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Commissariat général au développement durable *Office of the Commissioner-General for Sustainable Development*

Paris Agreement

Coverage and ambition of nationally determined contributions

SEPTEMBER 2018

The Talanoa Dialogue aims at enhancing in 2020 the ambition of the nationally determined contributions (NDCs) submitted under the Paris Agreement. To do so, extending the coverage of NDCs to new sectors and gas is often mentioned. This recommendation builds on the fact that only 15% of NDCs of developing countries have a full coverage in terms of sectors and gas. An other approach, presented here, shows however that 43% of these countries include in their NDC all the sectors and gas whose emissions are reported in their GHG inventory. The room for increased ambition is therefore more limited than initially foreseen (3,5GtCO₂e), and three quarters of this potential relate to China and India. Extending the coverage of NDCs can contribute to the global enhancement of ambition for many developing countries, but won't be sufficient to bridge alone the « emissions gap » projected in 2030. Strengthening the targets of existing NDCs will also be necessary.

The accompanying decision to the Paris Agreement, which provides details on its mode of work, decided to convene a facilitative dialogue among Parties in 2018 to take stock of the collective efforts of Parties in relation to progress towards the long-term temperature goal, and to inform the preparation of new or updated NDCs in 2020. Now called Talanoa Dialogue, this political moment will be crucial to get increased climate ambition in line with the objectives of the Paris Agreement, and to bridge the “emissions gap”

(distance between the forecast emissions resulting from the implementation of current NDCs, with the emission pathways compatibles with a global warming limited to “well below 2°C”, or even 1.5°C) [1].

POSSIBLE OPTIONS

Several options are possible to enhance the ambition of NDCs [2]. A first one is to increase the level of the emission reduction target, but many other adjustments can also contribute to an increased ambition. Among them, the extension of the coverage of the NDCs to new sectors and gas is a solution which is often mentioned at the United Nations Framework Convention on Climate Change (UNFCCC).

Indeed, several studies [3] show that many NDCs only cover a subset of the country's GHG emissions. While so-called “annex 1” developed countries are obligated to submit NDCs containing economy-wide absolute emission reduction targets (therefore covering all sectors and gas), developing countries are encouraged to extend the coverage of their NDC over time (article 4.4 of the Paris Agreement). Consequently, this study focuses on the 153 developing countries (“non-annex 1”) Parties to the UNFCCC, which represent 60% of global GHG emissions (excluding LULUCF).

THE ROOM FOR INCREASED AMBITION IS SMALLER THAN INITIALLY FORESEEN

Most analysis [3 to 6] simply count the number of NDCs which cover – or not – certain sectors and gas. This approach, here called “counting approach” (see box) tends

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to conclude that a very small proportion of NDCs of developing countries feature a full coverage in terms of sectors and gas (23 over 153, see figure 1), thereby expecting a very large potential for increased ambitions through extended coverage in the subsequent submissions or updates of NDCs.

However, this approach doesn't take into account the fact that many developing countries didn't include some sectors or gas only because they don't have data about them due to incomplete GHG inventories submitted under the UNFCCC. If one is to expect a developing country to extend the coverage of its NDCs, it is more relevant to focus on the emissions resulting from sectors and gas on which the country has data on, meaning that they are included in the GHGI.

The result is very different when taking into account the available data from GHG inventories, through an "inventory approach" (see Box).

With this approach, 62 NDCs (43% of developing countries) cover the full subset of emissions reported in their inventory (figure 2). This provides a much more optimistic depiction of the quality of developing countries' NDCs, but also means that the room for increased ambition is smaller than initially foreseen with the "counting approach".

INCLUDE EMISSIONS FROM INVENTORIES WON'T BE SUFFICIENT TO BRIDGE THE EMISSIONS GAP

The "inventory approach" allows the calculation of emissions reported in the inventory, but not yet covered by the NDCs, forming the space for increased ambition which could be mobilized in the revision of NDCs by 2020. This amount is estimated to be 3,5 billion tons of CO₂-equivalent, or 14% of the current GHG emissions of developing countries, which therefore are not subject to emissions reductions or limitation targets. In particular, in 17 countries, more than 70% of the GHG emissions are not covered by the NDC (figure 3).

The extension of the coverage of the NDCs to new sectors and gas could incentivize countries to further reduce or limit the related emissions, which are likely to increase quite sharply by 2030. By comparing this figure with the emissions gap estimated by UN Environment, of around 10 to 15 GtCO₂e, we conclude that the extension of NDC coverage can play a significant role in the enhancement of ambition of developing countries, but it won't be sufficient to bridge the emissions gap. To do so, large emitters (mostly developed countries and emerging countries) will need in any case to adopt more ambitious targets.

Box - Methods used in "counting" and "inventories" approaches

"Counting" approach

A NDC is considered to have a full sectoral coverage if it covers all of the sectors defined in the IPCC guidelines for greenhouse gas inventories, except the land sector. This means: energy, industrial processes, agriculture and waste. According to this methodology, the transport and building sectors, as well as the energy-related uses of the industrial sector a reported within the "energy" sector.

Likewise, a NDC is considered to have a full coverage in terms of gas if it covers the 6 gas for which reporting is mandatory (for developed countries) under the Kyoto Protocol: CO₂, CH₄, N₂O, SF₆, PFC, HFC.

NDCs alone are sufficient to carry on this "binary" approach (counting whether the sectors and gas are covered or not).

"Inventory" approach

This approach cross-references data coming from NDCs with the one coming from the most recent GHG inventories submitted under the UNFCCC. The emissions reported in the GHG inventories are disaggregated by sector and by gas. The amount and proportion of emissions covered by the NDC is calculated according to the information provided in the NDC.

This approach allows the identification of NDCs with partial coverage (according to the "counting approach"), but which cover all of the sectors and gas whose emissions are reported in the GHG inventory of the country.

However, it should be noted that many developing countries still have very incomplete inventories due to lack of institutional capacities. A large part of the most recent inventories refer to 2000 or 2005 emissions, but some countries don't have inventories more recent than those referring to 1990 or 1994 emissions (these countries are however relatively small emitters). For this reason, the "inventory" approach is limited by its dependency to the quality of the GHG inventories, which remain very uneven despite recent positive advances.

In both approaches, the land sector is excluded from the analysis. It features several particularities, and the question of its inclusion in the NDCs has already been extensively studied in the literature [7 & 8].

If the NDC lacks clarity in relation to the sectors and gas covered, the following assumptions have been made:

- Only CO₂ is considered to be covered if the gas coverage is not specified, unless the NDC features specific objectives in relation to other gas than CO₂
- If the NDC specifies sectors covered that are different from those from the inventory (e.g. "electricity production"), and unless the NDC clarifies how they relate to each other, the "closest" sector (e.g. "energy") is considered to be included in full in the NDC.

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Figures 1 & 2. NDC coverage according to the two approaches

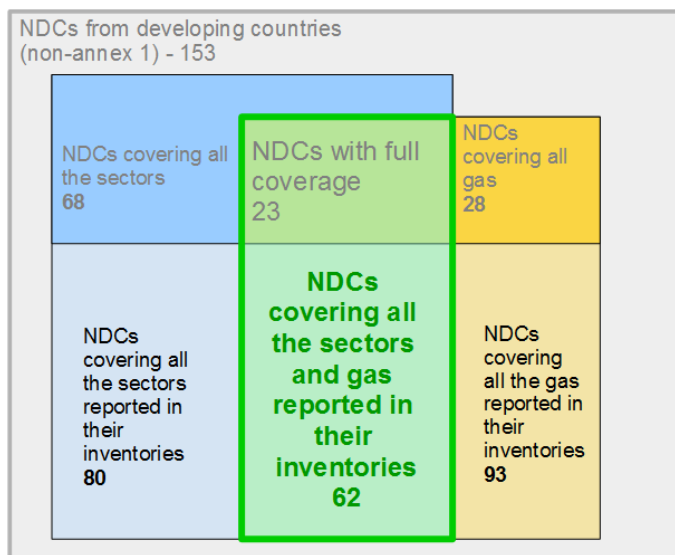
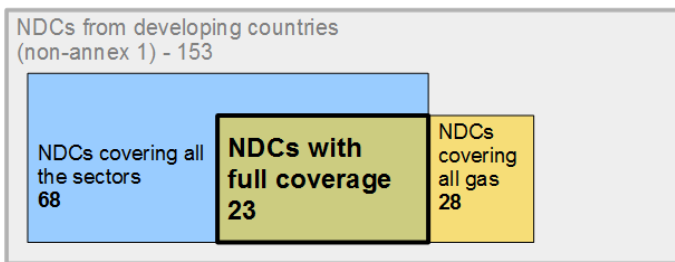
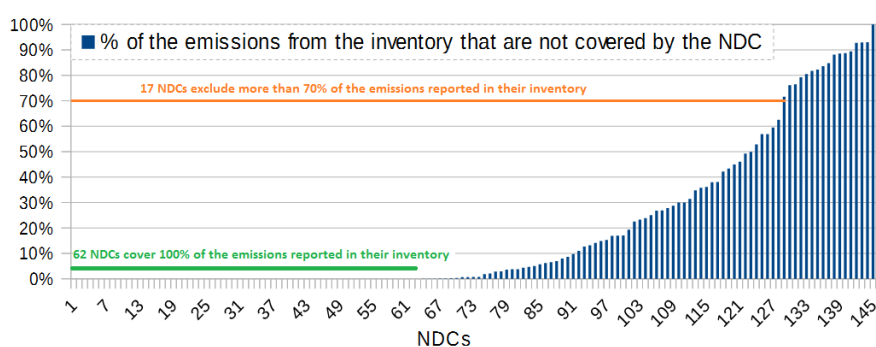


Figure 3. Emissions reported in the inventories covered by the NDC of non-annex 1 countries



HOW CAN AN EXTENDED COVERAGE CAN INCREASE GLOBAL AMBITION?

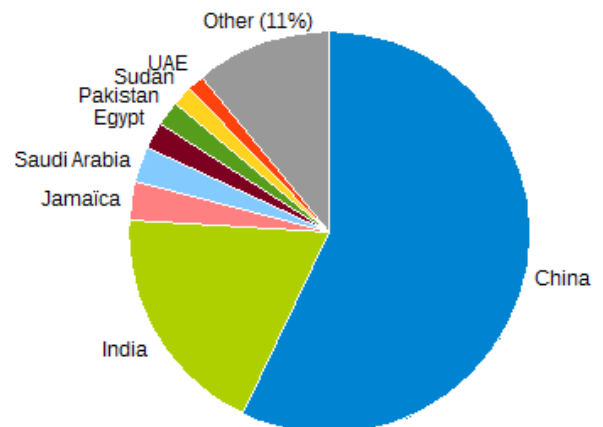
A more detailed analysis shows that the majority of these 3.5 GtCO₂e is actually concentrated in two countries: China and India, where emissions reduction targets in new sectors and gas would have the greatest impact (figure 4). For example, the Chinese NDC only covers CO₂, leaving 2 GtCO₂e out of the NDC. In its last biennial update report [9] however, China took additional commitments on these non-CO₂ gas, which could be translated into an updated NDC in 2020.

EXTENDING THE SECTORS COVERED BY THE NDC?

Including agriculture?

Many NDCs exclude the agricultural sector, despite its large contribution to the countries' GHG emissions. Some developing countries are reluctant to apply mitigation measures in the agricultural sector because according to them, it could endanger their food security, and their efforts to eradicate poverty (both principles are part of the Paris Agreement and the UNFCCC). In this regard, the international initiative "4%, soils for food security and climate" [10] launched by France in 2015, show how emissions reductions in the agricultural sector, and the enhancement of soil carbon sequestration can have numerous economic and environmental co-benefits, and can contribute to the resilience of food systems and to food security.

Figure 4. Allocation by country of the emissions reported in the inventories but not covered by the NDCs



Including the industrial sector?

A large number of countries (78, meaning half of the developing countries) exclude the emissions from industry from their NDC, despite the fact that these emissions are often reported in their inventories. This trend is not easy to explain, but several factors can contribute: (i) an intention to protect this economic sector, vector of growth for many developing countries, (ii) this can be a way to operationalize the principles of common but differentiated responsibilities, as most of the industrial output produced in developing countries (where the related emissions are reported) are actually consumed in developed countries. Yet, the inclusion of this sector in the NDCs remains important, even with limited objectives as it implies specific reporting obligations, and improves the environmental integrity of international transfers of mitigation outcome under the Paris Agreement.

Increased transparency

The precise coverage of many NDCs is often unclear, and sometimes not mentioned at all. The Lima decision in 2014 invited Parties to provide information on the coverage of their NDC, but didn't make it a mandatory provision. For this reason, several assumptions needed to be made in this study (see box). The rules currently under negotiations in the context of the Paris Agreement Work Program should be adopted at COP24 in December 2018, and may overcome this lack of transparency by requiring from countries to list the sectors and gas covered in their NDC.

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