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Policy brief

Aligning national and international climate targets



Headline issues

- Quantified national targets are crucial to the credibility of climate change policies – for design, implementation, tracking and revision.
- Most countries have an economy-wide emission reduction target in their Nationally Determined Contribution (NDC) to the Paris Agreement on climate change.
- Few NDC targets have been translated into domestic frameworks and 139 countries have no economy-wide targets in their national laws and policies.

Summary

Setting robust targets in national laws and policies is crucial to the credibility of countries' commitments to the Paris Agreement, as set out in their Nationally Determined Contributions (NDCs). Yet while 157 of 197 Parties to the Agreement have set economy-wide emissions reduction targets in their NDCs, only 58 have done so within domestic laws or policies; only 17 of those are consistent with those set in the NDCs. For the rest, there is insufficient data for comparison. These inconsistencies create doubts about the likelihood of realising the goals of the Agreement.

140 countries have set national sector-specific targets, mostly relating to mitigation of emissions from energy, transport, and land use, land-use change and forestry (LULUCF). Adaptation targets remain under-addressed both in NDCs and in national laws and policies.

More than 60% of economy-wide and sectoral targets in national laws and policies are set to 2020, while the target year for most NDCs is 2030: 14 countries have set 2030 targets in laws and policies, and 17 countries and the EU have set economy-wide targets in laws and policies to beyond 2030.

Monitoring international progress on commitments is a challenge because in many cases there is insufficient data to determine the consistency between targets in national laws and policies and NDCs. Countries need to express their targets with more clarity and detail.

Policy briefs provide analysis on topical issues, presenting specific recommendations to inform ongoing policy debates. Drawing on the Grantham Research Institute's expertise, they summarise either our research findings or the state of knowledge about a particular issue.

This policy brief has been written by **Michal Nachmany and Emily Mangan**

Accompanying online tools

A comparative view between quantified targets in the NDCs and in national laws and policies is now available for all countries at:

Grantham Research Institute's Climate Change Laws of the World database
www.lse.ac.uk/GranthamInstitute/countries

World Resources Institute's ClimateWatch platform
www.climatewatchdata.org

“Setting transparent and robust targets supports political momentum, establishing benchmarks and new norms of leadership on climate policy”

Introduction: informing action to implement the Paris Agreement

Setting robust, consistent and measurable domestic targets informs two of the questions posed by the international Talanoa Dialogue process to monitor the achievement of the Paris Agreement on climate change: ‘where do we want to go?’, and ‘how do we get there?’.

Implementing the Agreement relies on translating countries’ commitments set out in their Nationally Determined Contributions (NDCs) into national laws and policies, and quantified and measurable domestic targets are a key part of this. Robust domestic policy contributes to the credibility of the NDCs (Averchenkova and Bassi, 2016), improving the chances of meeting the global goal of holding the increase in global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit it to 1.5°C, as well as increasing the ability to adapt to those impacts of climate change that cannot now be avoided and fostering climate resilience (Paris Agreement, Article 2).¹

This policy brief compares the quantified targets in the NDCs and in national laws and policies (which we describe as ‘national targets’) to offer insights about their consistency in terms of time frames and definitions. The brief does not assess whether NDCs or national policies are consistent with the overall goals of the Paris Agreement, nor does it assess progress in implementing the NDCs.²

The importance of quantified targets

Setting national quantified targets for climate change mitigation and adaptation informs the design, implementation, tracking and revision of policies and measures. These targets provide a useful signal and direction for the trajectory, pace and rigour of a country’s intended actions. This is important to domestic stakeholders such as businesses, local

governments and civil society, and externally, as countries take cues from each other’s actions when designing their own responses.

In terms of policy design, targets provide metrics against which progress is measured. In their absence, or where they exist but lack detail, it can be a guessing game about whether policies are sufficient and difficult to hold policymakers accountable for their results. Setting transparent and robust targets also supports political momentum, establishing benchmarks and new norms of leadership on climate policy.

The Paris Agreement includes a ratcheting mechanism, which stipulates that countries shall prepare successive NDCs every five years that “represent a progression beyond the Party’s then current NDC, and reflect their highest possible ambition” (Article 4.3). Countries therefore have the opportunity to revisit their ambition. Clear, concrete targets are necessary benchmarks to track in the process of ratcheting up ambition (see Fransen et al., 2017).

Overview of targets

Targets in NDCs

Countries have been submitting their post-2020 climate actions, known as Nationally Determined Contributions or NDCs, since before the COP21 Paris climate conference in December 2015. The NDCs outline countries’ plans to reduce emissions and adapt to climate change. The targets within are designed to guide countries as they work to achieve the goals of the Paris Agreement. All countries can communicate new or updated NDCs by 2020 with the aim of enhancing ambition.

In total 156 countries plus the EU include an economy-wide emissions reduction target in their NDCs. The remainder that submitted an NDC (12 of which are Least Developed Countries) have communicated a non-greenhouse gas target, or have specified actions rather than targets. These countries account for only 5% of global emissions (WRI, 2017). Most

1. A significant gap remains between projected emissions in 2030 and emissions compatible with the Paris goals. The current NDCs collectively are consistent with warming in the range of 2.7 to 3.7°C (Fransen and Levin, 2017). UNEP’s *Emissions Gap Report 2017* finds that the gap towards the goal of limiting warming to 2°C is 11–13.5 gigatonnes of carbon dioxide equivalent. The gap towards the goal of limiting warming to 1.5°C is even higher, given that many countries are not on track to achieve their emissions reduction targets (UNEP, 2017; IPCC, 2018).

2. See Averchenkova and Matikainen (2016) for a framework to assess whether countries’ NDCs are credible and likely to be delivered.

Box 1. Scope and methodology

Source documents

- 1) NDCs submitted to the United Nations Framework Convention on Climate Change (UNFCCC).³
- 2) A compilation of around 1,500 climate change laws and policies in the Grantham Research Institute's Climate Change Laws of the World database (referenced in this brief as 'CCLW, 2018'), addressing mitigation and adaptation, and/or transitions to low-carbon economies. These include laws passed by national legislative branches, and decrees, policies, strategies and plans (which we refer to collectively as *policies*) issued by national executive branches.

Geographical scope

The analysis covers all UNFCCC Parties (196 countries plus EU, 197 Parties in total). Note that the EU has submitted an NDC on behalf of all 28 of its member states. When comparing international and national targets, we treat the EU NDC as the NDC of each of its individual member states. While EU directives also apply to EU member states, we have not considered quantified targets from these as targets in national laws and policies.

Targets – definitions and scope

Quantified: Targets are considered to be quantified if they contain a clear number, whether describing greenhouse gases (e.g. 'reduce emissions by 15%'), non-greenhouse gas targets (e.g. 'double generation of renewable energy'), or adaptation targets (e.g. 'protect 100% of coastal communities'). Aspirational or non-measurable targets, such as 'increase generation of renewable energy', were not included.

Economy-wide: We define targets as 'economy-wide' if they are targets communicated on a national level without being assigned to a specific economic sector or policy area. For example, Mexico's General Law on Climate Change commits it to cutting 50% of emissions by 2050, against a 2000 baseline. Economy-wide targets are always expressed as greenhouse gas targets.

Sectoral: Some targets are sector-specific (e.g. energy; land use, land use change and forestry [LULUCF]; agriculture; industry). For example, South Korea has committed to a reduction of 64.5 million tonnes of carbon dioxide in the power generation sector by 2030 against a 2016 baseline. Some sectoral targets

are expressed in terms of greenhouse gases, but others are not.

Target types: We recorded target type and target ambition year. Countries set different types of targets. These include base year targets (e.g. reduce emissions by x % by a given year, compared with emissions in a specified year), fixed-level targets, baseline scenario targets, intensity targets, and trajectory targets (see Fransen et al., 2017).

Data availability

For approximately 1,400 of the 1,500 laws and policies in the CCLW database, we have identified and analysed the full text (the remainder of the original texts could not be obtained, as they do not appear on national government websites or in online repositories). For the remaining documents, we have relied to the best of our ability on secondary sources such as press releases to determine if they have included quantified targets.

The data and source documents for this brief are openly accessible on the CCLW database and on the World Resources Institute's ClimateWatch platform (see p1).

countries have communicated sectoral targets in addition to their greenhouse gas targets within their NDCs.

Targets in laws and policies

As of October 2018, approximately 1,500 laws and policies⁴ addressing climate change and/or the transition to a low-carbon economy had been passed worldwide (CCLW, 2018). All UNFCCC Parties have put in place laws and/or policies to address climate change. Some of these focus on climate, while some reference climate change in the context of related issues such as energy legislation, environmental policy or development plans. From January 2016 (shortly after the Paris

Agreement was reached) to October 2018, 165 laws and policies were passed, with 32 new laws and policies passed in 2018. Overall, the rate of passage of laws and policies has dropped significantly over the past few years;⁵ this may be because the stock of laws passed previously are considered to be adequate, reducing the need for further legislation (Nachmany et al., 2017).

Within more than 350 different laws and policies spanning 142 countries, 938 quantified climate-related targets have been set. A small portion of these targets are economy-wide (137 targets across 57 countries and the EU), while others are sectoral targets (801 targets across 140 countries).

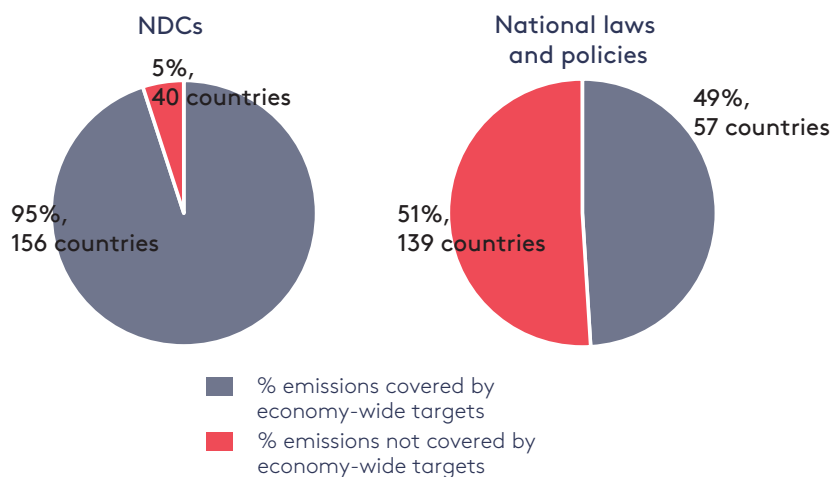
3. Of the 197 UNFCCC Parties, 195 had submitted NDCs by September 2018: Libya has signed the Paris Agreement but has not submitted an NDC. Syria has accepted the Agreement but has not submitted an NDC.

4. See definition of source documents in Box 1.

5. Between 100 and 143 new climate change laws were passed each year between 2009 and 2015, the period that included the Copenhagen climate summit and ended in the Paris Agreement (CCLW, 2018).

Source: Authors' analysis of NDCs and Climate Change Laws of the World database (CCLW, 2018)

Figure 1. Number of countries and percentage of emissions covered by economy-wide targets



“By explicitly setting a high-level target, countries can ensure that sectoral targets and policies add up to the necessary action”

Economy-wide targets

Explicitly setting a high-level, economy-wide emission reduction target helps countries to ensure that sectoral targets and policies add up to the necessary action. While it is possible to meet the overall target in a country's NDC without setting an economy-wide target – instead setting sectoral targets or implementing sectoral policies that aggregate to the overall target – this approach presents governance challenges as sectoral policies are often overseen by different institutions (e.g. different government ministries), and expressed in different metrics and ways.

Most countries – 157 in total – have communicated an economy-wide greenhouse gas emission reduction target within their NDCs. Those 157 were together responsible for 95% of global annual emissions in 2014 (WRI, 2017). The stringency and coverage of their economy-wide targets vary.

In total 58 countries of the 197 Parties to the UNFCCC have quantified economy-wide targets within domestic laws or policies. In addition, the EU has an overall target anchored in its compulsory directives that apply to all of its 28 member states, and additionally, 10 EU members have

national long-term climate strategies in national laws and policies (Climate Dialogue, 2018).

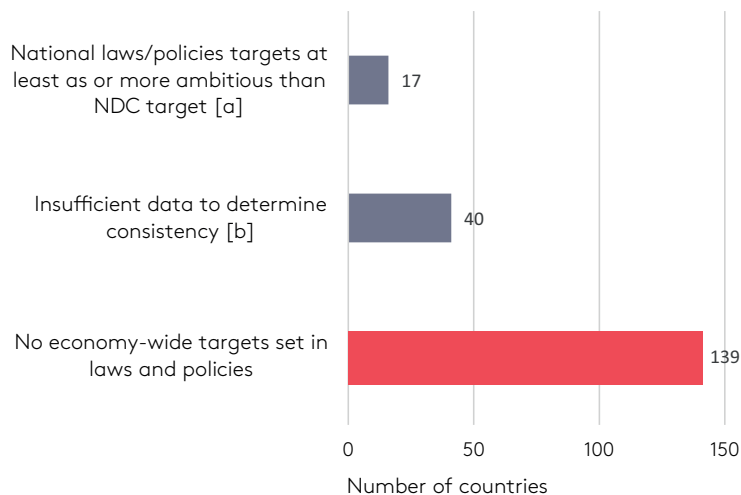
Countries that have set economy-wide targets in laws and policies were responsible for a total of 49% of global annual emissions in 2014 (WRI, 2017). There is currently insufficient data to quantify the aggregate emission reductions that would be achieved if all economy-wide commitments laid forth in laws and policies were to be met in full. However, it is clear that the aggregate cut would be even smaller than the aggregate intended reduction communicated in the NDCs.

A comparison between economy-wide targets set in national laws and policies and targets in NDCs reveals that countries are being slow to harmonise them (see Figure 2). It is clear that more consistency between the two is required – and also more data in order to identify where the shortcomings lie.

Target planning horizons

Countries need to set long-term targets in order to be able to plan ambitiously and also to support these with short- and medium-term targets, so they commit to realistic timelines and coincide with political and business cycles. Following up

Figure 2. Consistency between economy-wide targets in NDCs and targets in national laws and policies



on 2020 pledges from previous phases in the climate negotiations (in Cancún and Copenhagen), the Paris Agreement extends the planning horizon beyond 2020. Most countries (142) have a 2030 economy-wide target in their NDC, and nine have set 2025 targets. However, an examination of national laws and policies reveals that only 33 countries set economy-wide targets beyond 2020 (see Table 1).

As the Paris Agreement requires Parties to ratchet up ambition over time, all countries should progress towards setting long-term targets

– up to 2050 and beyond. Currently, only six countries⁶ have set economy-wide targets beyond 2030 in their NDCs and only 17 countries and the EU in their laws and policies.⁷

Examination of the entire dataset of economy-wide and sectoral targets in national laws and policies (938 in total) shows that nearly 60% of all targets (554 in total) have a target year no later than 2020. This means that most countries need to update their national targets and bring them into alignment with the NDC planning period.

Source: Authors' analysis.

Notes: [a]: Algeria, Canada, Costa Rica, Ethiopia, Guatemala, Indonesia, Japan, FYR Macedonia, Malaysia, Mexico, Montenegro, Norway, Papua New Guinea, Peru, Samoa, Singapore, Tonga.

[b]: E.g. in some cases countries cite different target years (e.g. a 2020 target in a national law and 2030 target in the NDC); or state different types of targets (e.g. absolute emissions target vs % reduction target). This figure includes the 21 EU members that have set economy-wide targets in national laws and policies. The EU NDC sets a collective economy-wide target for the 28 member states, which is integrated into its regional 2030 Climate and Energy Framework and is split into two separate targets. One target applies to the sectors covered by the emissions trading system/ETS and is delivered through allocation/auction and trading of allowances at the level of installations. The second applies to the sectors not covered by the EU ETS and is split into targets for each member state through the Effort Sharing Regulation. The individual state targets for non-ETS sectors then need to be integrated into domestic frameworks at the national level. This two-level system makes it difficult to determine the consistency of individual states' national targets with the overall EU NDC.

Table 1. Target horizon years in NDCs and in national laws and policies

| Target year | No. of countries that set economy-wide targets in NDCs | No. of countries that set economy-wide targets in national laws and policies |
|-------------------------|---|--|
| Up to 2020 | n/a* | 21 |
| 2021–29 | 9 | 5 |
| 2030 | 142 | 14 |
| Beyond 2030 | 6 | 17 |
| No economy-wide targets | 40 (3 of these did not submit NDCs before September 2018) | 139 |

Note: For countries that have stated multiple year targets, the latest year was used. *NDCs are by definition post-2020 pledges. National pledges up to 2020 were communicated as part of the Cancún and Copenhagen processes. Source: Authors' analysis

6. Iraq, Cameroon, Brunei, Armenia, Bhutan, Palestine.

7. Croatia, Czech Republic, Estonia, European Union, Finland, France, Germany, Ireland, Japan, Mexico, Monaco, Netherlands, Norway, Papua New Guinea, Sweden, Taiwan, United Kingdom, Vietnam.

“More than half of countries have communicated at least one sectoral non-greenhouse gas target in their NDC”

Sectoral targets

By focusing efforts on specific sectors or activities and setting sectoral targets, there can be more detailed accountability for meeting the target, often applied to a named government ministry or department. It also means that even finer targets can be derived for other stakeholders such as businesses which can, for example, then set emission reduction targets according to sectoral benchmarks. Overall, the aggregate ambition set forth by a country’s sectoral targets should build towards its overall target. Identifying gaps in coverage increases the ability to meet emission reduction targets and make them actionable rather than aspirational.

More than half of countries have communicated at least one sectoral non-greenhouse gas target in their NDC, and many have communicated multiple sectoral targets. These include renewable energy targets, afforestation targets, and building efficiency targets. Overall, we have identified 830 such targets. Commonly, countries express targets for more than one sector and more than one target per sector.

Many of the targets found in the NDCs align with the sectors defined by the Intergovernmental Panel on Climate Change for greenhouse gas emission inventories (including energy, industrial processes, agriculture, land-use change and forestry, and waste).

Most and least targeted sectors

In their NDCs countries have provided most sectoral targets for energy, land use, land use change and forestry (LULUCF), and agriculture. The least targeted sectors include tourism, social development, and coastal zones.

A similar picture is revealed in national laws and policies. 140 countries put forward 801 sectoral targets – with energy, transport and LULUCF being the most prominent.

Energy is the highest emitting sector globally, accounting for 58% of total annual greenhouse gas emissions (excluding transport) (WRI, 2017). It is therefore not surprising that energy is the most targeted sector both in NDCs and in national laws and policies, indicating that countries recognise a strong need for mitigation in the sector. Energy-related targets (excluding transport) were specified by 53% of countries in their NDCs and 64% in their national laws and policies. Energy-related targets feature prominently also because energy laws and policies have been the dominant policy structure for addressing climate change and facilitating transitions to a low-carbon economy (Nachmany et al., 2017), and because energy is often a centralised sector, making target-setting easier in terms of governance.

The LULUCF sector accounts for only 6.5% of global emissions (WRI,

Table 2. Most targeted sectors in NDCs and in national laws and policies

| Sector | No. of countries setting sectoral targets in NDCs (% of 196) | No. of countries setting sectoral targets in national laws and policies (% of 196) |
|---------------------------|--|--|
| Energy | 104 (53%) | 126 (64%) |
| LULUCF | 70 (36%) | 46 (23%) |
| Transport | 36 (18%) | 51 (26%) |
| Agriculture | 28 (14%) | 5 (3%) |
| Waste | 24 (12%) | 16 (8%) |
| Source: Authors’ analysis | | |

2017) but represents almost 20% of all sectoral targets in NDCs (and only 23% of targets in national laws and policies). LULUCF targets cover both mitigation and adaptation. Mitigation action within the LULUCF sector could yield significant benefits, given that the sector has the potential to sequester and offset total emissions.

Other sectors in which targets were identified include industry, built environment, water, agriculture, coastal zones, disaster risk management, tourism, social development, and health.

The least targeted sectors both in NDCs and in national laws and policies are related to adaptation. For example, there are only 13 targets in all of the NDCs on disaster risk management and just six targets related to the protection of coastal zones. While many countries articulate adaptation goals and priorities, most are not written as quantified targets, and are therefore beyond the scope of this research. This, along with the fact that countries are not required to communicate adaptation targets in their NDCs, is likely to be the cause of the dearth of adaptation targets.

Having a large number of sectoral targets does not equate to a larger contribution to mitigation efforts and therefore is not necessarily a good thing in itself. However, setting highly specific and transparent sectoral targets can enable implementation of policies by establishing expectations within each sector. Progress against specific sectoral targets can also be tracked and monitored so that countries and stakeholders better understand what has been achieved and what more needs to be done to reach a target.

Conclusions and policy recommendations

Our analysis reveals that countries are being slow to reproduce their NDC commitments as targets in national laws and policies. This potentially

limits the effective planning and implementation of policies, reducing the ability to address climate challenges, adapt to climate impacts, and avoid costly action at a later stage. It also reduces the ability to hold countries to account for meeting both national targets and the global Paris goal. Less than a third of the Parties to the UNFCCC have set economy-wide targets in their national laws and policies; the majority of the targets that were set in laws and policies (both economy-wide and sectoral) relate to 2020, not the 2025 or 2030 targets contained in NDCs; and there is a general lack of consistency between NDCs and laws and policies in terms of definitions, timeframes for targets, and level of ambition.

Given that a gap already exists between the targets in the Paris Agreement and in countries' NDCs, it is advisable that countries enhance the stringency and transparency of their current targets as they are expressed in their national laws and policies. This is an important step towards greater transparency over countries' credibility to deliver on their targets.

Our key findings point to three recommendations for national governments:

- 1. Introduce targets into national climate laws and policies.** Currently, there are 139 countries that have yet to specify economy-wide targets in their national laws and policies.
- 2. Extend the target horizon.** Most targets in national laws and policies are set to 2020. Taking a cue from the NDCs and setting new targets for 2030 is critical in order to carry out policy planning and design.
- 3. Add clarity and detail to targets.** There is a lack of consistency and information in the way countries express their targets. Addressing this would increase the ability to track progress, compare nationally legislated targets with international commitments, and hold countries accountable for their pledges.

“The least targeted sectors both in NDCs and in national laws and policies are related to adaptation”

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