



Mitigation Action Plans & Scenarios

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Emerging from Paris: Post-2015 process, action and research agenda

Henri Waisman (IDDRI), Marta Torres Gunfaus (ERC), Thomas Spencer (IDDRI) & Andrew Marquard (ERC)

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Institut du Développement Durable et des Relations Internationales (IDDRI).

www.iddri.org

Paris, France

Energy Research Centre (ERC), University of Cape Town.

<http://www.erc.uct.ac.za>

Cape Town, South Africa

MAPS Programme

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1. Introduction

The [Paris Agreement](#) (PA), adopted by 195 countries on 12 December 2015, sets an ambitious target to combat climate change and establishes the framework for effective global cooperative action to this end. A crucial feature of the Agreement is its dynamic nature; it is not limited to driving the implementation of the national contributions submitted before the Paris Conference, but defines a dynamic process to strengthen national action and co-operation to meet the mitigation objectives of the Convention. The rules, modalities and processes to be negotiated in the next five years under the UNFCCC to operationalise the PA are very important for the detailed definition of the nature, scope and depth of the Parties' obligations and therefore the effectiveness of the Agreement.

This report will first summarize the major outcomes of the PA and interpret their implications for the post-2015 process, notably regarding the operationalisation of the next round of Nationally Determined Contributions (NDCs) under the UNFCCC process. Secondly, it will discuss some pending questions and derive insights on where actions, research and process efforts should be focused to support and strengthen the post-2015 process – both within and outside the UNFCCC.

2. Major outcomes of the Paris Agreement and their implications

2.1 Universal participation

The PA became the first universal climate change agreement to spell out precise, substantive, legally binding obligations on all countries. This is in contrast with the UNFCCC which only sets up procedural, rather than substantive obligations for countries, e.g. in reporting emissions, and the Kyoto Protocol, which only established emissions reduction obligations for developed countries. Almost all Parties have submitted their Intended Nationally Determined Contributions (INDCs)¹ and most of them did so well in advance of the Conference, manifesting a strong positive momentum toward building a universal agreement. In addition, provisions exist to ensure that a sufficient mass of countries will be needed for the Agreement to enter into force. At the same time, the bar is set so as to facilitate a rapid entry into force of the Agreement (most probably in 2017 or 2018). Article 21.1 of the Agreement states that:

This Agreement shall enter into force on the thirtieth day after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 percent of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession.

Such a threshold is high enough that the major emitters are needed for the Agreement to become effectual, but not too high to impede rapid entry into force.

- All Parties have demonstrated commitment to the global process and therefore the post-2015 process must be conducted with the maintenance of this universal participation of all Parties according to their distinct national circumstances in mind (see section 2.4 on differentiation).
- Most Parties have already done a first round of analysis during the elaboration of their INDCs, which can serve as a basis for the post-Paris implementation agenda at the national and international level, as well as for subsequently updated NDCs as called for in the PA. This basis was non-existent in many countries in the pre-Paris context.

¹ By the end of COP-21 the number of INDCs has reached 160 submissions, reflecting 187 countries (of 195 countries Party to the UNFCCC), covering 98% of global GHG emissions.

- While ensuring the continued elaboration of the universal framework under the UNFCCC, there is a need to reinforce cooperation in many other settings and institutions.

2.2 The global goal

The PA reaffirms the goal, established at Cancun in 2010, of maintaining global temperature rise to below 2°C, and even reinforces it in two ways. Firstly, Art. 2.1 strengthens the global mitigation ambition by calling for efforts aimed at *‘[h]olding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels’*. Beyond the recognition of the losses incurred even at 2°C, the 1.5°C aspirational goal (championed by the most vulnerable countries) and the ‘well below’ (2°C) specificity strongly anchor the 2°C limit as a minimum level of acceptable ambition and hence will contribute to keep pressure in the system to raise mitigation ambition. Secondly, the Agreement settles the temperature goal by translating it into associated requirements in terms of global emission trajectories, as codified in Art. 4.1: *‘Parties aim to reach global peaking of greenhouse gas emissions as soon as possible [...] and to undertake rapid reductions thereafter [...] so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century.’* Paragraph 17 of decision 1/CP.21 reinforces this point in reference to the current round of INDCs to 2030 (which add up to about 56 gigatonnes (Gt) of CO₂e), by stating that holding the increase in the global average temperature to below 2°C above pre-industrial levels requires limiting global emissions to 40 Gt by 2030. All these elements give benchmarks against which to assess the commitments and associated actual transformations.

- The reframing of the global goal sets the boundaries of the problem but leaves each Party to define its individual efforts to contribute to this goal according to its national circumstances.
- In this bottom-up national-level process with an explicit global-scale goal, global ex-post assessment of the individual Parties’ commitments benchmarked to the global emission trajectory is not provided for.
- It is to be expected that the 1.5°C framing is taken into consideration by all Parties in the development of their new generation of NDCs, as a goal to challenge the limits of their domestic ambition.

2.3 A legal agreement, with some binding elements

The PA, with its accompanying COP decisions, fulfils the 2011 Durban Mandate to negotiate and adopt in 2015 an international legally binding agreement on climate change. With regards to NDCs, it establishes an ‘obligation of conduct’ rather than an ‘obligation of result’ – in other words, countries are obliged to elaborate NDCs and demonstrate their efforts to achieve them, rather than prove ex-post that they have achieved them. This approach is pragmatic and consistent with the attainment of the goal, since it allows early warnings on deviations between commitments and actual actions, and a collaborative approach of the solutions instead of an inefficient ex-post ‘blame game’. The PA uses strong language in forming legally-binding commitments (note the use of ‘shall’ in all the following articles) which guarantee that countries take on successive commitments and are held accountable to implementing them:

- The responsibility of Parties to submit their NDCs is confirmed and anchored in a dynamic agreement, as well as the delegation of implementation to the Parties through the pursuit of domestic measures with the aim of achieving their objectives. This is formalized in Art. 4.2: *‘Each Party shall prepare, communicate and maintain*

successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.'

- Precise rules are set for regular, predictable and coordinated revision of NDCs, as codified in Art. 4.9: *'Each Party shall communicate a nationally determined contribution every five years in accordance with decision 1/CP.21.'* And clear indication of a ratcheting mechanism for ambition is also set as a crucial principle for the revision of NDCs in Art. 4.3: *'Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition.'*
 - Providing transparent information on commitments and actual transformations is stressed as a crucial element to be reported by Parties to UNFCCC in order to enable the follow-up of implementation and achievement of NDCs. This is notably codified in Art. 13.7: *'Each Party shall regularly provide the following information: (a) A national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases, prepared using good practice methodologies [...]; (b) Information necessary to track progress made in implementing and achieving its nationally determined contribution under Article 4.'* This transparency will enable a technical and peer-to-peer review process as spelled out in Art. 13.11: *'Information submitted by each Party under paragraphs 7 and 9 of this Article shall undergo a technical expert review, in accordance with decision 1/CP.21.'*
- The bottom-up process set in the lead-up to Paris, with leading role by the national scale, will continue to be the framework of action after 2015 in the UNFCCC context.
 - The 'obligation of conduct' of a continued engagement supporting regular, timely and relevant submissions by each Party will require stable in-country organisations and methods for preparing each round of contributions.
 - The in-country work to report on progress on implementation of domestic mitigation measures is key to building a trusting and effective system, and requires a system with adequate transparency.
 - Important efforts will be needed at the country level, particularly in developing countries, to build the set of information/know-how to meet all the obligations related to reporting and accounting.

2.4 Differentiation: an agreement applicable to all, yet accounting for the diversity of national circumstances

The Agreement nuances the obligations of countries across each of the elements of the Agreement, specifying differing obligations in line with countries' different national circumstances in a combination of 'self-differentiation' provisions within a common but flexible framework. Notably, it is recognised, in Art. 2 defining the aims of the Agreement, that strengthening action to combat climate change must be done *'in the context of sustainable development and efforts to eradicate poverty'* (Art. 2.1); and that *'[t]his Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances'* (Art. 2.2).

The concrete elements of differentiation notably concern the legally binding element discussed in section 2.3:

- The distinct role of developed countries in the submission of NDCs is recognized in Art. 4.4: *'Developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over*

time towards economy-wide emission reduction or limitation targets in the light of different national circumstances.'

- The ratcheting mechanism for ambition in the revision of NDCs is explicitly linked in Art. 4.3 to *'reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.'* Related to this, it is recognised in Art. 4.1 that *'peaking [of emissions] will take longer for developing country Parties'*.
 - The transparency system established by the Agreement is unified (in contrast with the approach to date which was strictly bifurcated between developed and developing countries), yet also provides space for countries to self-differentiate. This is codified in Art. 13.1, which establishes a unified transparency system *'with in-built flexibility, which takes into account Parties' different capacities and builds upon collective experience'*.
- The NDCs should account explicitly for the link between emission trajectories and the achievement of crucial sustainable development objectives, according to the specificities of each country.
- The definition and assessment of 'ambition' and 'progression compared to previous commitments' are the responsibility of each Party according to their distinct features and in light of the Agreement's global goals. Notably, the ambition level is discussed both in terms of the form and the rigour of the NDC.
- To date there is no detailed guidance nor minimum requested information to be reported, which leaves room for each Party to define and interpret the best way to include 'national circumstances' considerations in the development of the next generations of NDCs.

2.5 Cycles of action to keep the 2°C target within reach

While the INDCs undoubtedly accelerate and consolidate climate action, it is widely recognized that they are insufficiently ambitious for reaching the 2°C goal. Anticipating this gap, many in the run-up to COP21 had called for the establishment of a mechanism in the PA whereby countries regularly revise their national climate ambition upward in a co-ordinated manner. The inclusion of the concept of cycles in the final text of the PA is not anodyne, as it faced much opposition from certain countries until very late on in the negotiations. Furthermore, the Agreement and the COP decisions set precise elements that build a credible mechanism of cycles, notably because these elements are legally binding (see above):

- Paragraphs 23 and 24 of the COP decision accompanying the PA establish 2020 as the first date at which countries will either communicate new NDCs or update the existing one with the 2030 time horizon. This is a crucial element to ensure that the process starts with no delay. Further, Art. 4.9 obliges countries to submit an NDC every five years thereafter, which ensures a continued, predictable and coordinated process to trigger higher ambition.
- The Agreement defines a process to take stock periodically of the collective targets and implementation: *'The Conference of the Parties [...] shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals (referred to as the "global stocktake")'* (Art. 14.1). This global stocktake will be held every five years: *'The Conference of the Parties [...] shall undertake its first global stocktake in 2023 and every five years thereafter'* (Art. 14.2). Article 20 of the COP decision refers to convening a facilitative dialogue in 2018, which can be considered as a first 'global stocktake', but outside the PA framework. This global stocktake is potentially a crucial tool to inform the subsequent NDCs, two years before they are submitted: *'The outcome of the global stocktake shall inform Parties in updating and enhancing, in a nationally determined manner, their actions and support in accordance with the relevant provisions of this Agreement'* (Art. 14.3).

- The Agreement encourages Parties to *'formulate and communicate long-term low greenhouse gas emission development strategies'* (Art. 4.19).
- The 2018 facilitative dialogue and the 2023 global stocktake are crucial milestones and, as a result, the identification and communication over the next two and five years of all the elements to be offered and discussed at these occasions also becomes crucial. Here civil society and research must play a crucial role in developing the necessary analysis and inputs, in particular for the 2018 stock take.
- A critical question to address is the link between collective progress and countries' current and committed efforts, so that the outcomes of the global stocktaking can effectively inform the next generation of NDCs. It remains to be seen to what extent the modalities, rules and procedures to be negotiated in the next five years will address this link.
- The introduction of long-term transformation pathways at country level could become a concrete methodological tool to support the revision process of NDCs, as it allows NDCs to be put in the context of the long-term global climate goal and national development strategies. There is, however, no process mandated under the Agreement to develop methodological guidance, nor are there provisions to regularly update them.

2.6 Non-state actors

In the run-up to Paris, a range of non-state actors (NSAs), notably businesses and local governments, have been developing their own initiatives to tackle climate change. This welcome development reflects the great size of the problem, and the multiple scales on which action is required, and at which it is starting to happen. The run-up to COP21 and the summit itself saw a large number of significant and ambitious voluntary pledges and initiatives announced. These initiatives include: the Breakthrough Energy Coalition, the largest ever multibillion dollar clean energy fund; an announcement from 53 major international companies to shift to 100% renewable energy, and 114 major companies to take on 'science-based' targets aligned with the 2°C goal; 90 cities adopting a greenhouse gas reduction goal of at least 80% by 2050, and 436 mayors joining a global Compact of Cities, launched at the 2014 United Nations Climate Summit, to support worldwide municipal ambition on climate.

Although the core of the Agreement formally concerns the Parties, consistent with the organisation of the UNFCCC to which only States are signatories, the role of NSAs is significantly considered on several occasions in the COP decisions in the context of pre-2020 action:

- NSAs of different natures (civil society, the private sector, financial institutions, cities and other subnational authorities) are explicitly recognized as crucial stakeholders in the process of defining national-scale contributions (given their expertise on potentials and conditions of emission reductions at sectoral and local levels) and as crucial players for implementation, since emission reductions at the national level depend largely on concrete actions taken at the sectoral and local scales.
- They are invited to register actions on the Non-State Actor Zone for Climate (NAZCA) platform created at COP20 to track these initiatives (Decision paragraph 118). The maintenance of the NAZCA platform is a good start for the UNFCCC's efforts to help continuing to mobilize voluntary climate action after COP21, yet further specifics about how the platform will be governed and evolve over time remain to be developed.
- Paragraph 121 of the Decision agrees to convene before 2020 a high-level event to notably serve as an occasion for NSAs (as well as public-private partnerships) to report back on the implementation of recent initiatives and coalitions, and to announce new ones.

- The importance of coordinating between Parties and NSAs on the technical aspects of mitigation is recognized in paragraph 110 (a): *‘Encouraging Parties, Convention bodies and international organizations to engage in this process, including, as appropriate, in cooperation with relevant non-Party stakeholders, to share their experiences and suggestions [...] and to cooperate in facilitating the implementation of policies, practices and actions identified during this process [...].’*
 - Decision 137 *‘recognizes the important role of providing incentives for emission reduction activities, including tools such as domestic policies and carbon pricing’*. This is a crucial anchor for the direct involvement of non-state actors in the decisions about implementation and revisions of NDCs.
- NSAs are recognised as essential partners, but no specific provisions exist for them under the Agreement. A well-thought interplay with the UNFCCC process will need to be put in place if NSAs are to be engaged with the revision of Parties’ NDCs as per their cross-cutting role in defining transformations at the firm, sectoral and local scales.
 - Current PA provisions do not specifically address the articulation of reporting and follow-up of actions at the national level under the UNFCCC with similar processes carried out outside of UNFCCC for local and sectoral scales of analysis.

2.7 Co-operation

The PA recognizes that global-scale conditions are crucial drivers affecting the possibility of implementing the ambitious national-scale transformations from the INDCs. Notably, a crucial outcome of the stocktaking dialogues will be to *‘enhance[e] international cooperation for climate action’* (Art. 14.3). A strong focus is notably put on financial aspects, highlighted, in Art. 2, as a crucial enabler for strengthening action on climate change: *‘Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.’* (Art. 2 (c)). This financial aspect is detailed in Decisions 53-65, notably by:

- *‘Decid[ing] that [...] financial resources provided to developing countries should enhance the implementation of their policies, strategies, regulations and action plans and their climate change actions’* (Para. 53).
- *‘Urg[ing] the institutions serving the Agreement to enhance the coordination and delivery of resources to support country-driven strategies’* (Para. 65).

This is also true for technological development and transfer, about which a strong emphasis is put in Para. 68 on *‘the undertaking and updating of technology needs assessments’*; the *‘provision of enhanced financial and technical support for the implementation of the results of the technology needs assessments’*; the *‘assessment of technologies that are ready for transfer’*; and the *‘enhancement of enabling environments for and the addressing of barriers to the development and transfer of socially and environmentally sound technologies’*.

Finally, capacity building is a crucial area of cooperation as highlighted by the explicit call for support to developing countries in the definition of their NDCs, which is recognised as a crucial driver of ambition: *‘Support shall be provided to developing country Parties [...], recognizing that enhanced support for developing country Parties will allow for higher ambition in their actions.’* (Art. 4.5)

- Support must be provided to developing countries in order to help them build the adequate capacities to define and implement their NDCs.

- Clarity and transparency on the needs from, and approach to, international co-operation on finance and technologies must be a core element to inform, develop, implement and review NDCs.

3. Pending Questions

The PA is predominantly considered (in a range of metaphors) as an ambitious framework, a change in gears and an igniting wave of momentum. As a framework, its ambition will crucially depend on the outcomes of the negotiation process over the next five years on rules, modalities and procedures, and the resulting next round of NDCs. Ultimately, the success of the PA in addressing the climate challenge over time will depend on the effectiveness in translating this potential into ambitious action on the ground.

The analysis conducted in the previous section has shown that the PA itself defines precise processes for this purpose, but also leaves unanswered several concrete aspects. Some of these ‘pending questions’ pertain to the need to further refinement of the decisions and provisions it introduced. For some of these, the PA itself or its accompanying decisions spell out the need for a process to agree on their content and operationalisation among Parties. Some other ‘pending questions’ fall outside the PA shell, and more generally the UNFCCC process, either by definition or as a result of the bottom-up approach outlined by PA which explicitly delegates many aspects to the Parties’ decisions.

All these questions define the priority areas for action, research and process efforts post-2015 in order to maximize the effectiveness of the PA and the attainment of its final objectives. An initial important step for the design of this agenda will be to clearly establish which efforts mainly target the UNFCCC negotiations and which ones complement them. We group all these ‘pending questions’ around two main families of questionings raised by the PA:

- How to support the increase of ambition over time?
- How to trigger action?

3.1 How to support the increase of ambition over time?

Enormous efforts were put in place to ensure that the PA would have an inbuilt ratchet-up mechanism to increase ambition over time. The main elements of this mechanism include the periodic review processes, provisions of reporting, transparency, collaboration and compliance, well-thought balance of differentiation and universality considerations, and an explicit global end-goal. A number of critical questions emerge from these elements.

3.1.1. Interrogating the definition of ambition and progression

The ratchet-up mechanism as articulated in Art. 4.3 specifies that the next generation of NDCs has to represent the highest level of ambition for the country and progression compared to the previous ones. The compliance with these requirements depends on the interpretation of ambition and progression. The PA does not foresee any definition or process to define the terms ‘ambition’ and ‘progression’; nor does this seem feasible within the UNFCCC context given the politically sensitive nature of such a discussion.

There is no doubt that scale of mitigation effort should be a major determinant in assessing the ambition and fairness of national contributions, next to the adaptation efforts, but other elements – such as type, scope, time dimension and long-term considerations, range and conditionality or the level at which it is legally binding – may need to be considered. In the

appraisal of ambition and fairness, both a domestic and an international perspective should be taken into account, noting that, for example, different forms of contributions create different perceptions amongst stakeholders. A domestic perspective will scrutinize the risks associated with the development of the country and the dynamics and potential of local policy-making and necessary in-built flexibility among sectors, to successfully transition to a prosperous low carbon society. Progression may need to take into account present-day implementation outcomes and accumulated local experience on the deployment of measures and actions designed to fulfil goals. This could, but should not, be seen as an open door for ‘gaming’ at country-level, but an essential perspective to drive ambitious, progressive and long-term transitions. It is about finding a way to scientifically unpack and build on ‘the national circumstances’ to effectively drive ambition and progress, both during the development and the review of NDCs.

The complexity of the appraisal of ambition and progression must be first recognized; secondly, it should explicitly be addressed in the research and process agendas informing the implementation of the PA. Given that there is no legal basis to review individual Party NDCs under the PA, nor a mandated process that is likely to address this important issue, the assessment of ambition and progression of Party’s NDC must be encouraged as part of in-country work and country-based analysis outside the UNFCCC and interfaces between national and global assessments need to be reinforced. Here coalitions civil society and researchers will need to be responsive to this need.

3.1.2 Understanding and making accessible the information underlying the commitments: ‘Opening the box’ of INDCs to support continued and multi-actor dialogue

INDCs have been developed largely independently by each country, with only ad-hoc alignment of targets (for example ‘–25/30%’), but without real learning among countries (benchmarking of assumptions, etc) and with, logically, rather conservative assumptions on global aspects, notably on international co-operation. The design of NDCs entailing more ambitious emissions reductions is a crucial objective that cannot be met without a shared understanding of the collective action to be undertaken. The PA sets the framework for organizing the dialogue around collective efforts in relation to the long-term goal, in the 2018 facilitative dialogue (para. 20 of the COP decision). Although the dialogue should inform the preparation of new NDCs, the assessment exclusively concerns collective efforts, rather than country-level efforts.

A major challenge will therefore be to provide the adequate information at NDC-level in order to enable a granular conversation about the collective efforts that are useful for the preparation of country-level contributions. This particularly requires ‘opening the box’ of underlying assumptions that drive INDC emissions and on which collective efforts could be strengthened, provided adequate conditions are met. This in turn calls for a more granular description of the content of NDCs that allows, for example, benchmarking of the technical sector-by-sector assumptions adopted by each country, or comparing the visions of international co-operation implied by the country’s objectives.

In short, the level of detail and disaggregation needed as inputs of the stocktaking to conduct a meaningful dialogue goes beyond the transparency requirements set by the UNFCCC to date, and it seems unlikely that the formal UNFCCC process can do this. This means, in turn, that the informal process led by the research community and civil society processes must organize itself prior to the 2018 stocktake dialogue to define clear protocols suited to provide the information needed to support the inter-country, multi-stakeholder conversation, and make it fruitful in terms of exchanges of knowledge to facilitate the increase of ambition, both within and outside the UNFCCC process.

3.1.3 Ensuring the consistency between NDCs and the long-term goal. The need for long-term country-specific scenarios aligned with global transformations

The link between cycles of NDCs and the 2°C target is only implicit in the PA: Art. 4.1 notes that countries are to peak and reduce their emissions to reach global net-zero emissions after 2050, and Art. 4.3 establishes that each successive NDC is to increase in ambition and represent the country's highest possible ambition. But the methodological approach to articulate short-term emission objectives with respect to the long-term transformations at play remains to be built. Art. 4.19 sets the principle that '*all Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies*'. If Parties respond to this invitation, this is the way to overcome the limitations experienced in the pre-Paris process where estimates of the temperature change associated to INDCs exhibit a large uncertainty, notably because these assessments have been done by simply extrapolating trajectories to 2030 (as from the INDCs) to the post-2030 period on the basis of ad-hoc assumptions.²

Even more importantly, the use of country-specific long-term transformations in support of the NDC process (and not only as an ex-post assessment tool) is a way to trigger concrete domestic discussions on ambition, according to the national specificities. Long-term analysis is a crucial tool to reveal the points of tension in the country transformations towards the global goal and provide the normative perspective for tracking the transformation

The PA leaves unaddressed, however, some crucial methodological aspects for the design of such country-specific long-term transformations, notably how to take into account explicitly the country specificities (including development imperatives) and link them to emissions pathways, and, second, how to benchmark the national emissions to the global objective of emissions neutrality by the second half of the century.

3.1.4 Articulating national efforts in the context of global transformations

The international dimension, although external to the domestic control by definition, embeds crucial parameters for national pathways and captures important policy dimensions able to unlock the barriers to domestic ambition. The challenge is to inform a co-operative vision whereby adequate international support schemes and optimised global approaches can be developed to facilitate the national-scale transformations and hence enable an increase of ambition in NDCs. This in turn requires enabling the back-and-forth between domestic and international dimensions in order to create clear information on the domestic resources and needs on cross-cutting dimensions that go beyond the emissions inventory (such matters as international trade regulations, international cooperation on low-carbon technologies, and mainstreaming of financial flows). But this discussion is difficult in the UNFCCC context because of the emissions-centric mode of analysis and the difficulty of having all Parties provide the set of economic, financial, technical information that would be required to support these assessments.

There is a need to create a context in which countries can submit new NDCs in 2020 with a stronger shared sectoral perspective for key international sectors, beyond national frontiers. So it could be a kind of '*nationally determined aggregate contribution*' plus '*shared bet on international sectors*' (such as transport technology), while respecting the accounting rules in place so far. To do this, the sectoral discussion must be organized together with researchers and countries, in advance of the new contributions. There is no barrier to Parties doing this under the current PA architecture,

² Climate Action Tracker (CAT) estimates a 'best-guess' (median) global air temperature warming of 2.7°C above pre-industrial by 2100, when Climate Interactive (CI) estimates it at +3.5°C. CAT assumes an extrapolation of the level of effort implied by INDCs to 2030 for the period beyond 2030, by situating 2030 INDCs within the IPCC AR5 scenario database and assuming that national pathways continue a post-2030 trajectory consistent with 'similar' scenarios from the IPCC database. CI, instead, considers a frozen level of emission reduction post-2030 (e.g. stabilized emission levels for the USA and EU). It assumes no direct connection between efforts before and after 2030: for example, it does not take into account existing domestic post-2030 goals.

subject to rules negotiated in the next five years, but, in any case, space for these discussions should be created in the outskirts of the official process.

The common but differentiated responsibilities and capacities, and equity considerations are additional layers to this question. These principles remain cornerstones of the PA, but, in a bottom-up framework, the concrete operationalization of these principles and their integration into country-based analyses remains challenging on the ground.

In the inter-country assessment, this calls for the development of alternative global approaches that take into account national circumstances, and most importantly domestic development achievements as captured by clear benchmarks. These benchmarks give space for countries to say what would be fair for them, in that it fulfils their country-led socio-economic objectives, but the definition and measurement of these benchmarks is a crucial challenge that remains unanswered – while conveniently embedded in the ‘nationally-determined’ terminology of the PA.

In addition, the intra-country discussion on equity should become a prominent issue in the bottom-up process set by the PA. The revision of NDCs towards more ambitious emission reductions inevitably raises the question of who carries the burden of these additional efforts within a given country. This means that emissions reduction discussions in NDC process must be integrated with more general debates on inequality and poverty.

3.1.5 Ensuring a connection between national expertise and UNFCCC reviews

A crucial lever to trigger ambition lies in the review processes, both the ones anticipated by the PA and the ones led by civil society and academia. To make it effective and relevant, however, there is a need to connect national expertise and processes with UNFCCC-level and international-level reviews, in particular in developing countries where internationally-available datasets are frequently used for consistency purposes rather than local datasets. The current experience demonstrates a gap between the databases used at the international level with those used in domestic exercises, because global datasets need to be globally consistent and therefore adopt harmonization assumptions that are not necessarily up-to-date compared to national databases. The mobilization of domestic experts and datasets is a crucial challenge to be addressed to ensure productive dialogues at the national level, consistently with the bottom-up approach of the PA. A crucial question is, therefore, to ensure the domestic participation in the review process by embedding national experts into the review teams and by relying on the databases developed at the country level. This is notably true for sectoral domestic experts, who would be able to bring the specific contextual elements of a sector in a given country and hence contribute to inform the ambition discussion with elements specifically adapted to the NDCs of their country. In particular for the official UNFCCC-reviews, the guidelines, modalities and procedures to be negotiated in relation to data requirements and ERT composition will need to take this into consideration.

3.1.6 Beyond national commitments, reaching out the dynamics of sectoral, sub-national, local and other NSA

The increase of ambition in national targets is subject to the elaboration of an approach that is not limited to national-scale analyses but allows the articulation of visions of all relevant NSA stakeholders. This is notably true for industries and business, which ultimately largely condition the national transformations but have dynamics that go beyond the national frontiers (see discussion in point 3.1.4 above). Mobilizing actors from these sectors and bringing their expertise into the national debate is a crucial condition for not only building relevant visions of the country futures but also for identifying the main levers of ambition that can be mobilized within these sectors, in connection with their impact on the evolution of the national economy. In parallel, these sectoral actors should also get organized internationally and complementarily to the national approach, in order to discuss and identify some roadmaps of ambitious action that can be envisaged for their

sectors. Although crucial input to the national NDCs discussions, these elements go beyond the UNFCCC discussion and will have to be organized in adequate fora of discussions, in which the modes of conversation around such 'sectoral' NDCs should be clarified.

The involvement of sub-national actors (cities and regions) is also a crucial condition to develop ambitious NDCs since many of the crucial levers of ambition are in the hands of these local authorities which are then best placed to put forward the most relevant transformations to be considered in the national strategies. The crucial question is then how to articulate the local visions into national plans. Many cities are already active in ambitious mitigation action and several international fora of discussion and action are already active (e.g. C40, Covenant of Mayors). The challenge is now to articulate the work done in these existing and well-structured networks of cities and the UNFCCC process. They have different logics and functioning but should be better integrated in order to ensure a diffusion of knowledge into NDCs.

3.2 How does the PA link with action?

In broad terms, the UNFCCC has not concerned itself with implementation, although there seems to be a strong call to define the precise modes of actions to enforce implementation. According to implementation literature, in the bottom-up world set by the PA a top-down approach of this question within the UNFCCC is certainly not the best approach. The UNFCCC can, however, still play a role in helping in the country-led implementation process under the condition that UNFCCC procedures are adapted to this objective. In fact, the PA itself introduces an important hook to advance implementation by requiring measures that will meet NDC targets.

3.2.1 Addressing the time lapse between review outcomes and the need for immediate strategic action: the need for 'strategic short-term action' in the next five years

Aggregating INDCs reveals that emissions would be expected to reach around 55 Gt CO₂eq in 2030 assuming they are fully implemented, which suggests a major deviation from the IPCC worst-case scenario (RCP8.5) but also means that the level of emission reductions envisaged in INDCs does not put the world on the below-2°C track. Paragraph 17 of COP decision states 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 Gt. This article therefore recognizes the need for significantly stronger emissions reductions by 2030, which poses questions about the five-year time frame of the cycles defined by the PA since many of the decisions that will be taken over the next five years will constrain the emission trajectories by 2030 and beyond. This implicitly sets a dual agenda for the 2015-2020 period, with a need to combine the adoption of concrete short-term actions towards implementation of INDCs that avoid closing options to deeper emissions cuts and open the necessary options to reduce emissions in the future. The post-Paris agenda is therefore one of 'strategic implementation' that compares short-term actions with clear benchmarks of the required transformations at a 2030 horizon if the range of global emissions set in the Agreement is to be met.

3.2.2 Articulating NDC implementation and actions of NSAs

The role of NSAs (notably business and sub-national and local authorities) is widely recognized. It is therefore crucial to ensure their engagement in the NDC development and revision processes, as well as the socialization of the issues and opportunities beyond usual circles and the mobilization of those actors that see the concrete transformations at play. Actions of these important players have, however, remained largely disconnected from the country-level INDC development processes, with exceptions.

It is therefore crucial to ground the NDC development and revision cycles in participatory processes in which the NSAs are part of the discussions – even if that needs to take place outside the legal framework of the PA. This in turn means developing an implementation agenda that is not limited to the frontiers of a country, but addresses the challenges of collective action at an operational level to inform, notably, on the required articulation between national-scale visions as discussed under the UNFCCC and sectoral, as well as sub-national dimensions relevant to this assessment.

From a sectoral perspective, the definition of sectoral roadmaps capturing the specificities of the 2°C-compatible transformations and the potential tensions compared to the current trends as envisaged in INDCs would be most important to launch this agenda. The purpose would be to articulate these roadmaps with country-scale trajectories and use them as inputs for concrete discussion on implementation, notably for what concerns the levers to be privileged in the revision of NDCs.

From a subnational perspective, and acknowledging that without local implementation, national emissions commitments will not translate into emissions reductions, there is a need to develop coherent frameworks and vertical dialogues. To organize this bilateral exchange with the national assessments, adequate methodologies must be promoted and articulated, as well as legitimate and effective spaces for the dialogue to happen. Indeed, it is clear that the methodologies needed for city- or regional-scale analyses are not just copy-and-paste versions of those to be developed and refined for the NDCs, given different granularity in the representation of measures and concrete actions. But the former provides important indication for transformations to be considered on important national-scale variables (e.g. transport trends, infrastructure development), and national-scale approaches as from INDCs give important context for local scale pathways. Implementation dimensions will be more explicitly approached in the former case, while national-scale assessments will eventually focus on a more aggregate vision. A crucial challenge to inform concrete discussions on action will be to enable concrete exchange of information to ensure compatibility of the transformations envisaged at different scales, and inform NDCs implementation with concrete insights coming from more local and explicit visions. For this, a minimum set of common variables of dialogue across scales is needed, which will have to be conducted outside of the UNFCCC process as such, but will be instrumental in making more precise the information to be represented in support of the INDCs that could enable concrete discussion on implementation.

3.2.3 Adding value in the INDC revision processes to accelerate action

A study by the New Climate Institute³ demonstrates, based on evidence from 52 countries, that INDC processes have had largely positive impacts in most countries for kick-starting long-term planning processes, advancing climate change mitigation on political agendas, integrating pre- and post-2020 approaches, enhancing facilitative institutional structures, broadening the base for participation in policy making processes, and developing in-country technical capacities. The question is how to design these cyclical processes in order to accelerate implementation on the ground, rather than

³New Climate Institute (2015) Preparation of Intended Nationally Determined Contributions (INDCs) as a catalyst for national climate action. Available at <http://mitigationpartnership.net/indcs-catalysts-climate-action> on 27/05/2016.

becoming a ‘box-ticking’ exercise. This is likely to be addressed outside the PA framework or the UNFCCC-related processes. Our experience shows that in-house assessments are crucial because they become strong learning processes regardless of their specific outcomes. The capability of continuously reflecting on the challenge ahead and adjusting – the ‘learning by doing’ approach – is expected to become a major advantage in moving from planning to implementation.

3.2.4 Facing up the link between measures and goals: the need for adequate datasets and benchmarks

Similarly, sufficient information will be required to examine and establish a productive conversation about the link between domestic mitigation measures and sector- and economy-wide goals. Most of the mitigation analysis to date is based on technologies and actions, also known as technocratic assessments. Ex-ante and ex-post policy evaluation and policy implementation know-how is less mature, particularly in developing countries. This is expected to become a critical missing element for the appraisal of the consistency between existing and planned measures and desired goal outcomes.

To fill this gap, much attention must be put into reporting and transparency systems, which are crucial for action because countries will have to create data enabling the follow-up of their actions domestically and under the UNFCCC. Notably, the stocktaking dialogue ideally needs to be not just a gap exercise, but an assessment of real progress across all levels and sectors, relative to what we need to do towards the global goal. Any review and dialogue processes should set the stage for a discussion about concrete action, and co-operation, based on explicit and detailed information supported by transparent data. These datasets must be structured and encompass the needed information to enable a comprehensive vision of mitigation policies, acknowledging that they are indivisibly embedded in economic, social and environmental policy and that they must pass the test of political acceptability, administrative feasibility in the institutional and market conditions in which they work, and distributional equity. This means typically addressing key development metrics (e.g. energy security, competitiveness, local pollution, employment, access to basic services, urbanization), especially in the context of developing countries, where development dominates political priorities.

To make this information useful for concrete discussions on implementation, a set of clear sectoral benchmarks able to guide action and implementation must also be developed at the relevant level of aggregation to capture both the drivers of emission reduction and major development indicators.

These benchmark values will be used to guide the exploration of country-level transformations, not as a single target – because this would fail to capture important differences across countries – but as indications of the important orders of magnitude to keep in mind when designing and assessing action.

About us

About IDDRI

The Institute for Sustainable Development and International Relations (IDDRI) is a non-profit policy research institute based in Paris. Its objective is to determine and share the keys for analyzing and understanding strategic issues linked to sustainable development from a global perspective. IDDRI helps stakeholders in deliberating on global governance of the major issues of common interest: action to attenuate climate change, to protect biodiversity, to enhance food security and to manage urbanisation. IDDRI also takes part in efforts to reframe development pathways.

About MAPS

The Mitigation Action Plans and Scenarios (MAPS) Programme is a collaboration amongst developing countries to establish the evidence base for the long term transition to robust, carbon efficient economies. Through its collaboration, MAPS offers an opportunity to establish synergies and share lessons with participating developing countries (Brazil, Colombia, Peru, Chile and South Africa) as well as the wider climate-change and development community, using the in-country processes as 'living laboratories'. These results provide a sound basis with which to answer key policy questions.