

What is needed to track progress of emissions reductions under the Paris Agreement?

What systems are in place and what gaps need to be addressed to track progress on GHG emissions effectively?

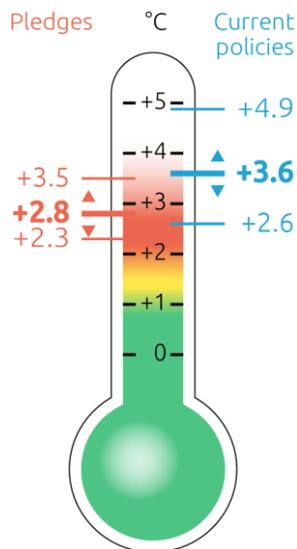
Climate Action Tracker

Claire Fyson, Jasmin Cantzler
Climate Analytics

Yvonne Deng
Ecofys

Hanna Fekete
NewClimate Institute

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Summary

To ensure that the aims of the Paris Agreement can be met, progress towards both individual goals (NDCs) and the global goals (e.g. the long-term temperature goal) needs to be tracked.

The architecture for tracking progress under the Paris Agreement is a good start, but much work remains to be done to operationalise it. Parties are aiming to complete this work by COP24 in December 2018.

Independent evaluations of progress will continue to play an important role in providing Parties and other actors with timely information on whether individual goals are adequate, and whether collective action is on track to achieve the Paris Agreement's global goals.

For the Paris "tracking system" to be effective, the CAT has a number of recommendations, including:

- The rule-set should be as precise as possible
- It should be acknowledged that not all countries will provide all the necessary information and therefore space should be made for expert analysis—either mandated by the UNFCCC or external to the UNFCCC umbrella.
- Guidance for the information contained in NDCs would ideally address all types of NDCs in order to facilitate their aggregation; in particular, a minimum mandatory set of requirements for the information that they contain would help ensure their comparability.
- Guidance for accounting of NDCs would need to ensure environmental integrity of emissions reductions, particularly when it comes to the land-use sector and emissions reductions that are transferred through market-based measures. Accounting rules must also allow mitigation action from the range of different NDC target types to be aggregated in a scientifically robust manner.
- Parties would ideally agree to place all NDCs on a common timeframe (e.g. over synchronised 5 year periods), so that they are updated at the same time, and apply over the same period. This will make aggregation much easier.

The need for tracking climate action

The Paris Agreement contains both global and individual Party goals. Both categories of climate action will need to be tracked to ensure that the Agreement is on track to achieve its agreed aims.

At the global level, the Agreement aims to hold the rise in global average temperature to well below 2°C, pursue efforts to limit warming to 1.5°C, peak global emissions as soon as possible, reducing them rapidly to zero in the second half of the 21st century, and make finance flows consistent with a pathway towards low emissions and climate-resilient development.

At the same time, the Paris Agreement's bottom-up design requires sufficient ambition and action at the national level—set domestically through “Nationally Determined Contributions” (NDCs)—to deliver against these goals. Absent, however, is any official guidance on the scale of the necessary ambition to be expected from individual countries in contributing to agreed global goals. Instead, Parties have agreed to prepare, communicate and maintain successive NDCs that they intend to achieve, to pursue domestic mitigation measures with the aim of achieving the objectives of their NDCs, and to bring forward successive NDCs every five years, representing a progression beyond their current NDC and reflecting their highest possible ambition.

Domestic efforts will have to be aggregated to monitor progress towards the Agreement's long-term goals. This exercise will require sufficient information on the detail of Parties' intended NDCs, and on-going information flows on countries' progress in achieving these NDCs.

There is a substantial and acknowledged gap between aggregated NDCs and the goals of the Paris Agreement (1/CP.16, para 17). Independent aggregations of the mitigation components of current NDCs show that intended mitigation efforts will lead to 2.8°C of warming if fully implemented (Climate Action Tracker 2016), falling short of the ambition needed to meet the long-term temperature and emissions goals agreed in Paris. However, the requirement that Parties communicate new or updated NDCs with improved ambition every five years provides an opportunity for future NDCs to be brought in line with these goals. The rapid acceleration in mitigation action required to meet the global goals means that the first cycle of new and updated NDCs will be critical—if global greenhouse gas emissions do not peak around 2020, the 1.5°C temperature goal will become far more expensive and difficult to achieve. At present there is a wide gap between the current level of policy implementation and the action needed to reach this temperature goal.

Given the planning horizon required, it is essential that NDC implementation and progression in ambition be tracked both individually and collectively, to provide all Parties with timely information so that they can react—both individually and collectively—to keep global goals within reach. This requires national ambition and effort to be reported in a way that facilitates accurate and transparent aggregation at the global level as well as comparability between individual Parties' efforts.

The importance of the Paris Agreement's tracking system merits a closer look at its current status and the challenges that still need to be overcome. In the following sections we outline how the Paris Agreement is designed to track progress; for each of the key components we identify what is needed to satisfy the requirements of both the Paris Agreement and independent analyses. We then look at the next steps that were agreed in Marrakech, and in the final section we highlight the continuing need for independent expert analysis to support and supplement the globally agreed tracking architecture.

This briefing focuses on the tracking of *mitigation* action; it should however be noted that the tracking of *adaptation* efforts and needs, and the tracking of support needed, provided and received—including capacity building, technology transfer and climate finance—are also key components of the Paris Agreement. Given the conditional nature of many national mitigation contributions, progress in support will also be closely linked to achievement of the Agreement's mitigation goals and to its overall success.

Tracking mitigation action under the Paris Agreement

The components of the Paris Agreement's mitigation tracking system are outlined in a number of provisions within the Agreement and accompanying decision 1/CP.21. The key components are:

- Guidance on information to support “clarity, transparency and understanding” of Parties’ NDCs (1/CP.21, paragraphs 27 and 28)
- Guidance on the “features” of NDCs (1/CP.21, paragraph 26)
- Guidance on accounting for NDCs (Article 4.13, 1/CP.21, paragraph 31)
- Modalities for operation and use of the public registry for the recording of NDCs communicated by Parties (Article 4.12 and 1/CP.21, paragraph 29)
- The transparency framework for action and support (Article 13)
- The mechanism to facilitate implementation and promote compliance (Article 15)
- The 2018 facilitative dialogue (1/CP.21, paragraph 20)
- The global stocktake (Article 14)

Further detail on each of these components is given below.

Guidance on “information, features and accounting” for NDCs

Parties set the pace of their climate action through their NDCs; these must progress in ambition with each 5-yearly revision, and should reflect each Party’s highest possible ambition (in the light of common but differentiated responsibilities and respective capabilities) (Article 4.3). NDCs form the building blocks of the Paris Agreement’s tracking system by requiring Parties to articulate their climate action plans and put these contributions in the context of the objective of the UNFCCC.

Accordingly, guidance for the NDCs—some of which was agreed upon in Paris, some of which needs further elaboration through additional guidance—in tandem with the other components of the tracking system listed above, should enable Parties to effectively demonstrate their progression in ambition and implementation of corresponding action and emissions reductions. Three aspects of the NDCs that need further guidance are given in the Paris Agreement: information, features and accounting. The robustness and comprehensiveness of the guidance for these aspects will play a large part in determining how effectively progress can be tracked. For each of these aspects, Parties have agreed that guidelines should be developed and agreed upon at the first meeting of Parties (CMA1¹), with the expectation that this will be done by December 2018 at the third session of CMA1.

Information

The Parties to the Paris Agreement have agreed that, in communicating their NDCs, “all Parties shall provide the information necessary for clarity, transparency and understanding”. Under decision 1/CP.21, paragraph 27, the Parties have also agreed that this information “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 greenhouse gas emissions and, as appropriate, removals, and
- how the Party considers that its nationally determined contribution 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”.

¹ The CMA stands for the “Conference of the Parties serving as the meeting of Parties to the Paris Agreement”

This list had already been agreed at COP20 in Lima as a guide for Parties in the submission of their “intended” contributions (1/CP.21, paragraph 14). The existing NDCs follow the elements set out in paragraph 27 to varying degrees, which makes their aggregation very difficult and leads to high uncertainties (UNFCCC 2015b). However, in Paris Parties agreed to develop further guidance for the information necessary for clarity, transparency and understanding (often termed “CTU”), providing an important opportunity for Parties to consider what additional information is necessary for NDC comparability and aggregation to the global level in a scientifically robust, accurate and transparent manner.

What is needed?

- A first and critical step in this effort would be to agree that the contents of decision 1/CP.21, para. 27 are mandatory, where relevant to the type of NDC brought forward by a Party.
- Parties should be encouraged to update their initial NDCs as soon as possible to provide all information necessary for their “clarity, transparency and understanding”, as required in the Paris Agreement. This will assist all Parties in taking stock of their collective efforts, in relation to the long term goal set out in Article 4.1, through the facilitative dialogue to be convened in 2018. A robust understanding of each NDC, and their collective impact, will be needed to inform Parties in the preparation of their next round of new and updated NDCs, which are due to be communicated by 2020.
- Some guidance related to NDC “information” should be applicable to all NDCs. For example, any aggregation of the NDCs requires information on the gases and sectors covered by each NDC, the target year or period, the base year/period or reference year, and the metrics used. While many NDCs already include this information, it is lacking from a significant number. The agreed list of information that *may* be included in the NDCs covers some of these items (1/CP.21 paragraph 26), but making this list mandatory would improve the accuracy of NDC aggregations.
- Further guidance for the information required of Parties should be specific to the type of target. For example, for targets based on a BAU trajectory, information is needed on the BAU pathway itself, as well as the assumptions behind the pathway, and timeframes for updating these assumptions should be provided. Where NDCs present policies or measures as targets to be achieved, Parties should describe the intended policies and measures in detail, and if possible quantify the anticipated emissions savings. NDCs presenting intensity targets should state the index used (e.g. GDP or population), the source of such information, and details on when any updates to this information might be expected and reflected.
- Parties are required to show increased ambition with each successive NDC, and their NDCs should be informed by the global stocktake; therefore, Parties should explain in each successive NDC how ambition has been raised and how the outcomes of the global stocktake have been incorporated.
- Regardless of the requirements for reporting, countries may keep the NDCs vague on purpose. This may be necessary to get agreement on the national level or can be strategic for the negotiations. The information is therefore likely to be incomplete. Therefore, critical expert analysis (organised by the UNFCCC or outside of it) will always be necessary to highlight elements which are unclear or have changed over time.

Features

The “features” of the NDCs can be understood as “elements” or “properties” of the NDCs. A number of features were agreed upon in article 4 of the Paris Agreement, to guide Parties in the development and presentation of their NDCs. These features include:

- progression over time and reflection of highest possible ambition (Article 4.3), i.e. a requirement that NDCs reflect an increase in mitigation ambition over time,
- the expectation that developed countries present economy-wide absolute emission reduction targets, while developing countries, are encouraged to move towards economy-wide targets over time (in the light of different national circumstances)

- (Article 4.4), (recognising that many initial NDCs have set intensity targets, targets with respect to a projected future emissions baseline, or policy goals), and
- the requirement for NDCs to be communicated every five years (Article 4.9).

These features help to ensure that the scope and aggregate effect of NDCs moves towards the long-term goals of the Paris Agreement. They also play a key role in the tracking system by increasing the comparability and consistency of NDCs, and maximising their coverage of emissions.

However, in recognition that the current guidance to Parties on features is not likely to be sufficient for meeting the needs of the Paris Agreement, Parties have agreed that further guidance should be developed and adopted at the first meeting of Parties to the Paris Agreement (CMA1) (1/CP.21, paragraph 26).

What is needed?

Here, a key feature to be addressed could be the issue of common timeframes: to facilitate the tracking of progress it would help tremendously if Parties agreed that NDCs should all be presented and revised in common 5-years cycles. NDCs would then be updated at the same time and at regular enough intervals that ambition can be adjusted in a timely manner according to the state of collective action. This issue was flagged for consideration at the first meeting of the CMA (Article 4.10), and will be taken up at the next meeting of the Parties.

Accounting

The Paris Agreement requires all Parties to account for emissions and removals. A proper accounting of emissions and removals towards the achievement of Parties' NDCs is crucial for understanding what the atmosphere experiences in terms of emissions reductions. For example, if both host and acquiring Parties attempt to use the same reductions achieved through market mechanisms toward their NDCs, or if Parties use different Global Warming Potentials (GWPs) to account for their emissions, a misleading picture will be presented of the reductions actually achieved.

Decision 1/CP.21, paragraph 31 requests further guidance to be elaborated for accounting for Parties' NDCs, drawing from approaches established under the Convention and its related legal instruments. This guidance is to be applied to second and subsequent NDCs, and applied voluntarily to first NDCs, and is to ensure that, at a minimum:

- Parties use metrics and methods assessed by the IPCC and adopted by the Parties,
- Parties ensure methodological consistency between the communication and implementation of NDCs, and
- Parties strive to include all categories of emissions and removals and explain why any categories have been omitted (1/CP.21, paragraph 31).

Parties' initial NDCs vary significantly in how they approach accounting for emissions, particularly in the land-use sector, and many have not specified any particular accounting methods; this makes it very difficult to understand and aggregate the results of planned mitigation efforts. Therefore, the development of clear accounting rules that takes into account the variety in NDC mitigation contribution types is critical for ensuring the requirements of the Paris Agreement of environmental integrity, transparency, accuracy and comparability of NDCs, as well as the avoidance of double counting, are met (Article 4.13).

What is needed?

- Clear accounting rules will need to be defined for each type of NDC mitigation target and designed so that the emissions "seen" by the atmosphere can be readily determined. There are a number of challenges for accounting that are associated with the variety in NDC types. For example, guidance for accounting should consider cases where a single NDC contains more than one type of target. Another challenge is how to deal with single-year and multi-year (carbon budget) targets—the former do not provide information on emissions during the years leading up to the target year and

therefore lead to considerable uncertainty in calculations of cumulative emissions. Ensuring that such different target typologies are comparable will be a major challenge.

- Clear accounting guidance is particularly necessary for the land-use sector, where the environmental integrity of accounted emission reductions may depend upon the accounting scheme used. The promotion of the principles of transparency, accuracy, comparability and consistency may be challenging where some countries' NDCs contemplate an intention to use the land-use sector to offset emissions in other sectors. Therefore guidance should prevent any risk to the certainty of the achievement of the overall level of ambition. Such a risk could originate in offsetting emission reductions outside the land-use sector with potentially uncertain and/or non-permanent removals in the land-use sector.
- Rules must be developed to avoid any perverse incentives created by the need for progression between successive NDC periods.
- There must be clear provisions on how to avoid double-counting, for example to prevent potential double-claiming under the UNFCCC, ICAO, IMO, in different or multiple time-periods, between different types of domestic programmes, or, for those NDCs that will use market-based units to meet their contributions, between host and acquiring countries.

The NDC public registry

A key aspect in the communication of NDCs that will facilitate their use in the Paris Agreement's tracking system is that they are made publicly available. In Paris, Parties agreed to the recording of NDCs in a public registry to be maintained by the Secretariat (Article 4.12). The Subsidiary Body for Implementation (SBI) is tasked with developing modalities and procedures for how this registry will operate (1/CP.21, paragraph 29).

What is needed?

For transparency and public confidence, it will be essential to have publicly available and accessible information on the contents of all NDCs, including superseded versions. Having this in a form that enables Parties, independent organisations and the public to easily locate and compare information in NDCs, and to understand changes in new and updated NDCs, will be important for the purposes of tracking progress against the Paris Agreement's global and individual goals. The public registry should be designed with these considerations in mind.

The transparency framework for action

An "enhanced transparency framework" was established in Paris to build upon and eventually supersede the existing measurement, reporting and verification (MRV) system of the UNFCCC, immediately following the submission of the final biennial reports and biennial update reports (1/CP.21, paragraph 98).

This framework aims to ensure that Parties report their progress made in implementing their NDCs in a clear and transparent manner, thereby building confidence among Parties in each other's commitments and enabling gaps in progress and capacity constraints to be identified. While we focus here on mitigation, the transparency framework also seeks to highlight progress in adaptation action and in the support provided and received by Parties. This is particularly important given the strong linkages between mitigation, finance and adaptation: many mitigation commitments are conditional upon a certain level of support being received, and therefore both providers and recipients of support have an interest in the accuracy and transparency of reporting on support flows and mitigation action supported. Certain countries have also highlighted the mitigation co-benefits of adaptation actions as a mitigation contribution under the Paris Agreement, requiring reporting and review in this context.

Some aspects of the transparency framework have already been very clearly defined in the Paris Agreement. For example, all Parties must regularly provide a national inventory report of greenhouse gas emissions and removals, as well as the information necessary to track progress in implementing and achieving their NDC (Article 13.7). This information must be provided by Parties at least every two years, except for the Small Island Developing States (SIDS) and Least Developed Countries (LDCs), which can report at their discretion (decision 1/CP.21, para. 90).

Parties will also have to use IPCC-assessed methodologies and common metrics, adopted by the CMA, to account for their NDCs, a provision that seeks to facilitate the aggregation of mitigation effort in a scientifically robust manner although, as indicated in the section on NDC accounting above, many questions remain on how accounting will work.

The transparency framework also includes processes for 1) technical expert review and 2) a facilitative multilateral consideration of each Party's progress towards its NDC implementation and achievement. These processes will provide opportunities for Parties to examine and better understand each other's progress (covering both mitigation and climate finance), review whether the information provided by Parties is consistent with the modalities, procedures and guidelines (MPGs) of the transparency framework, and support those Parties facing capacity constraints.

Many aspects of the transparency framework still need to be elaborated and operationalised through the development, negotiation and adoption of its MPGs. The deadline for doing so is COP24 at the end of 2018. While this is a very tight timeline, particularly given the linkages between the transparency framework and other moving parts of the Paris Agreement rule set, this timing should enable the transparency framework to be in operation in sufficient time to inform the first global stocktake, which is to be undertaken in 2023.

A key issue to be addressed is the timeframe for the submission of final biennial reports and biennial update reports, as this will signal the start of the new and superseding enhanced transparency framework.

What is needed?

The transparency framework needs to facilitate the reporting of information by Parties in a consistent and comparable manner; and in ways that produce an as complete and accurate picture as possible of progress towards the Paris Agreement's global and individual goals, and of support provided and received. This will require the MPGs to be designed so that they are tailored for different NDC types and include guidance on reporting against different quantitative goals and qualitative measures.

For example, about half of all the NDCs are based on business-as-usual (BAU) scenarios. If progress in ambition and implementation is to be adequately tracked for these NDCs, the MPGs will need to contain guidance on what information is needed to understand the methods and assumptions used in the development of BAU scenarios and associated targets, and in the tracking of their implementation (for example, information on how latest reported emission levels compare with the BAU level).

Crucially, the transparency framework must allow the actual implementation of national policies to be monitored. The NDCs themselves represent an intention to act, but it is their implementation that will determine whether or not the Paris goals can be reached.

The technical expert review process could be designed with these needs in mind, so as to encourage the provision of complete and accurate information both on the NDC goals and on the policy implementation required to achieve them.

The compliance mechanism

The basic framework of a mechanism to facilitate implementation and promote compliance "with the provisions" of the Paris Agreement is established under Article 15. The mechanism is expected to support Parties in implementing and complying with the provisions of the agreement, including those relating to the tracking of progress. There is very little detail on how this mechanism will work, other than that it will consist of an expert-based compliance committee, and function in a "transparent, non-adversarial and non-punitive" manner (Article 15.2). As with other elements of the tracking system, the modalities and procedures under which the committee will operate will be negotiated over the next two years.

What is needed?

Here, key issues include the scope of the provisions to be addressed through the mechanism (mandatory requirements vs. mandatory plus non-binding elements), linkages with the transparency framework and linkages with financial and other forms of support.

Taking stock

The facilitative dialogue in 2018 will offer the first major opportunity for assessing collective progress towards the Paris Agreement's long-term emissions reduction goal, and consequently for ramping up mitigation ambition. This will be a key moment for Parties to take stock of how they are doing and what remains to be done, and will play a crucial role in informing how Parties update their NDCs in time for 2020, as encouraged in Decision 1/CP.21 (paras 23 and 24). Not all the guidance elements of the progress-tracking architecture described above will be in place in time for the facilitative dialogue. However, the facilitative dialogue will draw upon various types of information, including information reported under the existing MRV system, a range of external inputs and assessments and, in particular, information presented in the IPCC's Special Report on 1.5°C.

The modalities of the facilitative dialogue have yet to be determined, but Parties agreed in Marrakech that the presidencies of COP22 (Morocco) and COP23 (Fiji) will work together to conduct inclusive and transparent consultations with Parties during the UNFCCC sessions in May 2017 (Decision 1/CP.22), providing a valuable opportunity for Parties to give their views on how the dialogue could be organised.

In the longer term, a key component of the Paris Agreement's progress-tracking architecture is its requirement for regular 5-yearly global stocktakes, the first of which will be completed in 2023. These are designed to assess progress towards the fulfilment of the Agreement's purpose and long-term goals, looking not just at mitigation but also at the mobilisation of support and progress in adaptation. The Paris Agreement connects the stocktaking process with a number of other components of the tracking system: Parties agreed that the transparency framework will inform the global stocktake (Article 13.5), meaning that the framework's MPGs must be designed with the needs and desired outcomes of the stocktake in mind; the stocktake will also be informed by the overall effect of the NDCs (Decision 1/CP.21 para. 99); and the stocktake will inform each Party's next NDC (Article 14.3), linking in with the requirement for successive NDCs to show a progression from previous rounds.

What is needed?

Parties have not yet agreed on a comprehensive list of inputs to be used for the global stocktake, but they are required to do so by COP24. Given that the stocktake will require information on the overall effect of Parties' NDCs, independent assessments by the IPCC and other non-UNFCCC and non-state organisations (for example the UNEP Gap Report) would be useful inputs in addition to the self-reported information provided by Parties.

Modalities for the stocktake also have yet to be decided, but as the whole process will take more than one year, inputs for the first global stocktake will need to be ready well in advance of 2023. Crucially, a set of new and/or updated NDCs should be available by 2020, so this first global stocktake will be a key moment for assessing the success of the first NDC update cycle in bringing ambition in line with the Paris long-term goals.

Next steps beyond Marrakech

Parties began in Marrakech to lay out how work might proceed over the coming few months in order to finalise the Paris rulebook by 2018. In Marrakech, Parties agreed to calls for further submissions on a number of topics and questions, upon which negotiations in Bonn in May 2017 will build. These include a call for inputs on the way forward after the May session (UNFCCC 2016a). However, as there is currently little clarity on the precise modalities for how work will progress between now and COP24, there will be pressure for this to be mapped out at the Bonn session in May.

The following next steps were agreed at COP22:

NDCs

- Parties were invited to make submissions on the topics covered during discussions in Marrakech—this includes the features of the NDCs, information needed to facilitate clarity, transparency and understanding, and accounting. No specific questions were provided to Parties.
- A roundtable on the topics raised in submissions will be held in Bonn in May 2017.

The transparency framework

- Parties were invited to make submissions addressing four questions: (a) what the specific components of the modalities, procedures and guidelines of the framework should look like, (b) how the framework should build on and enhance the transparency system under the UNFCCC, (c) how flexibility for developing countries facing capacity constraints should be operationalised, and (d) what other elements should be considered when developing the framework.
- A workshop will take place on 16–18 March in Bonn, which will include consideration of the issues raised by Parties in their submissions. The report from this workshop will be considered during the UNFCCC session in May 2017.

The compliance mechanism

- Parties were invited to make submissions with focus on the modalities and procedures required for the compliance committee to operate effectively, the elements that could be addressed through these modalities and procedures, and what next steps are possible to ensure work can be completed by COP24.

Taking stock

- For the facilitative dialogue it was agreed that the Moroccan and Fijian presidencies should hold inclusive and transparent consultations with Parties during the UNFCCC session in May 2017. They will then report on preparations for the dialogue at COP23.
- For the global stocktake, Parties are invited to make submissions on the linkages and context of the stocktake, sources of input, modalities, and outcomes and outputs. More focussed questions could not be agreed upon.

In operationalising the provisions of the Paris Agreement that relate to the tracking of progress, Parties will need to ensure that all of these components work together to form a robust system. For example, the MPGs for the transparency framework will need to be closely linked to the guidelines for the NDCs so that they can accommodate the different types of NDC mitigation targets and their associated rules for accounting and information provision. They will also need to ensure that the transparency framework provides flexibility to those developing countries that need it in light of capacity constraints, as required in article 13.2. Finally, the transparency framework will need to facilitate the improvement of reporting and transparency over time, as stated in Decision 1/CP.21 (paragraph 92), by helping those capacity-constrained Parties develop stronger institutions and systems for reporting.

Independent tracking

Additional independent tracking of progress will play a key role in supplementing the Paris architecture. Independent analyses can track progress at different scales or from different perspectives to those agreed under the Paris Agreement, thus helping Parties and non-State actors to identify opportunities for enhancing mitigation action (as well as adaptation and support). Exercises exist that aggregate the impact of NDCs on global emissions, amongst which are the CAT's global analysis and the UNEP gap reports (UNEP 2016). Additionally, sector level indicators—such as those in the CAT decarbonisation database—could be used to understand the drivers of emissions trends and to identify policy gaps (Climate Action Tracker 2017; Peters et al. 2017); progress could also be tracked at the company, city and regional levels, thereby capturing efforts that might not be visible in the NDCs. Independent tracking could also support

or feed into aspects of the Paris tracking architecture by being used to verify the outputs of—or provide inputs to—the facilitative dialogue and global stocktakes, thus adding to the information available to Parties and non-State actors as they develop and enhance their mitigation action plans. This is particularly important in the case of the facilitative dialogue in 2018, as the Paris tracking architecture will not be operationalised in time to feed into this.

Conclusions

Many countries have, or are developing, their own domestic approaches to monitoring climate action, and analyses from independent organisations such as the CAT will continue to play an important role in improving our understanding of progress at national, regional and international levels. These independent analyses can be more flexible in their scope, types of analyses and forms of communication, as well as their avenues for use of inputs from outside the UNFCCC system. However, they do not have the legitimacy of a globally agreed upon system. Therefore, the Paris Agreement's own architecture for tracking climate action will be crucial for enabling progress to be monitored collectively in a way that is approved by all Parties, and for helping ensure that Parties submit consistent and comparable information (e.g. greenhouse gas inventories) that will facilitate the tracking of action.

Much work remains to be done to develop the required tracking system under the UNFCCC umbrella. The Paris Agreement has set up an architecture for tracking progress, and Parties have set themselves the tight deadline of COP24 at the end of 2018 to complete the agreement's supporting rule-book. It is therefore critical that Parties work quickly and constructively to develop a comprehensive and scientifically robust rule-book for communicating their individual goals, and for reporting on and monitoring progress against, these goals and the Paris Agreement's global goals. However, it must also be acknowledged that not all countries will be able to provide the necessary information, and thus expert analysis should also be given space to operate.

While this briefing has focused on mitigation, approaches for tracking progress in adaptation, climate finance, capacity building, technology transfer and making finance flows consistent with low emissions and climate-resilient development are also essential components of the Paris architecture. Without a comprehensive tracking system that covers all of these aspects, it will be very difficult to ensure that efforts get—and remain—on track for meeting the Paris Agreement's long-term goals.

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Two: Action Taken by the Conference of the Parties at Its Twenty- Second Session.”

The Climate Action Tracker is an independent science-based assessment that tracks the emission commitments and actions of countries. It is a joint project of the following organisations:

Climate Analytics

Climate Analytics is a non-profit institute based in Berlin, Germany, with offices in Lomé, Togo and New York, USA, that brings together inter-disciplinary expertise in the scientific and policy aspects of climate change with the vision of supporting science-based policy to prevent dangerous climate change, enabling sustainable development. Climate Analytics aims to synthesise and advance scientific knowledge in the area of climate, and by linking scientific and policy analysis provide state-of-the-art solutions to global and national climate change policy challenges. Contact: Dr. h.c. Bill Hare, +49 160 908 62463

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