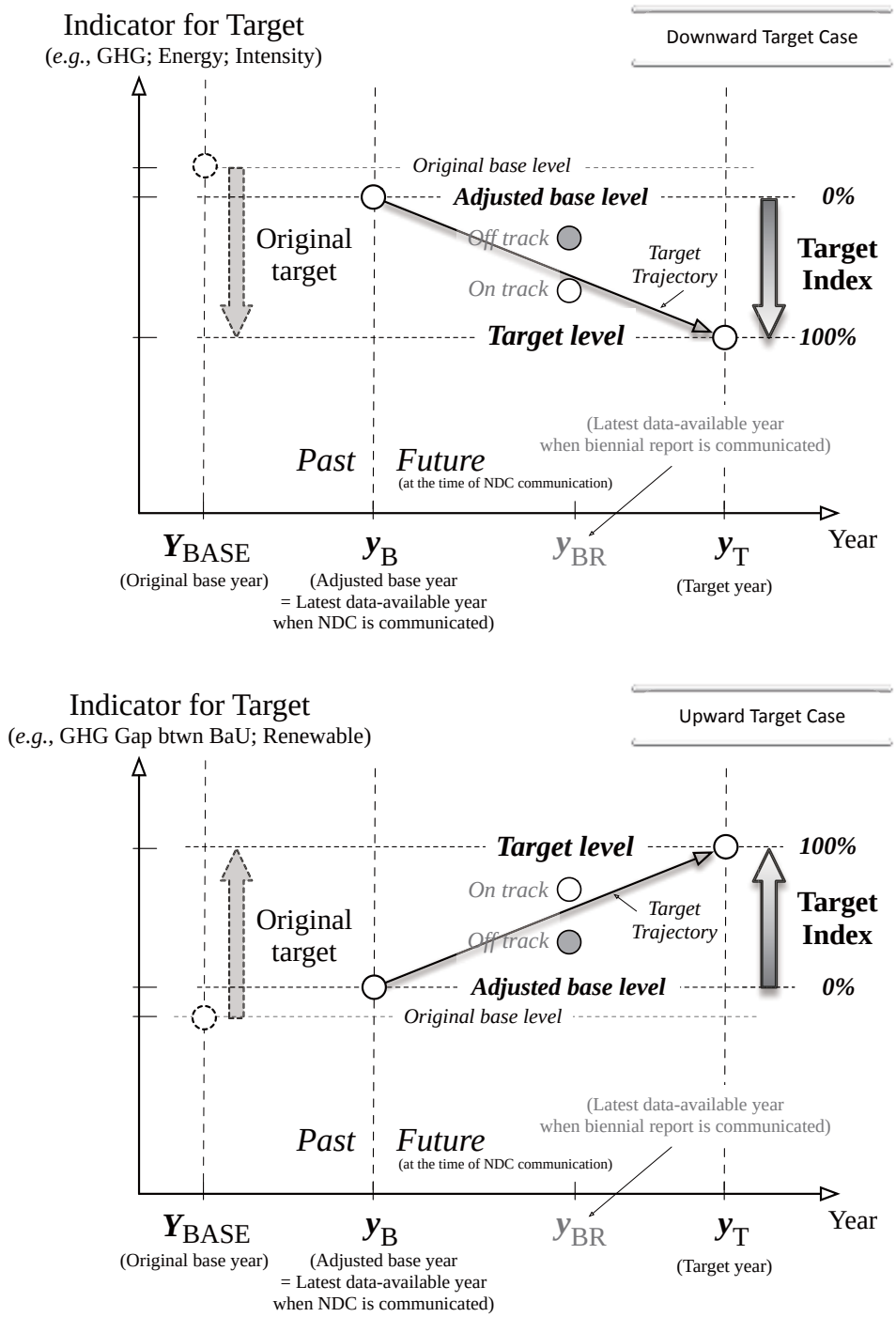



**Figure 13: Image of NDC mitigation target and progress toward its achievement**

## 3.2. Base year adjustment

If the base year of the NDC target ($Y_{BASE}$ in Figure 13) is different from the latest year of data availability at the time the NDC was communicated ($y_B$ in Figure 13), the Guidance should request the country to:

> adjust the reference (base) level and target level by adjusting the base year to $y_B$ and specify the adjusted values, in parallel.

Selection of the base year may involve historical or political considerations depending on the country. However, here it is not proposed to require a change in the original base year selection; it is simply proposed for technical reasons to have a common base year.

The merits of using this adjustment method are:

- Enhanced comparability by choosing the same base year as the origin;
- Enhanced transparency by clarifying the next steps to be taken after submitting the NDC; and
- Clarification of the target that the country should aim for (not dependent on the past situation).

# 4. FACTOR ANALYSIS METHOD FOR DEEPER UNDERSTANDING

## 4.1. Proposed requirements for a trend analysis method common to each country

Progress on achieving the NDC mitigation target needs to be reported biennially. This report argues that:

> the progress reporting of the NDC mitigation target should be utilised as part of a domestic PDCA-cycle driven by the Paris Agreement process.

In the previous chapter, this report proposed reporting items for the mitigation part of the NDC and necessary information from the perspective of PDCA.

Rather than the domestic PDCA-cycles for various countermeasures, this Chapter, focuses on economy-wide $CO_2$ emissions and introduces factor analysis as a simple but effective tool to grasp the whole picture of the check process corresponding with

the PDCA-cycle.

This report proposes that self-analysis should be added to the NDC communication and biennial progress report (see previous section and next section). The analytical method should have the following characteristics:

- Suitable to analyse the essence of the NDC mitigation target;
- Focus on the most important and core aspects of GHG emission trends;
- Of minimal difficulty, simple, and easy to calculate;
- A common technical tool applicable to each country (i.e., comparability);
- Enables consistent and continuous analysis from past trends to future targets; and
- Not subject to limitations due to insufficient availability of statistical information.

To satisfy these criteria, this report proposes to incorporate the following items in the analysis:

| Factor analysis applying the Kaya-identity to energy-related $CO_2$ emissions. |
|---|

The reason for restricting the analysis to energy-related $CO_2$, rather than all GHGs, is that in most countries (even in countries where energy-related $CO_2$ does not comprise the largest GHG), the increase/decrease of energy-related $CO_2$ dominates the increase/decrease of all GHGs (it corresponds to the "core" outlined in the second criterion above). Nevertheless, even if the GHGs are examined in their entirety instead of energy-related $CO_2$ quotient, the effect on the purpose of this analysis is not so different.

## 4.2. Simple theoretical basis of the Kaya Identity and related factor analysis

Changes in energy-related $CO_2$ emissions can be examined according to the following three factors:

(a) Scale of economic output;

(b) Amount of energy use needed for economic output (representing a kind of societal efficiency); and

(c) Amount of $CO_2$ emitted when energy is used (representing the energy mix).

The mathematical expression can be written as follows (known as the Kaya Identity):

$$CO_2 = GDP \cdot \frac{Energy}{GDP} \cdot \frac{CO_2}{Energy} = GDP \cdot EI \cdot CI$$

The three terms on the right side, $GDP, EI(= Energy/GDP), CI(= CO_2/Energy)$ [25] correspond to the three factors (a)–(c) above, respectively.

What is important is the change in each of these factors, rather than the magnitude. Therefore, by considering the change in the terms of the above-mentioned Kaya Identity specified as Δ (basically the annual change), the following formula can be obtained:

$$\frac{\Delta(CO_2)}{CO_2} = \frac{\Delta(GDP)}{GDP} + \frac{\Delta(EI)}{EI} + \frac{\Delta(CI)}{CI}$$

Each term is a "rate of change", measured by "percent". That is, the "rate of change" of $CO_2$ is broken down as the "summation" (not product) of each factor.

The above formula can be expressed in words as:

| |
|---|
| ($CO_2$ growth rate) = (GDP growth rate)<br>– (societal energy efficiency improvement rate)<br>– (rate of decarbonization of the energy mix). |

Here, the meaning of each index is:

- Declining rate of $EI$: "societal energy efficiency improvement rate against economic output"
- Declining rate of $CI$: "rate of change of energy mix to less carbon energy supply against energy use"

In other words, the growth of energy-related $CO_2$ emissions is divided into three factors: a factor that increases as the economy grows; a factor that decreases by improving energy efficiency of economy; and a factor that decreases as the energy sources shift to lower carbon intensity.

[25] $EI, CI$ refer to "energy intensity" (against economy) and "carbon intensity" (against energy), respectively.

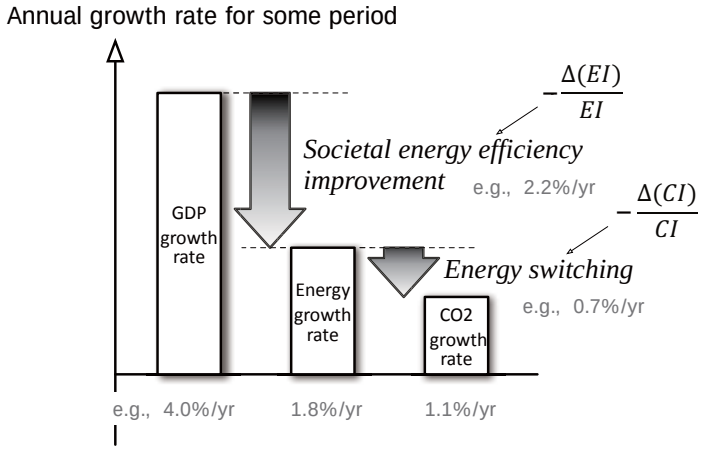



**Figure 14: Image of a factor analysis of energy related-$CO_2$ over a determined period**

In addition, there is a simple and easy-to-understand relationship between the rate of change of each factor (energy intensity $EI$, and carbon intensity $CI$) and the rate of change of GDP, energy use and $CO_2$ as shown in the above Figure:

- (The rate of change of $EI$) is
  (the rate of change of energy use) *minus* (the rate of change of GDP); and
- (The rate of change of $CI$) is
  (the rate of change of $CO_2$ emissions) *minus* (the rate of change of energy use).

It should be noted that the form of "energy" used here depends on the purpose of the analysis, whether to use the primary energy on the supply side or the final energy on the demand side. This proposal argues that it is better to use the "final energy consumption" as the default.

The reason for this is that future use of renewable energy in the power sector is expected to expand greatly, thereby switching the power supply source from thermal power generation to renewable energy generation. It is straightforward to understand that this shift should be considered as the "decarbonisation of energy mix" only (not energy efficiency improvement).[26]

[26] This is due to basic rules associated with energy statistics. In the case of thermal power generation, the electricity amount is usually only around 1/3 of the energy amount of the fuel. On the other hand, in the case of renewable power generation, the generated electric energy itself is the energy amount. Therefore, if we adopt the approach to conduct estimations based on the supply of primary energy, a large part of the energy conversion of simple "thermal power generation → renewable energy generation" will be counted as "energy efficiency improvement". On the other hand, if counting is conducted based on final energy consumption, sources of electricity generation are compared with the same amount of electricity and therefore are only counted as an energy shift towards decarbonisation, matched with appropriate recognition.

## 4.3. Considerations of the analysis

One of the advantages of this factor analysis method is that it can be applied not only to past trends but also to future estimation in the same way.

The following steps can be applied:

1. Draw a graph of emissions *etc*. during the time frame intended (e.g., 1965–now).
2. Divide it into several characteristic periods sandwiched between milestone-event years (e.g., oil crisis, oil price stagnation, Lehman shock, natural disasters).
3. In each section, analyse the factors to understand what the driving forces were for that period.
4. Then, analyse causes for these driving forces.
5. The same factor analysis should be conducted for an extended timeframe to include the period from now (latest year) to the target year with respect to the target value of $CO_2$ (and that of BaU scenario).
6. Compare these results with a factor analysis of past trends and analyse whether there is a period with the same performance in the past, or how much performance improvement is necessary in comparison with a certain period in the past. This will make it possible to have an accurate (quantitative) image of the degree of difficulty of achieving the target in light of past experiences.

This could serve as the basis of understanding the effects of current policies and measures, and to consider the quantitative image of requirements of strengthened measures in the near future.

A key advantage of this method is that data is generally easily available, even for developing countries with limited statistical capacity. Required statistical data are limited to annual GDP, final energy consumption, and energy-related $CO_2$ emissions. A spreadsheet can be used to calculate the average change rate (annual rate) in each period. Thus, the level of difficulty of this analysis is low. Of course, in order to properly analyse the deeper reasons of the characteristics of each period, further information including other statistical data (e.g., statistics of petroleum product prices) would be needed.

## 4.4. Meaning of the analysis

This method of analysing NDC mitigation targets can be used to understand the possible level of difficulty in achieving them in view of past experiences.

The method also presents an effective tool for understanding and judging the implications of the targets and BaU scenarios developed by others (often provided as the modelling calculation as a "black box").

The European Environment Agency conducts GHG emissions trend analysis of EU countries using this factor analysis method (although this analysis is on the primary energy supply side) (EEA, 2017).

The Government of Japan also analyses factors by disaggregating them further by sector when new annual energy consumption and $CO_2$ emissions statistical data are announced.

In addition, voluntary target setting and action plans carried out by industry, such as the Commitment to a Low Carbon Society coordinated by Nippon Keidanren (Japan Business Federation), requires each industry sector association to publish its annual report with a template to include the factor analysis.[27] This practice has continued for several years (Japan Business Federation, 2018 and older; METI 2015, 2018) (see Figure 4 and Table 3).

Performing such analysis on its own will provide a base from which those in charge of reporting can pursue questions, obtain a more correct understanding and make more appropriate decisions in the future. In other words, it will serve as an effective capacity development exercise.

Moreover, because the NDC formulation and communication—as well as preparation and biennial progress reporting—can be burdensome for each Party, international systems and rules should be designed so that they will be useful for the country itself, not merely for international transparency.

## 5. TRACKING THE PROGRESS OF EACH MEASURE

Progress resulting from individual policies and measures as well as other programmes, rather than economy-wide emissions, may vary depending on the types of measures.

Generally speaking, important points for consideration in policies, measures, and programmes are the following:

- "Visualising" progress;

[27] This way of thinking is not much different from that of a country. The difference lies in the fact that the amount of activity (or output) driving emissions refers not to GDP but the activity level indicator considered most suitable for the industry in question. See Figure 4 for aggregated one across industrial sectors.

- Designing its PDCA-cycle; and
- Identification of a key indicator, KPIs, and management of its progress.

For any specific domestic policy or measure, the above points should be introduced. And especially for crucial ones such as those described in 3.5. above, it is preferable to conduct international assessment in line with the system put forward by the Transparency Framework.

Accordingly, it is important to introduce a process such as:

(1) To better communicate the effects or progress of specific policies and measures, select the most appropriate and essential quantifying indexes[28];

(2) For immediate performance and target value, set an index such as Target Index mentioned in 5.3.1.;

(3) Create a system to implement the PDCA cycle for said policies and measures; and

(4) Enable the country to annually modify its track both for carrying out its NDC and improving performance.

Conducting the above processes at multiple levels, and following the PDCA cycle in this way, serves as an effective approach.

For example, at the national level, there is an economy-wide PDCA-cycle, which consists of reports from sub-PDCA-cycles of each ministry and agency. Furthermore, the PDCA-cycle for each policy and measure of each ministry and agency requires reporting on the PDCA-cycle of the ministry and agency as a whole. If necessary, "**A** (Adjustment)" of a relevant PDCA-cycle must involve the PDCA-cycle at the higher level.

As described previously in 2.3., the PDCA-cycle should assign the original purpose of actions outlined in each PDCA-cycle as the highest priority. In this way, elements related to GHG (GHG MRV) can be calculated in a deliberate way.

[28] Normally, several types of key indexes, or KPIs, are required for assessment. This means that, by tracking several types of indexes, one can properly understand the status of such policies and measures. This Report assesses progress by utilizing one typical index, underlining the importance of simplicity. Conducting similar assessment with multiple types of KPIs is recommended.

# CHAPTER 6

# Proposal on Items to be Specified in the "NDC Guidance"


Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/2dec.html)

# Chapter 6

# Proposal on Items to be Specified in the NDC Guidance

A set of proposals for the description items on mitigation, namely agenda item 3(b) of the APA (on NDC Guidance) is provided for rule-making of the Paris Agreement.

The main part is analytical guidance and the relevant templates for NDCs using the technical tools as shown in Chapter 5.

This Chapter is linked to the proposal on Reporting Guidelines of the Transparency Framework specifically with regard to tracking progress of NDCs (Chapter 7).

# 1. CATEGORISATION OF CURRENT NDC MITIGATION TARGETS

Currently, 169 Parties have submitted their first NDC1 (192 countries[29] have submitted INDCs, but some have not submitted their NDC1).

The current mitigation targets of NDC1 set by respective countries are categorised into various types with the following components and combinations thereof:

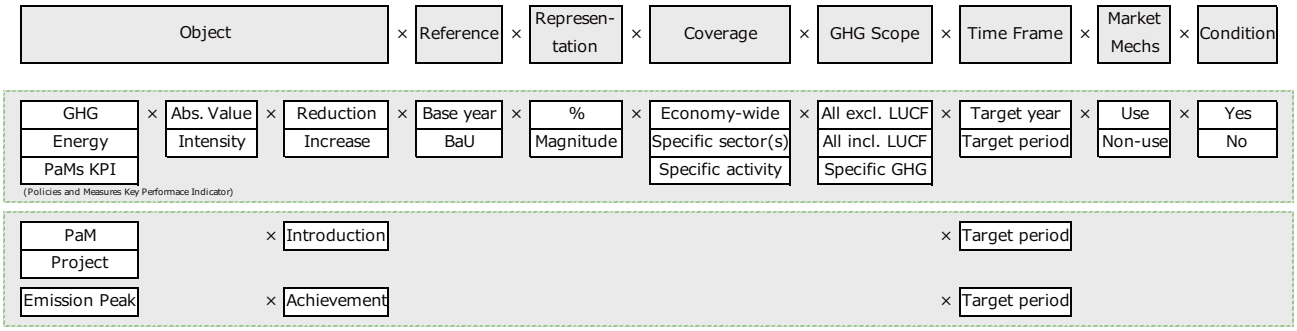
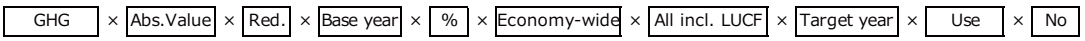


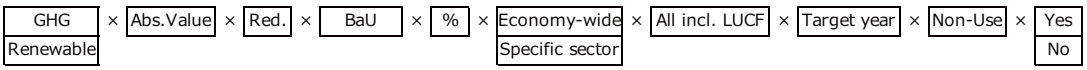

**Figure 15: Types and components of current NDC mitigation targets** (re-posted)

PaMs KPI is a type of target where specific policies and measures are taken, and the performance target is set to some kind of Key Performance Indicator (KPI), such as the amount of renewable energy introduced, energy saving standards, amount of energy efficient equipment installed, forest cover area, *etc.*

In the case of developed countries, the following economy-wide absolute emission reduction target and other similar target types are communicated in most cases:




In the case of developing countries, diverse types of (co-existing) targets (where two tiers show that several different targets co-exist) can be seen.




[29] 165 INDCs in 164 countries + EU (28 countries) were submitted. For NDCs, 168 countries + the EU have submitted 141 NDCs 1 (where the EU itself and the 28 EU member countries have submitted the same INDC/NDC as a Member State) (as of April 18, 2018). Many countries converted the INDC to the NDC1 with little amendment.

Many countries selected the type of target set in "the gap between the 'as-is' scenario, often called the BaU or Baseline" as an overall target. However, there are not many NDCs that clearly explain how BaU or Baseline is defined.

Under the Paris Agreement, developing countries are encouraged over time to move towards an economy-wide target. On the other hand, at present, many LDCs and SIDS have listed NDCs to implement specific policies, measures and projects without specifying quantified targets.

Each country is also encouraged to raise its level of ambition, so in the near future, there will no longer be any NDC mitigation targets that only declare the introduction of specific policies, measures and projects; rather, all countries will need to develop some quantitative targets.

This paper does not cover the NDC[30] of simply implementing specific policy measures and projects without specific quantified targets; however, those that have some quantitative targets (i.e., quantitative target setting on some KPI of specific policies and measures) are included.

## 2. REQUIREMENTS AND CONSIDERATIONS ON RULES FOR NDC COMMUNICATION

In the Paris Agreement (Article 4) and COP21 Decision requests the Ad-hoc Working Group on the Paris Agreement to develop guidance on features of NDCs to be communicated by countries (see Annex 1). This report proposes that such guidance should be developed based on the following points:

- Information contained in the communication of the NDC should aim for transparency, accuracy, completeness, and comparability, with the aim of being understood correctly;
- Quantitative information may include a reference point (base year, *etc.*), time frame, sector scope and GHG coverage, planning process, conditions and methodological approach;
- Each country needs to ensure methodological consistency with respect to baselines *etc.* at both the NDC communication and implementation stage; and
- The NDC should include all GHG emissions and absorption by default, and it should indicate the reasons if certain parts are not included.

[30] It is possible that this type of 'target' could be effectively included in the NDC Guidance (along with other types). In this case, it is easy to gauge whether the target has been achieved, as it is possible to provide a binary judgement of "yes or no" after the fact.

The NDC Guidance, to be adopted at COP24, should specify the accompanying explanatory information that should be included in the NDC, such as "quantitative and/or methodological information" which is mainly described as an "explanation of each component that constitutes the NDC mitigation target" as shown in Figure 13.

To ensure this is achieved, it is necessary to look at how to represent the following quantitative and non-quantitative information in an international set of rules (i.e., as guidance), while respecting the sovereignty of each country.

- Baseline (or BaU) scenario setting methodology for future outlooks (if applicable);
- Well-defined (i.e., without being arbitrary) description of the NDC mitigation target itself;
- Appropriate self-analysis and method to explain how the Party plans to achieve its NDC mitigation target, and its application;
- Method to maintain comparability (versus own country's past trend, as well as other countries);
- Key performance indicators (KPIs) and indicators that can be benchmarks (various intensities, *etc*.) and the related assessment method;
- Procedures to adjust course, including any indicators which may trigger policy changes;
- *Ex post* evaluation of the previous 5-year period performance (and from the previous biennial national report); and
- Relationship between the intermediate and final targets within the timeframe.[31]

Although not aimed directly at the NDC target, each country should strive to formulate and communicate its own long-term (mid-century) low-GHG emission development strategy in addition to the NDC (PA Article 4, Para. 19). Generally, NDCs tend to be relatively short-term (5 to 15 years), so in the course of formulating this long-term low-GHG development strategy, it is desirable to consider policies that require a long-term (at least several decades) perspective and reflect this (e.g., stable grid system with rich renewable energies connected) in the NDC. Related strategies might include power plant installation, technology development, public transport and urban planning.

[31] For example, in NDC2 that should be communicated in 2025, the year 2035 may be designated as the target year, but at the same time, there is also the possibility that 2030—the target within the time frame of NDC1—may be required to be described as an intermediate target year. In such case, the quantitative description element of the intermediate target is the same as the final target.

# 3. PROPOSAL OF INFORMATION ITEMS RELATED TO THE NDC MITIGATION TARGET

In most cases, the NDC mitigation targets consist of several components as shown in Figure 16. The type of target chosen is a voluntary matter for each country, however this Report proposes considering methodological requirements to ensure targets are well-defined, as well as adding non-methodological elements set out in previous chapters, with a view to list all relevant information that should be included in the NDC.

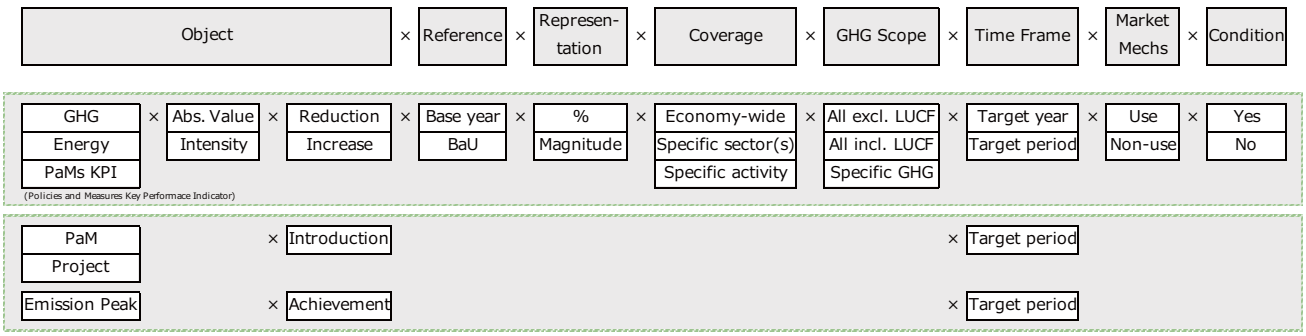



**Figure 16: Types and elements of current NDC mitigation target** (re-posted)

In Figure 16, if the base year is different from the latest year of data availability at the time of NDC commutation, proposals from the previous section should be followed, adjusting the base and target value and setting the latest year above as the adjusted base year (to be shown together). Below, the base and target values are regarded as those adjusted.

The necessary information for each of the above components to express the NDC mitigation target in a well-defined manner is as follows:

**Table 5: Proposal for necessary information to be included in a NDC mitigation target (Methodological items A)**

| Item | Proposed Required Information | Explanation |
|---|---|---|
| Object of the Target | It should be specified what the Party wants to target (*i.e.*, definition of the indicator for the target).<br>The physical unit should be clarified for both absolute level target and intensity target. | Recognising the difference in definitions (e.g., difference between primary energy supply and consumption).<br>Should be expressed using statistics. |

| | | |
|---|---|---|
| | It is also necessary to explicitly indicate whether it is a type of target aiming for reduction or increase. | Necessary to recognise the difference between the concept of flow and stock (e.g., annual introduction amount (flow) vs. operating amount (stock)) |
| Reference and its Quantitative Representation | Base year case:<br>Calendar year or fiscal year should be specified.<br>If the original base year is not "the latest data-available year at the time of NDC communication", adjustment is required. Then the adjusted base and target level should be specified in parallel.<br>BaU (or Baseline) scenario case:<br>• BaU scenario concept [Relationship with existing development plan, GDP growth rate assumption, energy mix assumption, various assumptions that affect GHG emissions].<br>• Whether the quantitative values up to the target year (or target period) are decided beforehand. In the case that it is not fixed, the mathematical formula of how to calculate the value *ex post* should be provided.<br>• Reference value of every year until the target year (if it is decided beforehand, its quantitative value, or estimated value if it is decided posteriorly).<br>In both cases, the table of values and graphs of the followings should be specified:<br>• (Absolute amount; Percentage), | Example of BaU scenario:<br>The BaU scenario was extended to the target year based on the current 5-year development plan. GDP is the same annual rate as planned 5%/yr (2020–2030). Energy mix shall be maintained for 2018 years.<br>For the value of the BaU scenario, there are cases where the value is fixed in advance,<br>OR the way of thinking (calculation method) is fixed but the value will be determined afterwards.<br>In the latter case, GHG emissions are calculated from GDP growth rate, for example.<br>In both cases, however, it is necessary to specify the annual value (estimated value for the latter case). This is necessary when evaluating progress.<br>If the country's target will shift to the absolute emission reduction target in the future, it is desirable that the value |

| | | |
|---|---|---|
| | • (Absolute amount of reduction or growth; Percentage of reduction or growth) | of BaU be decided beforehand. |
| Coverage | There should be specific description on whether coverage of the target is economy-wide, for specific sector(s), or for specific activity(ies). | Where additional conditions such as geographical coverage are included, it should also be specified.<br>The coverage related to LULUCF sector is handled in the GHG scope. |
| GHG Scope | When targeting or removing some specific GHGs, the scope must be designated.<br>The LULUCF sector is treated here. Also, it needs a description of whether the LULUCF sector is currently in net emissions or sink. | There may be cases where two types of targets are set, i.e., inclusion of LULUCF sector or not. |
| Time Frame | Target year (single year) or target period (multiple years) should be designated.<br>If multiple target years[9] are specified, all other elements in each should be specified. | In the Guidelines, it is desirable to specify a common target year or target period for all Parties. |
| Relationship between Final and Intermediate Targets | In cases where there is an intermediate target and final target, their relationship should be specified. | See footnote 31. |
| Use of Market Mechanism | It should be designated whether to use domestic and/or international emission reduction credits and/or allowances generated by some market mechanism to achieve targets.<br>If so, the name of the market mechanism needs and conditions (if any) to be specified. | On the other hand—from the viewpoint of avoiding double counting— in order to achieve the target by use of domestic credits, it is necessary to add the amount to the actual amount of domestic emissions to assess whether the target is |

| | | |
|---|---|---|
| | | met.[32] |
| Conditions | When setting a condition on a target, the condition is defined so as not to be arbitrary.<br>Particularly in the case of support from developed countries, quantitative description as well as the type of support could meet the conditions should be described. It also describes how to handle cases where partial filling is done. | When formulating a conditional target, the difference from the case without the condition was taken into consideration, and the contribution should have been estimated in some way.<br>This should be stated as objectively as possible. Specific descriptions are optimal.[33] |

Note that when multiple targets are included in one NDC (in the case of multiple target years and in the case of multiple targets), a description of necessary information is required for each target.

In addition, the following information should also be added to NDC's necessary information to grasp the current situation and check the progress:

[32] Emission allowances or emission reduction credits generated in the country can be used outside the country (*i.e.*, the amount can be regarded as a reduction in another country). As such, setting the rule so as not to count the amount of reductions from the beginning can prevent the risk of double counting. If used domestically, not overseas, specifying "use of market mechanism" can allow the country to use such a reduction in the target accounting by balancing, which presents no issue. If there is no possibility of credits used outside of the country from the beginning, the country can only specify emissions credits from abroad and whether such emission reduction credits will be used.

In the case of the EU emissions trading system (ETS) participating countries, there should be no issue with following this approach. On the other hand, considering that the EU ETS covers region-wide sectors (not national-scale sectors) in EU's climate policy, a different treatment without overlap could be possible, such that:

> EU ETS covered sector as a whole is regarded like a Party to the Paris Agreement in addition to each EU Member State which covers only non-ETS sector of the country.

This may be consistent that the EU itself is a Party to the UNFCCC and the Paris Agreement in parallel with its Member States (although normal country-wise treatment is needed for non-EU countries participating the EU ETS). However, the treatment may depend on a higher decision on the treatment of EU and its Member States related to the NDC (which is common for all EU Member States).

[33] Once the effectiveness of a specific support is estimated, it can be the basis for discussion with financial donors as well. On the other hand, if this remains only conceptual, the potential of obtaining actual support is low.

**Table 6: Necessary information to be included in NDC mitigation targets (Methodological items B)**

| Item | Required Information | Explanation |
|---|---|---|
| Status of the Latest Year | With regard to adjusted base year (the latest data-available year used in NDC communication), the following data and information should be specified:<br>• Value of each target and its background information. | Based on this, the progress situation will be assessed. |
| Graph | Regarding each target, including a trend record from the past (if possible before 1990 (prior to 1973 is preferable for developed countries), if there is no data, 2000 onward trend is chosen), a graph continuously up to the target year should be drawn. The latest year to the (intermediate, if any) target year, should be connected with a straight line, by default.<br>If it is not a target relating to GHG emissions, a graph of economy-wide GHG emissions is also added (from the past to the target year above).<br>There needs to be a description of the interpretation of graphs for milestone years and for the periods categorised by them, (consistent with the results of factor analysis below). | In the case of deviation target from BaU, there are cases where it is not linear.<br>In the case of targets for indicators different from GHG emissions (*e.g.*, some intensity), it is easier to grasp the relationship by also including a graph of GHG emissions.<br>The vertical axis should be taken as starting from zero (to avoid misunder-standing). |
| Factor Analysis | In accordance with the above graph, factor analysis (focus on energy-related $CO_2$) continuously connected from past trends to the target year should be undertaken, (if BaU is applied to describe in the definition of the target, the BaU scenario should be analysed as well). Relevant | See explanation in Chapter 5.<br>Analysis by connecting the past to the future can ensure that country officials in charge can deepen their understanding of the |

| | | |
|---|---|---|
| | self-analysis should also be carried out on the degree of difficulty to attain the target. | current situation and target. |
| Post evaluation from previous 5-year period and the latest biennial reporting | *Ex post* evaluation analysis of the results of the latest cycles regarding the 5-year cycle and the 2-year cycle should be described. This could be linked to the above-mentioned factor analysis. | Post-evaluation analysis focusing on the most recent cycles.<br>In particular, if it did not come up as expected, consider and analyse the reasons and describe relevant countermeasures. |
| Scenario Analysis | If possible, formulate the "Current Measures Scenario (CMS)" and "Planned Measures Scenario (PMS)" and compare with the scenario to meet the NDC target (NTS).<br>In addition to the explanation and interpretation of each scenario, consider and describe the implications of the comparison analysis on the potential to achieve the target. | This part is relevant to the scenario analysis outlined in the projection section of reports under the current transparency arrangement.<br>For key uncertainties, sensitivity analyses are encouraged. |
| Additional Information | In addition, any additional key information should be specified. Key information can be referenced in taking countermeasures toward achieving NDC mitigation target(s). | Considering "useful" information is important when enacting countermeasures in the country.<br>Considering what information is important for each target is a valuable exercise. |

In addition to the methodology, the information to be described in NDC includes the following:

**Table 7: Necessary information to be included in an NDC mitigation target (Non-methodological items)**

| Item | Required Information | Explanation |
|---|---|---|
| Institutional Framework | With regard to NDC mitigation targets and associated action plans, | Climate change measures have |

| | | |
|---|---|---|
| | the following information is required:<br>• Ministries/Departments to formulate the NDC mitigation goal and the action plan,<br>• Ministries/Departments to implement the mitigation measures toward the target,<br>• Department for checking progress,<br>• Ministries/Departments that make decisions on the target,<br>• Method of inter-ministry coordination,<br>• Responsibilities, roles of each ministry and agency. | crosscutting nature.<br>Illustrate coordination, implementation, role sharing, decision-making, *etc*., across ministries and agencies. |
| Planning and Implementation Process | Information on the "**Plan**" part of PDCA-cycle:<br>• Description of how to draw up a blueprint to achieve the target,<br>• List of key measures (i.e., having large emission reductions) and estimation of their effect (and breakdown),<br>• Brief explanation of each key measure,<br>• Current status of key countermeasures [in progress (+ expansion expected);<br>or implementation is almost decided but not yet implemented;<br>or implementation is uncertain at the present time].<br>If necessary, supplementary explanatory materials can be attached (the same applies to the following). | It is required to explain as clearly as possible to avoid information gaps between responsible actors.<br>Conversely, if this cannot be explained, the effectiveness of measures to achieve the NDC target is uncertain.<br>It is also important to recognise what the key countermeasures are.<br>This information will also be included in the biennial reporting in updated form (along with progress situation). |
| Means of Implementation | Information on the "**Do**" part of PDCA-cycle:<br>• Implementing entities of key measures (policies, measures, | More explanation of key measures.<br>Recognition of what are the KPIs, and |

| | | |
|---|---|---|
| | programmes, actions, *etc.*),<br>• Track record of key countermeasures,<br>• KPIs and their monitoring and reporting system. | whether those are monitored is important. If no monitoring takes place, it is encouraged to do so. |
| Check | Information on the "**Check**" part of PDCA-cycle:<br>• System for checking the achievement rate of KPIs of key policies, measures and actions,<br>• System for grasping factors of success and failure,<br>• Implementation status. | Especially when it is not applied, it is desirable to introduce this process as a trigger.<br>Donors from developed countries should also actively support. |
| Adjustment | Information on the "**Act**" or "**Adjustment**" part of PDCA-cycle:<br>• Description of the trajectory adjustment process for key measures. If there is no such schedule and assumption, the planned schedule should be specified. | With respect to individual key countermeasures, it is contemplated that it will be procedurally guaranteed to analyse and adjust them, rather than leaving them as they are. |
| Viewpoint of GHG MRV | The above is not necessarily seen from the perspective of GHG emissions.<br>In addition, an explanation of what kind of procedure is taking place from the aspect of GHG MRV is encouraged. | GHG MRV should be implemented in embedded form in the PDCA process by KPIs (as an ancillary process) for the main purpose of the measures.<br>GHG reduction is calculated by a mathematical formula with several parameters. The formula should be designed so that parameters correspond with the KPIs for the measure. |

| | | |
|---|---|---|
| | | The project evaluation process itself can be used for the V (verification) part of the GHG MRV. |
| PDCA as a whole country | Description of the PDCA process of the whole NDC mitigation target and action plan of the country.<br>In particular, it should explain the method and system of trajectory adjustment and the explanation of possible triggering events. | It is desirable that a systematic PDCA process is included.<br>If not, this exercise is expected to make the country aware of preparing such intuitional arrangements. |
| Other noteworthy issue | Explanation of what should be noted regarding any changes from the previous biennial reporting | If any. |

# CHAPTER 7

# Proposal on Items to be Specified in the Transparency Framework


Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/12dec.html)

# Chapter 7

# Proposal on Items to be Specified in the Transparency Framework

A set of concrete proposals for mitigation aspects of the APA agenda item 6 (on Transparency Framework Guidelines) is provided.

Three pillars include the guidelines for reporting, the guidelines for review and the modalities and procedures of the framework.

The contents of the previous Chapters 4 and 5 are documented as the set of rules here.

This is to be linked to the NDC Guidance proposal (Chapter 6).

# 1. REQUIREMENTS AND CONSIDERATIONS ON RULES FOR REPORTING UNDER TRANSPARENCY FRAMEWORK

The central element of the Transparency Framework is the report and review of "progress on achieving the NDC mitigation target(s)" every two years, with the rules compiled in the form of guidelines[34]. As stated in COP Decision 1/CP.21, para. 31, this should be based on a report consistent with the contents of the communication of the NDC itself every five years.

In the Paris Agreement (Article 13) and the COP21 decision (see Annex 2), the points that should be considered regarding the contents of the reporting under the Transparency Framework for Action (2-year cycle) are as follows:

- In the NDC progress part of the reporting Guidelines for the Transparency Framework for Action, transparency, accuracy, completeness, consistency, comparability, *etc.* are emphasised, consistent with the NDC formulation and communication.
- In particular, it is necessary to ensure the consistency of the methodology used in the NDC communication and the methodology used in the NDC progress report.

As concepts to be realised within these Guidelines, consistency and comparability are especially important.

# 2. INFORMATION ITEMS RELATED TO THE REPORTING OF PROGRESS TO ACHIEVE NDC TARGET

In the previous chapter, this report proposed items and necessary information that should be included in the report of the mitigation part of the NDC.

This Chapter proposes that information relating to progress of NDC mitigation target(s) each country is responsible for reporting every two years should include specified contents.

[34] Generally, guidelines are regarded as a more enforceable document than guidance. Although the contents of the NDCs are voluntary, its communication is mandatory. In the Transparency Framework of the Paris Agreement, separate (but relevant) Guidelines are developed both in terms of reporting and review. In terms of operation, it is assumed that guidance and templates will be prepared under that (as in the current transparency arrangement).

Much of the information remains the same (in blue) as items and other necessary information as described in the NDC mitigation section (thereby ensuring consistency of the NDC between formulation and the implementation stages). Any differences or additional items are highlighted in **bold**.

**Table 8: Information to be included in the biennial reporting for progress toward the NDC target**

| Item | Required Information | Explanation |
|---|---|---|
| Object of the Target | Identical to NDC mitigation Chapter 6. | No additional explanation. |
| Reference and Its Quantitative Representation | Base year case:<br>Identical to NDC mitigation Chapter 6.<br>BaU (or Baseline) scenario case:<br>Identical to NDC mitigation Chapter 6.<br>**In addition, for parts where values are already fixed, specify them clearly.**<br>**Specify if pre-estimated values are modified based on new information.** | No additional explanation. |
| Coverage | Identical to NDC mitigation Chapter 6. | No additional explanation. |
| GHG Scope | Identical to NDC mitigation Chapter 6. | No additional explanation. |
| Time Frame | Identical to NDC mitigation Chapter 6. | No additional explanation. |
| Relationship between Final and Intermediate Targets | Identical to NDC mitigation Chapter 6. | No additional explanation. |
| Use of Market Mechanism | Identical to NDC mitigation Chapter 6. | No additional explanation. |
| Conditions | Identical to NDC mitigation Chapter 6.<br>**In addition, indicate if there is a specific change regarding the presence of new conditions.** | No additional explanation. |

| | | |
|---|---|---|
| Status of the Latest Year | **In addition to** the adjusted base year "the latest data-available year at NDC communication", **annual information up to the latest year at the time of reporting of bi-yearly reports should be specified.** | No additional explanation. |
| **Percentage Representing the Degree of Progress Towards Achieving the Target** | **The Target Index is defined to show the progress toward meeting the target (i.e., 0% for the adjusted base year level, and 100% for the target level) as situated in upper or lower side of the line (Target Trajectory)**<br>**It is also shown in the graph below to make it easy to understand.** | **It is possible to see progress at a glance (the Target Trajectory is above or below a straight line).**<br>**However, there are annual fluctuations in the progress, so it is better to review the trend over several years rather than focus only on the value of a single year.**<br>**When the indicator of the target is different from GHG, a graph of GHG emissions should also be included.** |
| Graph | Identical to NDC mitigation Chapter 6.<br>**In addition, the gap should be made clear between the assumption at the time of NDC reporting (straight line to the target value) and the record of the latest year at the time of reporting.** | |
| Factor Analysis | Identical to NDC mitigation Chapter 6.<br>**In addition, data should be updated, and there should be an explanation of how it has changed from previous analysis.** | No additional explanation. |
| Post evaluation from the latest biennial report | Identical to NDC mitigation Chapter 6. | No additional explanation. |
| Scenario Analysis | Identical to NDC mitigation Chapter 6.<br>**In addition, scenarios should be updated based on the latest information.** | This practice is intended to be a self-analysis aimed at achieving the target. |

| | | |
|---|---|---|
| Additional Information | Identical to NDC mitigation Chapter 6.<br>**Describe any additional information, if any.** | No additional explanation. |
| Institutional Framework | Identical to NDC mitigation Chapter 6.<br>**In the case of any significant reorganisation of ministries and/or agencies, roles before and after the change should be explained together to understand correctly which roles were transferred.** | No additional explanation. |
| Planning and Implementation Process | Identical to NDC mitigation Chapter 6.<br>**Special notes such as changes in progress should be shown, if any.** | No additional explanation. |
| Means of Implementation | Identical to NDC mitigation Chapter 6.<br>**Special notes such as changes in progress should be shown, if any.** | No additional explanation. |
| Check | Identical to NDC mitigation Chapter 6.<br>**Special notes such as the gap between KPIs values at the *ex ante* and *ex post* stages of monitoring should be shown.** | No additional explanation. |
| Adjustment | Identical to NDC mitigation Chapter 6.<br>**Special notes on any changes in progress, especially, how the adjustment process was conducted, should be shown.** | No additional explanation. |
| Viewpoint of GHG MRV | Identical to NDC mitigation Chapter 6.<br>**Special notes such as changes in progress should be shown, if any.** | No additional explanation. |

| | | |
|---|---|---|
| PDCA as a Whole Country | Identical to NDC mitigation Chapter 6.<br>**Special notes such as changes in progress, especially how the adjustment process was conducted, should be shown.** | No additional explanation. |
| New Noteworthy Matters | Identical to the NDC mitigation Chapter 6. | No additional explanation. |
| **Actions by Non-Central Government Actors** | **Describe notable actions by non-central governmental entities, *e.g.*, companies, local governments, NGOs, *etc*.** | **We see many active actions by non-governmental entities.**<br>**Notable actions should be described.** |
| **Analysis and Sharing Experience and Lessons** | **Describe lessons learned and experiences worth sharing with other countries.**<br>**As this is intended to be applied to other countries, self-analysis should be undertaken regarding conditions that resulted in either success or failure. This could be useful to minimise the future risk of failure.** | **It is important to analyse what lessons, if any, can be shared.**<br>**This is also intended for South-South cooperation among countries in similar situations.**<br>**Supplementary support by developed country donors are also relevant.** |

Much of this information overlaps with the contents of the NDC and the previous biennial national report. Therefore, from the second time onward, it is only necessary to describe the updated sections, thus minimising the administrative burden.

This presents a useful exercise for recognising and documenting how and why the NDC was updated, as well as the result. Support for developing countries from donors would be desirable, including the GEF's Capacity Building Initiative for Transparency (CBIT).

# 3. TECHNICAL EXPERT REVIEW AND FACILITATIVE, MULTILATERAL CONSIDERATION OF PROGRESS

The national reports submitted biennially for the Transparency Framework shall undergo a review by technical experts. Subjects of this review include:

- Progress information on the implementation/achievement of NDCs;
- Identifying the areas to be improved in the report of the country concerned; and
- Whether the report is in accordance with the guidelines (Considering the situation and capability of country concerned).

If a certain degree of comparability is ensured in the reporting, it is assumed that a highly objective review can be conducted.

Typically, an expert review is likely to be based on the following:

- The principal purpose is to determine whether the report and its contents are in accordance with the reporting guidelines.

However, the Report's recommendation is to use the expert review process as a forum for facilitation, where the country concerned is able to:

- Develop a subsequently improved report (i.e., enhancing the capabilities of those in charge of reporting).
- Conduct self-analysis on the report as well as additional analysis as needed
- Present expert opinions and suggestions on how to advance domestic measures.

Comparability can be enhanced when assessing the current status of reporting with past results of the same country, rather than making country-to-country comparison.

Under the current transparency arrangement, the main focus has been an examination of how to conduct country reviews in a consistent manner. Under the Paris Agreement, however, the range of reviewing countries will be widely expanded, bringing greater variation in terms of country-specific situations. Therefore, a review method that emphasises commonality may not provide fully meaningful effects. In considering current capacities of developing countries, an undue focus on completeness in reporting and review may lead to a greater rigidity in the system.

On the other hand, a fundamental principle of the Paris Agreement is facilitation. This suggests that the Agreement seeks to cultivate improvement, rather than condemn imperfection.

Accordingly, this Report stresses that countries should adopt an approach that focuses on ways to facilitate domestic activities, utilising the individual qualifications of review experts.

A stocktaking of relevant experiences among experts is therefore essential to identify what types of opinions and suggestions may be preferable. As mentioned previously, the sharing of national experiences and analysis of their applicability is likely to lead to a collection of valuable insights for consideration.

In the latest negotiation text, FCCC/APA/2018/L.2/Add.1, to be discussed in the next chapter, the followings items have been proposed as Objectives and Principles (p.92):

- Share good practices and lesson learned and to assist in identifying best practice examples.
- Facilitate improvement of reporting over time.
- Identify areas for improvement and facilitate their implementation.
- To be conducted in facilitative, non-intrusive, non-confrontational non-punitive manner, respectful of national sovereignty and avoid placing undue burden on Parties.
- Open and transparent, detail-oriented and consequential process, that is mindful of the respective national capabilities and circumstances of developing country Parties.
- To be a dialogue amongst the reviewers and national specialists and experts.
- Support country-driven strategies and actions to implement and achieve the country's NDC.

For a facilitative, multilateral consideration of progress to be effectively carried out following the expert review, a key consideration should be how to identify suggestions that benefit the country: this should be given equal or greater importance than the progress assessment.

# CHAPTER 8

# Comparisons between the Negotiation Text in May 2018


Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/29.nov.html)

# Chapter 8

# Comparisons between the Negotiation Text in May 2018

This Chapter seeks to conduct a comparison study with the latest "information note by co-facilitators", which serves as the basis of negotiations;

Although the current negotiation text includes a variety of views as possible options, it does not cover all the proposal items of this report.

As the current text allows for the addition of new proposals and items, introducing key opinions, such as the importance of PDCA-cycle put forward by this report, should be taken into consideration.

# 1. OUTLINE OF THE LATEST NEGOTIATION TEXT

The APA 1-5 held in Bonn from 30 April to 10 May, 2018, adopted FCCC/APA/2018/L.2/Add.1. This is the latest negotiation text of mid-term process of APA sessions with two more rounds remaining. Titled "Agenda items 3–8, Draft conclusions proposed by the Co-Chairs (Addendum)", it is the compilation of the Informal Notes which co-facilitators of each agenda item prepared and summarized in their own responsibilities.

This document does not necessarily provide the basis of the formal negotiation text, and there may be some additions during the future negotiation sessions. On the other hand, as future negotiation will take place with this document as its foundation, this Report analyses its contents and compares them with proposals set out in preceding chapters.

At present, the number of pages for each agenda item in these Informal Notes is 26 pages for agenda item 3 (NDC), and 67 pages for agenda item 5 (Transparency Framework).

## 1.1. APA agenda item 3: NDC Guidance

The structure is set out below:

*Introduction*

*I. Features of NDCs*

- *A. Identify and list existing features*
- *B. New/additional features*
- *C. Guidance/Elaboration on features*

*II. Information to facilitate clarity, transparency and understanding (ICTU)*

- *A. Objectives*
- *B. Capacity of developing countries*
- *C. Procedural elements*
- *D. Substantive elements [Section D1; Section D2]*

*III. Accounting for Parties' NDCs*

- *A. Understanding of accounting*
- *B. Objectives*
- *C. Capacity of developing countries*
- *D. Drawing from approaches under the Convention and the KP*

*E. Procedural elements*
*F. Specific elements [Section F1; Section F2]*
*Annex I*

The above item Ⅱ, ICTU is the focus of NDC Guidance, and indicates what types of information and methodologies should be described in the document such as information associated with mitigation targets.

The above item Ⅲ also relates to efforts regarding how to quantitatively express progress toward achieving targets *vis-a-vis* the Transparency Framework.

Both Ⅱ and Ⅲ are important because they have bearing on how developing countries can be enabled to carry out their NDCs (however, differentiating such requirements between developed and developing countries remains a politically contentious issue).

As NDCs afford a broader range of discretion to each country, guidance, rather than guidelines is adopted as a rulebook. In other words, the rulebook for NDCs is not likely be legally binding. Accordingly, any such rulebook under consideration needs to introduce some operational measures to ensure the requirements will be met as much as possible.

## 1.2. APA agenda item 5: Transparency Framework MPG

The structure is set out below:

*Part I –* ***Light revision of the Informal Note by the co-facilitators issued at APA 1.4***

*I. Relevant context and elements of relevant guidance*

*A. Overarching considerations and guiding principle*

*B. National inventory report on anthropogenic emissions by sources and removals by sinks of GHGs*

*C. Information necessary to track progress made in implementing and achieving its NDC under Article 4 of the PA*

*D. Information related to climate change impacts and adaptation under Article 7 of the PA, as appropriate*

*E. Information on financial, technology development and transfer and capacity-building support provided and mobilized under Articles 9–11 of the PA*

*F. Information on financial, technology transfer and capacity building*

*support needed and received under Articles 9–11 of the PA*

*G. Technical expert review*

*H. Facilitative, multilateral consideration of progress*

*Part II –* ***Compilation of tools by the co-facilitators on sections A to H "issues for discussion"***

***Input on other issues aside from those identified as "issues for discussion"***

This Report emphasises the importance of Section C related to progress assessment of NDC mitigation targets. The breakdown of Section C is set out below:

*C. Information necessary to track progress made in implementing and achieving its NDC under Article 4 of the PA*

C.1. Objectives and principles

C.2. National circumstances and institutional arrangements

C.3. Description of a Party's NDC under Article 4, including updates

C.4. Progress made in implementing and achieving its NDC under Article 4 to date; a) Indicators to track progress made in implementing its NDC under Article 4

C.5. Progress made in achievement of the Party's NDC under Article 4 for the target year/period; indicators to track progress made in achieving its NDC under Article 4

C.6. Mitigation policies and measures, actions, and plans, and other actions with mitigation co-benefits resulting from adaptation actions, related to the implementation and achievement of an NDC under Article 4, including effects (historical and expected), barriers and costs

C.7. Summary of greenhouse gas emissions and removals

C.8. Projections of greenhouse gas emissions and removals, as applicable

C.9. Information on Parties' accounting under Article 4, paragraphs 13 and 14

C.10. Information related to Article 6, as applicable

## 2. COMPARISON BETWEEN THE PROPOSAL

The contents of FCCC/APA/2018/L.2/Add.1 list various views and opinions of many

Parties, including mutually contradictive views and opinions.

At this point, it remains uncertain which specific elements will be adopted into the final rulebook. Here, let us analyse FCCC/APA/2018/L.2/Add.1, from the viewpoint of finding any argument in this report to be included in the document.

**Table 9: Examples of contents in the negotiation text related to the arguments of this Report**

| Major arguments in this report | Described in FCCC/APA/2018/L.2/Add.1 | | |
|---|---|---|---|
| | Examples | Agenda item 3 or 5 | Place |
| Well-defined mitigation targets | • Substantive elements (of NDCs)<br>• indicators and/or elements relevant for tracking progress of NDC<br>• accounting methodologies, approaches and assumptions<br>• conditions and assumptions relevant to the achievement of NDC | 3 | NDC, p.7–p.13<br>Transparency Framework, Description of the NDC and its update (p.69) |
| Contribute to NDC development | • Be a tool or reference document to assist Parties in preparing and communicating their NDCs in line with the PA and decision 1/CP.21 | 3 | Accounting for Parties' NDCs (p.16) |
| Simple, easy-to-understand, common quantitative method to assess progress | • Indicators used to track progress and to assess the attainment of the objective.<br>• A common tool for having NDC implementation progress being monitored, tracked, and aggregated<br>• Provide clear methodological approaches to estimate data<br>• Provide guidance and/or support on how to | 3<br>5 | Additional info on NDC target (p.11)<br>Accounting for Parties' NDCs (p.16)<br>Transparency Framework, Progress in implementing and achieving its NDC (p.69, |

| | | | |
|---|---|---|---|
| | undertake a quantitative assessment on the achievement of its NDC<br>• Information on relevant, appropriate/meaningful indicators for baseline year and reporting years until most recent reporting year, against which progress to the NDC will be tracked, and any updates to these, including definition of indicators, …<br>• Information on how the sectors, categories, gases and as relevant, pools, included in the NDC have been addressed in the reference, …<br>• Accounting or tracking balance as a structured summary of all relevant quantified components that were determined as being part of the NDC for the relevant reporting period for each year of the target period<br>• Final accounting balance as a structured summary of all relevant quantified components to assess the achievement of NDCS: … | | p.70)<br>Progress in achievement of NDC for target year, indicators to track progress (p.71) |
| Promote emission reduction activities of the subjected nation (Adopt PDCA). | • Enhance the implementation of the Convention and strengthen the global response to the threat of climate change<br>• To facilitate and promote effective implementation of the PA, including the transparency framework under Article 13 | 5 | Transparency Framework, Objectives (p.55)<br>Mitigation PaMs, actions, … (p.72) |

| | | | |
|---|---|---|---|
| | • Identify and periodically update policies and practices that encourage activities that lead to greater levels of anthropogenic GHG emissions than would otherwise occur | | |
| Integrate GHG MRV into PDCA cycle | – | | |
| Major policies and measures to achieve NDCs and their assessment | • Quantitatively estimated effects resulting from the mitigation component of their NDCs<br>• Information on domestic measures, including both existing and anticipated additional laws, plans and policies<br>• Qualitative assessment, and quantitative if possible, for the progress and achievements of key policies and measures<br>• For quantified mitigation actions, an estimate of their impact and underlying assumptions; for mitigation actions information on progress with implementation, cross-reference to the mitigation actions sub-heading, and indicators to monitor the progress.<br>• Description of mitigation actions and policies in the CTF could include, inter alia, but not limited to the following: …<br>• Quantified expected effect of PaMs including | 3<br>5 | Additional info onNDC mitigation target (p.11)<br>Transparency Framework, Progress in implementing and achieving its NDC (p.69, p.70)<br>Mitigation PaMs, actions, … (p.72) |

| | | | |
|---|---|---|---|
| | methodologies used<br>• Information on the monitoring and evaluation of relevant policies and measures | | |
| Focus on the benefits other than GHG reduction | • Potential climate benefits and co-benefits in other areas resulting from the implementation of the NDCs<br>• Description of policies and measures (or targets) relevant to achieving the Party's NDC which do not necessarily have climate change mitigation as their primary focus | 3<br>5 | Additional general info on NDC (p.11)<br>Transparency Framework, Mitigation PaMs, actions, … (p.72) |
| Make reporting process to self-exercises for capacity building | • Facilitate understanding of mitigation effects in the implementation and achievement of NDCs<br>• Provide a clear understanding of climate change action in the light of the objective of the Convention as set out in Article 2 of each, and to inform the global stocktake | 3<br>5 | Accounting for Parties' NDCs (p.16)<br>Transparency Framework, Info to track progress, objectives (p.67) |
| Self-analysis | • Gaps, constraints or barriers related to the implementation.<br>• Comparison between the projection and the NDC under Article 4, including narrative information on whether the Party is on track towards achieving its NDC under Article 4. | 5 | Transparency Framework, Mitigation PaMs, actions, … (p.72)<br>Projections (p.73) |
| Use future emissions scenario analysis to | • Use of projection-based baselines and/or reference levels, including coverage of policies and measures and | 3<br>5 | Additional info on different type target (p.12) |

| | | | |
|---|---|---|---|
| assess progress | projection methodology/model<br>• Policies and measures included/excluded in the baseline, and on what basis?<br>• Projected baseline, if relevant<br>• With existing measures, without measures and with additional measures with clear description (or Party's own definitions) with 5-year time frame (e.g. 2020, 2025, 2030) extending at least the target year of the current NDC, using CTF tables<br>• Quantitative information and historical emissions and removals from initial year to the most recent inventory, annually if feasible | | Transparency Framework, progress in implementing and achieving its NDC (p.70)<br>Projections (p.73) |
| Sharing experiences and learning | • Assist Parties' domestic preparation of their NDCs, facilitate the exchange of best practices among Parties …<br>• To facilitate sharing of best practice on green and low-carbon development among Parties<br>• Best practice, including policy innovation, pilots and demonstration, key projects and programs | 3<br>5 | ICTU: Objectives (p.6)<br>Transparency Framework, Objectives (p.55)<br>Mitigation PaMs, actions, … (p.72) |
| Integration of long term viewpoints | • Low carbon long-term development strategies<br>• Reflect a link to a Party's long-term strategy | 3 | New/additional features (p.5) |
| Set incentives for communication | • Incentive mechanisms should be established by the CMA to encourage and | 3 | ICTU: Capacity of developing countries (p.6) |

| | | | |
|---|---|---|---|
| | support developing country Parties to prepare, communicate and implement their NDC …<br>• Incentivising mechanisms to be established by the CMA to encourage and support developing country Parties to apply the guidance for accounting | | Accounting for Parties' NDCs: Capacity of developing countries (p.17) |

Based on the above discussion, we found that the current FCCC/APA/2018/L.2/Add.1 can be described as follows:

- There is a lack of clarity about whether the current reporting system necessarily will lead to the enhancement and improvement of domestic measures. Additionally, the importance of domestic policies and measures in the introduction and implementation of the PDCA cycle has not been fully recognised;
- There is no recognition of the integration of GHG MRV with the PDCA cycle;
- There is less awareness that the reporting process itself can or will be used as an effective capacity building exercise for countries and officials;
- There are no recommendations on the need for self-analysis on progress *etc.*;
- Practical methods to assess progresses toward the NDC mitigation targets are not assumed.

This chapter surveyed how elements of the negotiation text relate to the Report's asserted proposal. Conversely, Annex Ⅱ is devoted to explaining how the proposals outlined by this report can be reflected in the core elements of the negotiation text.

# CHAPTER 9

# The Way Forward

Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/29.nov.html)

# Chapter 9

# The Way Forward

This Chapter discusses other relevant issues and points concerning the proposals outlined in this report.

One key issue examined relates to the operation of the framework involving reporting/reviews of all the countries in the world.

This Chapter also considers a capacity building programme to support implementation of associated proposals.

In addition, several tools of support that are planned for preparation after COP 24 are discussed.

The Chapter also considers an approach to synchronize the Transparency Framework with the 5-year NDC communication cycle, differentiated from national reports.

Lastly, this Chapter asks the international community whether there is agreement with the concept as a useful message from this report to the international rule-making process.

# 1. OPERATION OF THE SCHEME

This Chapter begins with a question: is it possible to carry out full operation of the Paris Agreement involving all countries, in view of the currently proposed process of development and communication of NDCs across a 5-year cycle, and 2-year cycle of reporting and reviewing for the Transparency Framework?

First, with regard to the development and submission of NDCs, 192 Parties have already submitted their INDCs. Although some may argue that this was done because it was the first round of submission, others may consider this fact as evidence that Parties can do so without any prior experience. What is clear is that the 5-year reporting cycle will only be successful if there is sufficient political will, which was found in the INDC process.

Second, in relation to the current arrangement for transparency, 41 of 44 developed Parties (Annex I countries) have already submitted their seventh national communication and third biennial reports[35].Although there are some countries with delays in submission, the overall submission rate is high as it is mandatory.

On the other hand, the submission rate of developing countries was not so high for National Communications (NCs) and Biennial Update Reports (BURs). For National Communications, the submission rate has increased in recent years, yet only 48 countries— about one third of all developing countries— have submitted the third NCs (although some have submitted the fifth NCs). As for Biennial Update Reports (BURs), 41 countries have submitted the first BURs and 16 countries delivered the second BURs. Among 83 developing countries with mandatory BUR submissions, just more than half have submitted, while the submission rate of 70 Least Developed Countries (LDCs) and Small Island Developing States (SIDS) have been less than 10%.

Another major challenge relates to how to conduct the review of reports from nearly 200 countries. Currently, the review of reports from smaller countries is primarily conducted not through an in-country review but via a centralised review system, where reviewers gather in Bonn, Germany, and conduct said review for six days.

The transparency related section in the UNFCCC secretariat comprises one of the largest divisions of the UNFCCC at present. Nevertheless, for the full operation of this scheme, it will be necessary to considerably expand the current section. According to estimates of UNFCCC Secretariat expert, such expansion will require a budget of approximately USD10 million per year. In other words, effective operation of the Paris Agreement's crucially important framework is only possible on a budget of USD10

[35] As of 11 May 2018, with deadline for submission the end of 2017. Note that Turkey only submitted biennial reports.

million (noting that difficulties associated with management and operations are different matters altogether). As such, the framework can be seen as considerably low cost yet also highly cost effective.

Although processes to educate experts and approve qualifications have been implemented, it is necessary to expand such processes together with the scale of reviews. Most desirable would be to increase the frequency of visits and interviews as much as possible.

Ultimately, the most significant challenge will be how to build the capacity of developing countries so that they can develop and submit their reports once every two years.

The issue of developing sufficient support for such countries concerns working through GEF and other institutes. Currently there are several ways that developing countries can access support for preparing their reports, primarily through formal processes of the Convention, including:

- Capacity building programmes such as various reporting tools and workshops provided by CGE and others;
- GEF's financial and capacity building support;
- Tools and capacity building programmes provided through UNDP's and UNEP's Global Support Programme (GSP); and
- Support by international organisations and bilateral aid funded by developed countries.

Although such programmes have achieved a certain level of success, they are not entirely sufficient in themselves.

The Capacity Building Initiative for Transparency (CBIT) established by GEF, an operational body of the Convention's financial mechanism, has been designed to support capacity building under the Paris Agreement's Transparency Framework. With funds provided for this initiative, GEF Agencies (such as UNDP,) as well as other Executing Partners, hire consultants to implement the capacity building programme.

**Box 6 [GEF's support for capacity building]**

Global Environmental Facility (GEF) is one of operation entity of the Financial Mechanism of the UNFCCC and plays a highly important role in supporting the development and submission of various National Reports of developing countries.

For the development of National Communications (NCs), support amount is up to half a million dollars per nation, and for Biennial Update Reports (BURs), up to 352,000 dollars.

Additionally, Global Support Programme (GSP) by UNDP and UNEP is supported by GEF funding.

Developing countries can mobilise support for these programmes by submitting the proposals. At present, 21 programs have been approved.

Moreover, well-designed incentives, especially those including REDD+, are likely to enhance report submission rates. This has been demonstrated by the significant rise in the submission rate of Biennial Update Reports (BURs) when it became known that omitting voluntary information related to REDD+ could potentially reduce opportunities for result-based finance.

## 2. CAPACITY BUILDING PROGRAMME DESIGN

GEF's CBIT comprises two types: one which follows GEF's menu system, and another, tailored to each country's request for support.

GEF intends to develop guidance on the contents and methods of this capacity building programme after COP24, reflecting the contents of the guidance. It is assumed that the GEF Agency and its Executing Partners will design their own capacity building programmes based on such guidance.

The objective of this capacity building programme will be to:

- Strengthen national institutions for transparency-related activities in line with national priorities;
- Provide relevant tools, training and assistance for meeting the provisions stipulated in Article 13 of the Agreement; and
- Assist in the improvement of transparency over time.

Capacity building programmes include traditional classroom lectures, as well as exercise and brainstorming exercises aimed at enhancing knowledge and promoting a deeper understanding through various hands-on experiences. The latter can be thought of as a critical, core component of GEF's capacity building programmes.

In the pages that follow, this report proposes integrating several exercises and brainstorming ideas into capacity building programmes to implement some of the proposals considered in previous chapters. Recognising that doing so is contingent not only on the stated purpose of capacity building programmes, the expertise of implementing personnel and the number of people involved, the people targeted for such programmes, the number of available days, and specific priorities. This Report makes several suggestions as to how to carry out interventions accordingly.

For instance, exercises and brainstorming should be conducted following the lectures. If possible, it would be preferable to assemble several teams of a few people, encouraging such teams to participate with facilitators and/or tutors, who can guide the team, as necessary.

(a) Exercises of GHG MRV

Trainees will independently calculate of emission reductions of relevant sectors and/or project levels (using spreadsheet). Such exercises are not simply GHG MRV calculations, as participants are requested to reflect on such topics as "what are the subjects of KPIs?", "How to conduct monitoring", and "How to adopt these to the PDCA-cycle?"

(b) Methodologies for setting NDC mitigation targets

This exercise focuses on the theme of how to develop the NDC mitigation targets. Based on the types and methodologies adopted by trainee's home country for reaching NDC mitigation targets, this session engages participants in discussions such as, "What is the relationship of the NDC with national development plans as its basis?", "What is purpose of using models?", and "How to conduct scenario analysis?", among other questions, using NDCs of concerned countries.

(c) Self-analysis of NDC mitigation targets

This exercise addresses analytical methods used for graphing of past emission profiles. At the same time, it concerns applying such methods to NDCs to increasing understanding about their intended purposes. By conducting calculations through the application of factor analysis method using Kaya Identity, trainees are asked to consider reasons for prior emissions trajectories over various periods. And through quantitative methods, project the course of future NDC mitigation targets (as well as other scenarios, if available).

(d) Method and reporting to assess progress in NDCs

Trainees will be instructed about assessment methods for measuring progress toward NDC mitigation targets, in line with the two-year reporting cycle under the Transparency Framework. Participants will be encouraged to discuss PDCA methodologies and assess how to "adjust" the actions/plan in the likelihood of off the track.

(e) Coordination between ministries, agencies, and national institutions

Trainees will be requested to discuss effective options for coordinating the work of various ministries and agencies involved in addressing climate change as well as those that are not involved, based on their current institutional setup and prior experience. This will be conducted with a view to develop mutual understanding about the priorities of different government actors, and ways to foster cooperation between them.

(f) Design of policies, measures and programmes: self-analysis

Each team will be requested to design one or two policies and measures programme(s), as well as to analyse existing programmes. In so doing they will

discuss how to improve performance and explore how to implement the PDCA cycle.

(g) Sharing of good practices in policies, measures and programmes

The exercise will invite outside experts to discuss good practice examples regarding the implementation of policies and measures as well as provide analysis of such cases. Based on the trainees' own experiences, they will discuss, for example, whether such actions are applicable to trainee countries, how they might differ from their own context, and how to overcome such challenges.

(h) Reconfirming the outcome

Finally, each trainee will be invited to deliver a presentation on what they can share with their workplace upon their return and effectively perform following completion of the training programme. By documenting and presenting lessons learned from training and communicating how to apply such knowledge, trainees will be able to reinforce their knowledge. Trainees will be notified of the request for said presentation at the beginning of the training to keep motivation during the programme.

It is expected that trainees will be able to expand their capacity by way of these exercises.

## 3. PROPOSAL FOR REFLECTION ON INTERNATIONAL RULES AND PREPARATION OF TOOLS

There are two additional international negotiations scheduled for 2018, including one in September (Bangkok, Thailand), and another in December (Katowice, Poland). Presently, however, the negotiation has not yet reached a stage where options based on formal negotiation text can be synthesised.

In contrast to COP6 (Hague, Netherlands), which set out to determine the rules of the Kyoto Protocol, there do not appear any major political issues remaining for COP24, as negotiators have learned from previous experiences regarding the development of the rulebook (i.e., Marrakech Accords) for the Kyoto Protocol. As such, forging an agreement on the rulebook package of the Paris Agreement at COP 24 (Katowice) may not prove so difficult in comparison to the past.

In contrast, for the Transparency Framework, there are many items the Parties need to decide on. Therefore, even if COP 24 successfully adopts MPG for the Transparency Framework, effort will be required for the development of appropriate reporting templates and other tools for discussion at COP25 held in the following year.

Ultimately, it will be important to draw a line between what will be decided at Katowice

and what should be taken up during future negotiations.

At present, it is yet unclear which of the recommendations put forward by this Report can be integrated into NDC Guidance and/or the MPG of the Transparency Framework and to what degree. If it is possible to describe concrete contents of the rulebook, it may be possible to eliminate arbitrary contents, which would ultimately help to facilitate its introduction and operationalisation. However, this may be difficult to realise through actual negotiations. As such, it may be necessary to maintain some flexibility for future development. However, if the recommendations of this Report can be introduced into the rulebook as core principles, it will help to facilitate the integration into actual operational rules in due course.

Support tools to be prepared in advance of COP25 should include the followings:

- Guidance,
- Template,
- Check list,
- Manual,
- Guidebook.
- Capacity building materials.

Similarly, the rulebook will also need to be progressively refined in line with new lessons and experience.

Lastly, introducing a regular review process that examines the rulebook on a 5-year cycle may also increase its effectiveness.

## 4. MODALITIES AND TIMING/PERIODICITY OF THE NATIONAL REPORTS

COP21 decisions (as opposed to the Paris Agreement) dictate a 2-year cycle for the Transparency Framework. This process however, may ultimately only serve to 'reconfirm' the current 2-year cycle outlined in the transparency arrangement.

The existing "4-year cycle National Communication" and "2-year cycle reports" are defined such that the former is a full report and the latter is a shorter version. Such differentiation is not necessarily assumed for biennial reporting under the Paris Agreement (at least not under either the Paris Agreement or COP21 decisions). NDCs themselves are a type of national report, but their function differs from that of the existing full reporting system entitled National Communication.

One option is to adopt a rule that requires a 2-year cycle report of the Paris Agreement

and preparing a full report and shorter version alternately, which is the case of current arrangement. However, in this modality, the reporting cycle is not synchronised with the 5-year cycle of NDCs. Moreover, this current arrangement also makes it necessary to prepare NDC reports in the same year (every 10 years) that Parties must develop reports for the Transparency Framework, ultimately resulting in a heavier administrative burden.

In point of fact, the NDC following the 5-year cycle is not substantial in volume, but entails much effort as well as associated political concerns. For this reason, it would be preferable to synchronise the timing of progress monitoring in principle with that of NDCs.

Accordingly, this Report recommends modifying the process to check progress from a 2-year cycle to a 2-year + 3-year cycle, thereby arranging the Transparency Framework system in such a way that it is synchronised with the NDC 5-year cycle.

In this way, each Party would be expected to issue its NDC report once and progress reports twice in a 5-year period, slightly decreasing the frequency of reporting and reducing the associated work burden, in comparison with the required case of a 2-year cycle.

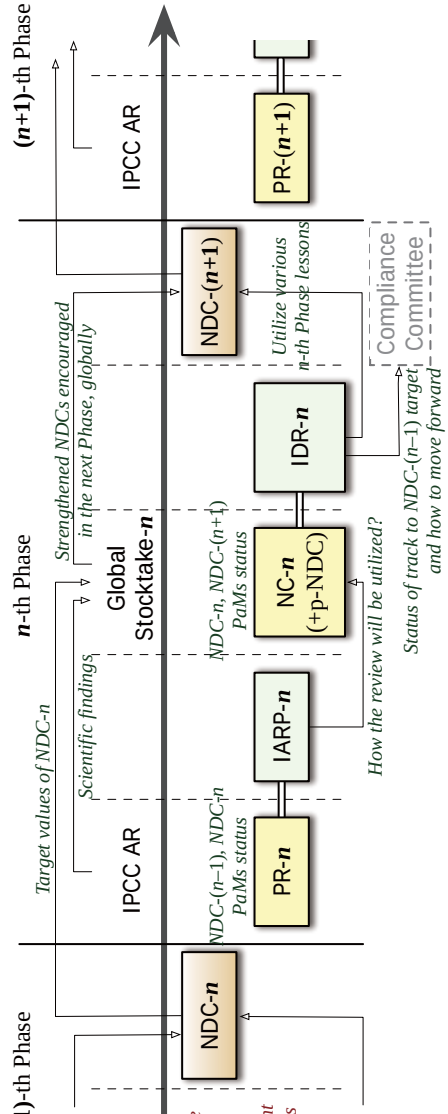
However, the Transparency Framework report must be prepared twice in a 5-year period, with a slightly different function, as shown by the example below in Figure 15.

The three national reports to be released within five-year period are:

- NDC;
- Progress Report (short version); and
- National Communication (full version).

In line with this, Progress Report and National Communication reviews are expected to take place in the year following their submission.

Ultimately, any modification of COP21 decisions may have unseen consequences, and are not desirable. Yet, as COP decisions are subject to change with institutions, such a proposal is worthy of consideration.




**Explanations**:

- The thin arrows show the *influence/input* flows.
- PR-*n* is the short report like BR/BUR focusing on the status of implementation of PaMs/actions and the explanation of the current NDC-*n* in comparison with previous NDC-(*n*–1).
- NC-*n* is the full report including the self analyses of the current NDC-*n* and possible additional efforts toward the following NDC-(*n*+1) as a p-NDC.
- Both PR and NC shall include the analyses from historical to projected emissions using the factor analysis.

**Legends**:

| | |
|---|---|
| IPCC AR: | Assessment Reports by IPCC |
| NDC-*n*: | Nationally Determined Contribution of the *n*-th Phase |
| PR: | Progress Report |
| IARP: | International Assessment and Review of the Progress |
| NC: | National Communication |
| IDR: | In-Depth Review |
| p-NDC: | Preliminary NDC for the next Phase |
| IPCC AR: | Assessment Reports of the IPCC |

**Global Stocktake-*n***: Assessment process whether global sum of NDCs-*n* is on the track to 2ºC goal.
**Transparency Framework**: Report/Review process whether domestic actions are on the track to the NDC.
**Compliance Committee**: Facilitate actions of each Party in relation to the possibility to achieve its NDC.

NDC/Mitigation related components of National Reports

| Track progress made in implementing and achieving the NDC [Art. 4] | Progress Report (PR-*n*) | National Communication (NC-*n*) |
|---|---|---|
| National circastances | (if essential event occurred) | Yes |
| Institutional arrangements and action plan | (if essential event occurred) | Yes (incl. relevant plans) |
| NDC (explanation) | Yes | Yes |
| NDC (self-analyses comparing with NDC-(n–1)) | Yes | – |
| NDC (self-analyses on possible enhancement of actions) | – | Yes |
| PaMs, programs, actions (status and self-analyses) | Yes (update part) | Yes (detailed) |
| Projection analyses (NDC, BaU, factor analysis from past) | Yes (update part) | Yes (detailed) |
| Other info (carbon credit trading, ...) | Yes (update part) | Yes |

**Figure 17: Proposal to Synchronize the Paris Agreement Instruments with 5-year Cycle**

# 5. MESSAGES FOR THE UPCOMING INTERNATIONAL NEGOTIATION PROCESS

Although the NDC introduced in the Paris Agreement is a new effort, it builds on the previous effort to develop INDCs, which 192 countries have already prepared and communicated. In this sense, previous efforts associated with such preparation can be considered successful in that each country gained valuable experience by doing so. Similarly, for the Transparency Framework, there are 24 years of experience[36] dating from the time of the initial submission of first national communications. Therefore, the question at hand is how to formulate desirable operational rule, making use of the experience and lessons learned so far.

This report has proposed contents for such rules, while fully acknowledging that the relevant international rules have been designed to ensure that the formulation and communication of NDC target(s) as well as progress reporting and associated review are useful for:

- Accurate recognition of the past, current and target scenarios; and
- Effective promotion for the implementation of countermeasures.

By designing these reporting systems as exercises for capacity development and providing a simple formula for concrete and effective implementation, this proposal intends to assist countries with developing a list of options on what is necessary for effective communication.

Undoubtedly, some countries may perceive such objectives as challenging. These countries might be concerned that such a proposal creates too many additional burdens. Moreover, such countries may be concerned about whether the recommendations contained here impede on their sovereignty.

However, the proposals outlined in this report are not necessarily advocating mandatory requirements. Developing countries may find it difficult to achieve completeness in many cases. However, by preparing the items contained in the templates, and by following the steps shown here, country officials are likely to enhance their capacity, resulting in climate measures with higher effectiveness. The author acknowledges that there may be other methods better suited to particular countries; as such, this report encourages any modifications or revisions necessary for making them suitable for specific countries.

[36] The author of this Report has been involved in in-depth reviews of all rounds from the first national report review. This Report is based on experience of more than 20 years.

Ultimately, this Report underlines the importance of increasing awareness about how to prepare a PDCA cycle for each action spelled out by the Paris Agreement. Taken together, this Report seeks to improve performance such that the main (non-GHG) objective of various actions can be achieved to a greater extent.

In sum, this report has been prepared in line with the view that the detailed rules under the Paris Agreement should be designed to trigger and drive domestic changes.

# ANNEXES

Photo by IISD/Kiara Worth (enb.iisd.org/climate/cop21/enb/12.dec.html)

# ANNEX 1: OUTLINE OF THE PARIS AGREEMENT AND THE COP 21 DECISION ON THE NDC AND TRANSPARENCY FRAMEWORK

## A. Items to be described in the NDC

The Paris Agreement (Article 4) and the COP21 decision specify the following regarding the content of the communication of the NDC (underline and abbreviation use by the author):

- In communicating their NDCs, all Parties shall provide the information necessary for clarity, transparency and understanding in accordance with decision 1/CP.21 and any relevant decisions of the CMA. (PA Article 4, Para. 8)

- In accounting for anthropogenic emissions and removals corresponding to their NDCs, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the CMA. (PA Article 4, Para. 13)

- (The COP) *Requests* the APA to develop further guidance on features of the NDCs for consideration and adoption by the CMA 1; (Decision 1/CP.21, para. 26)

- (The COP) *Agrees* that the information to be provided by Parties communicating their NDCs, in order to facilitate clarity, transparency and understanding, may include, as appropriate, inter alia, 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 GHG emissions and, as appropriate, removals, and how the Party considers that its NDC is fair and ambitious, in the light of its national circumstances, and how it contributes towards achieving the objective of the Convention as set out in its Article 2; (Decision 1/CP.21, para. 27)

- (The COP) *Requests* the APA to develop further guidance for the information to be provided by Parties in order to facilitate clarity, transparency and understanding of NDCs for consideration and adoption by the CMA 1; (Decision 1/CP.21, para. 28)

- (The COP) *Requests* the APA to elaborate, drawing from approaches established under the Convention and its related legal instruments as appropriate, guidance for accounting for Parties' NDCs, as referred to in Article 4, paragraph 13, of the

Agreement, for consideration and adoption by the CMA 1, which ensures that: (Decision 1/CP.21, para. 31)

(a) Parties account for anthropogenic emissions and removals in accordance with common methodologies and metrics assessed by the IPCC and adopted by the CMA;

(b) Parties ensure methodological consistency, including on baselines, between the communication and implementation of NDCs;

(c) Parties strive to include all categories of anthropogenic emissions or removals in their NDCs and, once a source, sink or activity is included, continue to include it;

(d) Parties shall provide an explanation of why any categories of anthropogenic emissions or removals are excluded;

- All Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2 taking into account their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances. (PA Article 4, Para. 19)

- (The COP) *Invites* Parties to communicate, by 2020, to the secretariat mid-century, long-term low GHG emission development strategies in accordance with Article 4, paragraph 19, of the Agreement, and *requests* the secretariat to publish on the UNFCCC website Parties' low greenhouse gas emission development strategies as communicated; (Decision 1/CP.21, para. 36)

The last two points on the long-term strategy are not targeting the NDC directly, but could have impacts on the NDC.

## B. Items to be described in the biennial national report on the progress of the NDC under the Transparency Framework

The central theme of the Transparency Framework is the report and review of the "NDC progress status". This, of course, must be based on the report content and consistent method of the NDC itself, as noted in Decision 1/CP.21, para. 31 on the previous page. The Paris Agreement (Article 13) and the COP21 decision specify the followings on the content of the biennial reporting in the Transparency Framework for action:

- The purpose of the framework for transparency of action is to provide a clear understanding of climate change action in the light of the objective of the Convention as set out in its Article 2, including clarity and tracking of progress towards achieving Parties' individual NDCs under Article 4, and Parties'

adaptation actions under Article 7, including good practices, priorities, needs and gaps, to inform the global stocktake under Article 14. (PA Article 13, Para. 5)

- Each Party shall regularly provide the following information: (PA Article 13, Para. 7)

  (b) Information necessary to track progress made in implementing and achieving its nationally determined contribution under Article 4.

- The CMA 1 shall, building on experience from the arrangements related to transparency under the Convention, and elaborating on the provisions in this Article, adopt common modalities, procedures and guidelines, as appropriate, for the transparency of action and support. (PA Article 13, Para. 13)

- (The COP) *Also requests* the APA in developing the recommendations for the modalities, procedures and guidelines referred to in paragraph 91 above to take into account, inter alia: (Decision 1/CP.21, para. 92)

  (a) The importance of facilitating improved reporting and transparency over time;

  (b) The need to provide flexibility to those developing country Parties that need it in the light of their capacities;

  (c) The need to promote transparency, accuracy, completeness, consistency, and comparability; …

- (The COP) *Requests* the APA, when developing modalities, procedures and guidelines referred to in paragraph 92 above, to consider, inter alia: (Decision 1/CP.21, para. 95)

  (a) The types of flexibility available to those developing countries that need it on the basis of their capacities;

  (b) The consistency between the methodology communicated in the NDC and the methodology for reporting on progress made towards achieving individual Parties' respective NDC; …

# ANNEX 2: INPUT TO THE APA NEGOTIATION TEXT

The following elements are possible inputs to the current negotiation text (Information note by co-facilitators; FCCC/APA/2018/L.2/Add.1) shown in Chapter 8. This Annex is from the perspective of the current text (while Chapter 8 is from this Report's perspective).

The following "Proposed elements" are not exhaustive; *i.e.*, additional to current text and focusing on the elements proposed in this Report.

## A. NDC Guidance (APA agenda item 3)

### *I. Features of NDCs*

#### B. New/additional features

[*Proposed elements*]

(1) Although the timeframe of the NDC is around 5–15 years, it should have and/or link to the longer vision and strategy which is specified in the long-term low-GHG development strategy (Decision 1/CP.21, para. 36).

(2) Since measures to halt climate change have several other objectives, notably specified by SDGs, the NDC should be designed to contribute to multi-purpose goals.

(3) Since many Parties share common challenges, cooperative and facilitative spirit as well as relevant arrangements should be strengthened.

(4) There should be a periodic revision process of the NDC guidance reflecting the accumulation of the experiences and lessons learned.

### *II. Information to facilitate clarity, transparency and understanding (ICTU)*

#### A. Objectives

[*Proposed elements*]

(1) ICTU should be aimed for each country to fully understand and analyse its own situation properly in order for decision-makers to develop domestic plans and implement policies and measures.

(2) The NDC mitigation target shall be well-defined with few ambiguities. ICTU

includes relevant information for its definition.

(3) Common analytical tools, especially a factor analysis, are encouraged to be used to prepare, understand and explain the NDC mitigation target in a transparent and comparable manner.

- For the factor analysis, a commonly agreed template should be developed for the Parties to use to analyse their energy-related $CO_2$ profiles including both historical trends and future projections.
- For the scenario analysis, Parties should develop and report three projected scenarios, *i.e.*, (1) current measure scenario (**CMS**), (2) planned measure scenario (**PMS**), and (3) NDC target scenario (**NTS**) for the timeframe of the NDC, if the NDC includes economy-wide target. If it does not include economy-wide targets, such scenario analysis is encouraged to do, possibly supported by developed countries. The scenario analysis should be accompanied by the factor analysis. The difference between NTS and CMS should be clarified with an explanation of how the Party intends to make up the difference by extension of existing measures and introduction of additional measures. It is encouraged to describe possible measures with their relevant information, such as the potential of GHG emission reductions, budget requirement, institutional arrangement and barrier identification, and how to remove it.

## B. Capacity of developing countries

[*Proposed elements*]

(1) The guidance aims at the progressive development of the developing country Parties' capacity to provide information with more clarity, transparency and facilitate understanding in a complete step-by-step manner.

(2) Together with those elements in the Transparency Framework, an incentivisation mechanism should be prepared to motivate developing country Parties to build their capacities for preparing better NDCs and reports of tracking the progress.

## C. Procedural elements

[Proposed *elements*]

(1) Every five years, the guidance of NDC should be reviewed by the CMA to revise a new one based on the experiences of the latest NDC as well as that of Transparency Framework.

### D. Substantive elements

[Proposed *elements*]

(Elements specified in Table 5, 6 and 7 of Chapter 6 are inserted with technical annex as shown in Chapter 5).

## *III. Accounting for Parties' NDCs*

### A. Understanding of accounting

[Proposed *elements*]

(1) Accounting for NDC means the methodological consistency between the NDC and its progress report, considering *ex ante* and *ex post* of parameters, *e.g.*, indicators, variables and assumptions, and the relevant reference scenario. For this purpose, the NDC mitigation target shall be well-defined with limited ambiguities and satisfactory documentation.

### B. Objectives

[Proposed *elements*]

(1) Methodologically well-defined NDC mitigation targets allows the Party to assess whether the target has been met, or whether a country is on track to meet the target.

### C. Capacity of developing countries

(Same as II. ICTU, above).

### E. Procedural elements

(Same as II. ICTU, above).

### F. Specific elements

[Proposed *elements*]

(1) For the European Union and its Member States, EU can choose a specific approach, such as:

EU ETS-covered sector as a whole is regarded as a Party to the Paris Agreement, in addition to each EU Member State which covers only non-ETS sector of the country.

(1) (Same as "Substantive elements" in II. ICTU above).

# B. Transparency Framework MPG (APA agenda item 5)

## *A. Overarching considerations and guiding principle*

### A.1. Objectives

[Proposed *elements*] (see Chapter 4.2)

(1) Strengthen transparency with enhanced comparability and consistency through quantification;

(2) Build the Party's capacity by self-analysis aimed at deeper understanding of actions;

(3) Trigger domestic actions to introduce a PDCA-cycle including GHG MRV aimed at enhancing performance;

(4) Promote sharing of experiences and lessons learned among Parties;

(5) Include the perspectives of future generations and over the long-term.

## *C. Information necessary to track progress made in implementing and achieving its NDC under Article 4 of the PA*

### C.1. Objectives and principles

[Proposed *elements*]

(1) Common analytical tools, including a factor analysis, tracking the progress tool, and scenario analysis, are encouraged to be used to prepare, understand and explain tracking the progress to achieve the NDC mitigation target in a transparent and comparable manner.

- For the factor analysis, a commonly agreed template should be developed for Parties to use to analyse their energy-related $CO_2$ profiles including both historical trends and future projections.
- For tracking of the progress tool, the target index should be defined and the progress assessed against it. Target Index" is set for Adjusted Base Year as 0%, and that for the target year when the target is achieved as 100%, linearly interpolating the two points as the "Target Trajectory".

  Progress in a given year (the most recent year specified in the biennial national report) is assessed against the "Target Trajectory", examining whether it is above or below the trajectory.
- For the scenario analysis, Parties should develop and report three

projected scenarios, *i.e.*, (1) current measure scenario (**CMS**), (2) planned measure scenario (**PMS**), and (3) NDC target scenario (**NTS**) for the timeframe of the NDC, if the NDC includes economy-wide target. If it does not include an economy-wide target an, such scenario analysis is encouraged to do, possibly supported by developed countries. The scenario analysis should be accompanied by the factor analysis. The difference between NTS and CMS should be clarified with an explanation of how the Party intends to make up the difference by extension of existing measures and introduction of additional measures. It is encouraged to describe possible measures with their relevant information, such as the potential of GHG emission reductions, budget requirement, institutional arrangements, and barrier identification and how to remove it.

[Proposed *elements*]

(Elements specified in Table 8 of Chapter 7 are inserted with technical annex as shown in Chapter 5, as well as Tables 5, 6 and 7, in addition to the following paragraphs).

(1) Requirement to identify key actions (PaMs, programmes, *etc*.) and explanation of each element of their PDCA cycle backed by historic trends, *etc*. Even if a PDCA-cycle is not implemented or only partially implemented by a Party for some action, nevertheless, certain key existing elements still could be described. Moreover, the absence of some elements should be noted, and Parties should be encouraged to consider the possible introduction of the missing elements.

(2) Requirement to provide available information for the GHG MRV incorporated in the PDCA cycle process of key actions, where "verification" could be a domestic review process of the performance of key actions.

(3) The chapter on "Experiences and lessons learned to be shared with other Parties" shall be included in the national report. It is strongly encouraged for Parties to share self-analyses and lessons learned with other countries in a similar situation—especially lessons related to the actions with PDCA-cycle components.

(4) The chapter on "Long-term standpoint and strategical approach" should be included to specify the outline of the long-term low GHG strategy as well as the institutional arrangement to include future generations' viewpoints into the strategy.

## *Modalities of the Transparency Framework*

[Proposed *elements*]

(Elements specified in Chapter 9.4 for synchronising to the NDC process with Figure 17).

(1) The cycle of the transparency framework is set as a 2-year + 3-year cycle, thereby arranging the framework system in such a way that it is synchronised with the NDC 5-year cycle. In this way, each Party shall issue its NDC report once and progress reports twice in a five-year period.

(2) The three national reports to be released within five-year period are:

- NDC;
- Progress Report (short version); and
- National Communication (full version).

In line with this, Progress Report and National Communication reviews are expected to take place in the year following their submission.

## *Procedures of the Transparency Framework*

[Proposed *elements*]

(1) The CMA requests the secretariat to prepare the guidance and templates of national reports with guides, Q&A and samples as living documents incorporating experiences and lessons learned supported by the CGE and the GEF. The initial version should be prepared by the 25$^{th}$ session of the Conference of the Parties.

# REFERENCES

# WEB URL OF THE UNFCCC SITES

| | |
|---|---|
| Paris Agreement, 1.CP/21 | – Outline and essence of the Paris Agreement:<br>https://unfccc.int/process/the-paris-agreement/what-is-the-paris-agreement<br>– Decision 1/CP.21 including the Paris Agreement and relevant COP Decisions:<br>https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf |
| National Reports and Review/ Assessment (Current Arrangements) | – National Reports (overview):<br>https://unfccc.int/topics/mitigation/workstreams/nationally-appropriate-mitigation-actions/national-reports<br>– National Communications and Biennial Reports by Annex I Parties:<br>https://unfccc.int/national-communications-and-biennial-reports<br>– The International Assessment and Review Process for Annex I Parties:<br>https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-reports--annex-i-parties/international-assessment-and-review<br>– National Reports from non-Annex I Parties<br>https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-non-annex-i-parties/national-reports-non-annex-i-parties<br>– International consultation and analysis for non-Annex I Parties:<br>https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/biennial-update-reportsand-international-consultation-and-analysis/international-consultation-and-analysis-process<br>– Reporting on national implementation and MRV:<br>https://unfccc.int/topics/mitigation/workstreams/measurement |

| | |
|---|---|
| | --reporting-and-verification<br>– MRV handbook for NAMA for developing countries<br>http://unfccc.int/files/national_reports/annex_i_natcom_/application/pdf/non-annex_i_mrv_handbook.pdf |
| Transparency Framework | – APA item 5 (transparency):<br>https://unfccc.int/process/bodies/subsidiary-bodies/ad-hoc-working-group-on-the-paris-agreement-apa/information-on-apa-agenda-item-5<br>– Informal Note by the Co-Facilitators<br>https://unfccc.int/sites/default/files/resource/l02a1.pdf |
| Training of Experts (Current Arrangements) | – Training Programmes for the Review of Information submitted by Annex I Parties:<br>https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/training-of-review-experts/training-programmes-for-the-review-of-information-submitted-by-annex-i-parties<br>– Training for the technical analysis of Biennial Update Reports:<br>https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-convention/training-review-experts<br>– CGE E NEtwork<br>http://www4.unfccc.int/sites/enet/SitePages/Home.aspx. |
| Guidelines (Current Arrangements) | – Guidelines for the preparation of National Communications:<br>https://unfccc.int/resource/docs/cop8/07a02.pdf<br>– Guidelines for BR and BUR, and Modalities and procedures for IAR and ICA:<br>https://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf<br>– Composition, modalities and procedures of the team of technical experts under international consultation and analysis:<br>https://unfccc.int/files/meetings/warsaw_nov_2013/decisions/application/pdf/cop19_tte_ica.pdf |
| NDCs | – Outline of the NDC:<br>https://unfccc.int/process/the-paris-agreement/nationally-determined-contributions-ndcs |

| | |
|---|---|
| | – NDC Registry:<br>http://unfccc.int/focus/ndc_registry/items/9433.php<br>http://www4.unfccc.int/ndcregistry/Pages/Home.aspx<br>– APA agenda item 3<br>https://unfccc.int/process/bodies/subsidiary-bodies/ad-hoc-working-group-on-the-paris-agreement-apa/information-on-apa-agenda-item-3<br>– Informal Note by the Co-Facilitators<br>https://unfccc.int/sites/default/files/resource/l02a1.pdf |
| INDCs | – INDC portal:<br>http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx<br>– Synthesis report on the aggregate effect of INDCs:<br>https://unfccc.int/process/the-paris-agreement/nationally-determined-contributions/synthesis-report-on-the-aggregate-effect-of-intended-nationally-determined-contributions |
| Paris Agreement Rule Making Process | – Overview of the work of the Conference of the Parties and the subsidiary and constituted bodies on the work programme under the Paris Agreement<br>https://unfccc.int/node/28798/#eq-3 |
| APA Submission Portal | – Submissions by Parties or groups of Parties on the APA (Ad-hoc Group on the Paris Agreement) agenda items are compiled here:<br>http://www4.unfccc.int/sites/SubmissionPortal/Pages/Home.aspx |
| Tasks arising from 1/CP.21 | – Tasks arising from 1/CP.21 with the relevant bodies and timelines:<br>http://unfccc.int/files/bodies/cop/application/pdf/overview_1cp21_tasks_.pdf<br>– Negotiation progress tracker:<br>https://unfccc.int/sites/default/files/resource/PA_Progress%20tracker%2020%20apr_rev.pdf |
| CDM information | – UNFCCC CDM: |

| | |
|---|---|
| | https://cdm.unfccc.int/<br>– UNEP RISO Centre CDM/JI Pipeline Analysis and Database:<br>http://gold.unepdtu.org/CDM&JIpipeline/index.htm<br>– IGES CDM/JI Database:<br>https://www.iges.or.jp/en/climate-energy/database.html |
| NAMAs | – Outline of NAMAs<br>https://unfccc.int/topics/mitigation/workstreams/nationally-appropriate-mitigation-actions<br>– Public NAMA Home (NAMAs seeking support/Information on support available):<br>http://www4.unfccc.int/sites/nama/SitePages/Home.aspx |

# PAPERS, BOOKS, REPORTS AND OTHER WEB URLS

Council on Energy, Environment & Water (CEEW), (2017) "CEEW Submission on Enhanced Transparency Framework",

https://unfccc.int/sites/default/files/974.pdf.

Dagnet, Y., *et al.*, (2017a) "Mapping the Linkages between the Transparency Framework and Other Provisions of the Paris Agreement", World Resources Institute (WRI), Project for Advancing Climate Transparency (PACT):

http://www.wri.org/publication/pact-linkages-transparency-framework.

Dagnet, Y., *et al.*, (2017b) "Designing the Enhanced Transparency Framework, Part 2: Review Under the Paris Agreement", World Resources Institute (WRI), Project for Advancing Climate Transparency (PACT):

http://www.wri.org/publication/pact-review-under-paris-agreement.

Deprez, A., *et al.* (2015) "Transparency and the Paris Agreement: driving ambitious action in the new climate regime", IDDRI Working Paper No. 03/15,

http://www.iddri.org/Publications/Collections/Idees-pour-le-debat/WP0315.pdf.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (2018), "Deciphering MRV, accounting and transparency for the post-Paris era",

https://www.transparency-partnership.net/documents-tools/deciphering-mrv-accounting-and-transparency-post-paris-era.

Elliott, C., *et al.*, (2017) "Designing the Enhanced Transparency Framework Part 1: Reporting under the Paris Agreement", World Resources Institute (WRI), Project for Advancing Climate Transparency (PACT):

http://www.wri.org/publication/pact-reporting-under-paris-agreement.

European Commission, Climate Action, EU ETS:

https://ec.europa.eu/clima/policies/ets_en.

Energy Conservation Center (2017 and older), Standard of the energy management (sample) (in Japanese):

https://www.eccj.or.jp/law06/com-judg/ (in Japanese),

https://www.asiaeec-col.eccj.or.jp/wpdata/wp-content/uploads/2018/03/energy_conservation_guidebook_for_factories.pdf (in Japanese),

https://www.asiaeec-col.eccj.or.jp/eec-policy-in-japan/ (in English),

https://www.asiaeec-col.eccj.or.jp/eec-handbook/ (in English).

European Environment Agency (2017) "Analysis of Key Trends and Drivers in Greenhouse Gas Emissions in the EU between 1990 and 2015",

https://www.eea.europa.eu/publications/analysis-of-key-trends-and.

Greenhouse Gas Management Institute, (2017) "Views on issues under agenda item 5: Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement"

https://unfccc.int/sites/default/files/923.pdf.

Höhne, N., Ellermann, C. and Fekete, H. (2014), "Process Guidance for Intended Nationally Determined Contributions (INDCs)" International Partnership on Mitigation and MRV,

https://www.transparency-partnership.net/documents-tools/process-guidance-intended-nationally-determined-contributions-indcs.

Hood, C., and Soo, C., (2017) "Accounting for mitigation targets in Nationally Determined Contributions under the Paris Agreement", Climate Change Expert Group Paper No.2017(5), COM/ENV/EPOC/IEA/SLT(2017)5, International Energy Agency (IEA),

http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/ENV/EPOC/IEA/SLT(2017)5&docLanguage=En

International Civil Aviation Organization (ICAO), Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA),

https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx.

International Maritime Organization (IMO), Climate change strategy for shipping,

http://www.imo.org/en/MediaCentre/PressBriefings/Pages/06GHGinitialstrategy.aspx,

http://www.imo.org/en/MediaCentre/PressBriefings/Pages/11-data-collection-.aspx.

Jacoby, H.D., *et al.*, (2017a), "Informing transparency in the Paris Agreement: the role of economic models", Climate Policy, DOI: 10.1080/14693062.2017.1357528,

http://dx.doi.org/10.1080/14693062.2017.1357528.

Jacoby, H.D., *et al.*, (2017b), "Transparency in the Paris Agreement", MIT Joint Program on the Science and Policy of Global Change, Report 308.,

https://globalchange.mit.edu/sites/default/files/MITJPSPGC_Rpt308.pdf.

Japan Business Federation, (2018 and older) "Commitment to a Low Carbon Society"

http://www.keidanren.or.jp/policy/vape.html (in Japanese),

http://www.keidanren.or.jp/policy/2017/101.html (in Japanese; latest follow-up),

http://www.keidanren.or.jp/policy/2018/023.html (in Japanese; latest review)

http://www.keidanren.or.jp/en/policy/index07.html (in English).

Kameyama, Y., *et. al.* (2017) "**C**limate change mitigation **P**olicy **P**rogression **I**ndicator (C-PPI)—a tool for measuring progression of climate change mitigation at the national level",

http://www-iam.nies.go.jp/climatepolicy/cppi/.

Levin, K., *et al.* (2015) "Designing and Preparing Intended Nationally Determined Contributions (INDCs)", World Resources Institute, UNDP,

https://www.wri.org/sites/default/files/designing-preparing-indcs-report.pdf.

Matsuo, N. (2017), "Designing the Modalities, Procedures and Guidelines for the Enhanced Transparency Framework for Action under the Paris Agreement on Climate Change: How to Utilize the Framework for Broader Objectives beyond Transparency", Institute for Global Environmental Strategies,

https://pub.iges.or.jp/pub/designing-modalities-procedures-and-guidelines.

Matsuo, N. (2018), "A Proposal for a Simple Methodology to Enhance Transparency and Comparability of NDC Targets and Their Progress Reporting under the Paris Agreement" (English), "パリ協定の各国NDC緩和目標とその進捗状況の定量的評価手法と記載内容提案—透明性・比較可能性を可能とするシンプルな方法論" (Japanese), Institute for Global Environmental Strategies,

https://pub.iges.or.jp/pub/NDC-tracking-progress-method_ENG.

https://pub.iges.or.jp/pub/NDC-tracking-progress-method_JPN.

Ministry of Economy, Trade and Industry (METI) (2015, 2018), Voluntary Action by Industries, Follow-up by the Industrial Structure Council, (in Japanese)

http://www.meti.go.jp/policy/energy_environment/kankyou_keizai/va/.

http://www.meti.go.jp/committee/sankoushin/sangyougijutsu/chikyu_kankyo/

h29_001_haifu.html.

http://www.meti.go.jp/policy/energy_environment/kankyou_keizai/va/gyousyu_teitanso/index_meti.html.

Ministry of Economy, Trade and Industry (METI) (2017), Energy Conservation Law, Periodical Reporting (in Japanese)

http://www.enecho.meti.go.jp/category/saving_and_new/saving/summary/_

http://www.enecho.meti.go.jp/category/saving_and_new/saving/procedure/

http://www.enecho.meti.go.jp/about/special/tokushu/ondankashoene/shoenehoukaisei.html

http://www.enecho.meti.go.jp/notice/topics/003/

Moarif, S., (2017), "Information needed to facilitate the clarity, transparency and understanding of mitigation contributions", Climate Change Expert Group Paper No.2017(1), COM/ENV/EPOC/IEA/SLT(2017)1, International Energy Agency (IEA),

http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/ENV/EPOC/IEA/SLT(2017)1&docLanguage=En.

Peters, G.P., *et al.* (2017) "Key Indicators to Track Current Progress and Future Ambition of the Paris Agreement", Nature Climate Change,

https://www.nature.com/articles/nclimate3202.

The United Nations Executive Office of the Secretary-General (UN EOSG) and the United Nations Framework Convention on Climate Change (UNFCCC), (2017) "Catalysing the implementation of Nationally Determined Contributions in the context of the 2030 Agenda through South-South cooperation"

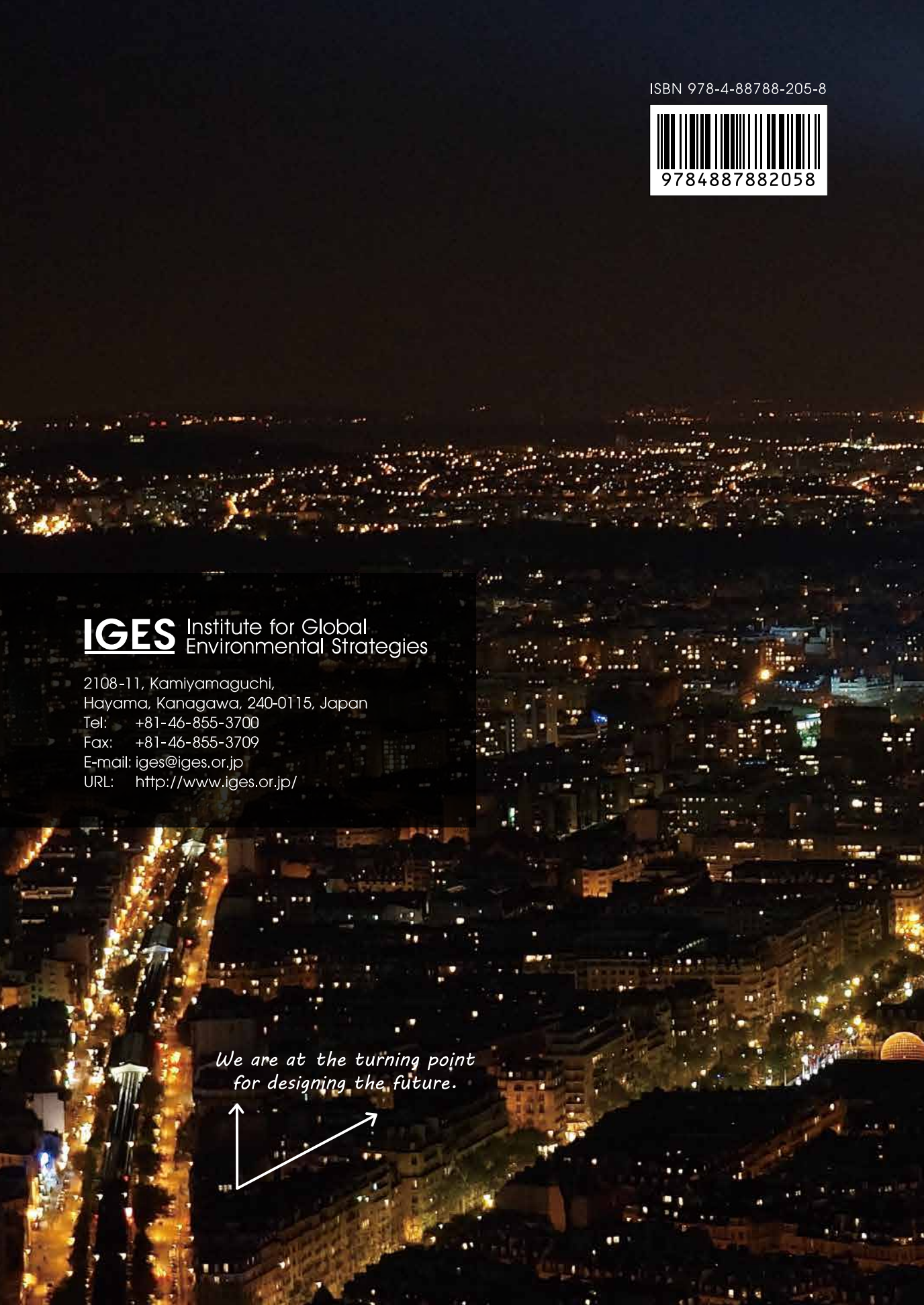
https://unfccc.int/sites/default/files/ssc_ndc_report.pdf.

The United Nations Environment Programme (UNEP), (2017) "The Emissions Gap Report 2017",

https://www.unenvironment.org/resources/emissions-gap-report.


EXIT

ISBN 978-4-88788-205-8



**IGES** Institute for Global Environmental Strategies

2108-11, Kamiyamaguchi,
Hayama, Kanagawa, 240-0115, Japan
Tel: +81-46-855-3700
Fax: +81-46-855-3709
E-mail: iges@iges.or.jp
URL: http://www.iges.or.jp/

*We are at the turning point for designing the future.*