



ECN) TNO innovation for life

Introduction

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All governments have committed to the long-term goal of the Paris Agreement. The findings of IPCC 1.5 Special Report (IPCC 1.5SR) illustrate the climate impacts and risks associated with exceeding 1.5°C and clearly underscore that greater ambition is urgently needed to achieve this limit as current Nationally Determined Contributions (NDCs) are inconsistent with Paris compatible pathways. This has implications for the role of the NDC Cluster and other initiatives (such as the NDC-Partnership) in supporting increased mitigation ambition in new and updated NDCs globally, as well as submission of long-term strategies, by 2020.

CLIMATE ANALYTICS

The purpose of this paper is to define the term and concept of ambition in the context of long-term strategies (LTS), NDCs and the United Nations sustainable development agenda (Agenda 2030) to inform activities of the NDC Cluster, the NDC Partnership and beyond. Coherent approaches are needed when working with country partners on the question of how to deal with ambition, in particular in countries with limited capacities. The false dilemma between ambitious long-term strategies and short-term implementation of current NDCs and achievement of the sustainable development goals (SDGs) needs to be demystified.

The paper formulates 10 points for mitigation ambition and includes recommendations on ways to support ambition raising through international cooperation.

10 points for mitigation ambition



10 points for mitigation ambition

02

Remember what all Parties to the Paris Agreement have agreed to

01

All Parties to the Paris Agreement have committed to its long-term temperature goal (LTTG) to hold the increase of global average temperature to well below 2°C above preindustrial levels and to pursue efforts to limit the temperature increase to 1.5°C, recognising that this would significantly reduce the risks and impacts of climate change (Art. 2.1a). To achieve this goal, Parties collectively aim to reach global peaking of greenhouse gas emissions as soon as possible, undertake rapid reductions thereafter, as to achieve net zero emissions in the second half of the century (Art. 4.1). The timing of when net zero emissions are to be achieved globally is to be determined in accordance with best available science so as to be consistent with achieving the Agreement's long-term temperature goal. Parties also have agreed to make all financial flows consistent with a pathway toward low GHG emissions and climate resilient development (Art. 2.1c).

In addition, Parties agreed to individually contribute their highest possible mitigation ambition and build momentum through successive improvements of effort, by communicating new or updated Nationally Determined Contributions (NDCs) every five years. The Paris outcome calls upon Parties to communicate new or updated NDCs by 2020¹ with time frames up to 2030. In addition, all Parties should strive to formulate and communicate Long-term low GHG emission development strategies (LT-LEDS), mindful of the LTTG (Art. 4.19), with the Paris outcome inviting parties to communicate these LT-LEDS by 2020 (1/CP.21, para 35).

Urgency to scale up ambition is demonstrated by best available science

The IPCC Special Report on Global Warming of 1.5°C (IPCC SR1.5) has shown that we can still avoid the worst impacts of climate change by limiting warming to 1.5°C above pre-industrial levels. It shows that risks and impacts of climate change escalate rapidly above 1.5°C in particular for the most vulnerable countries. The IPCC SR1.5 provides the best available science for operationalising the long-term temperature goal and the most comprehensive and up-to date assessment of mitigation pathways consistent with it: "no- or limited overshoot" pathways taking into account limits for sustainable use of Carbon dioxide removal (CDR) options. Based on this assessment, the IPCC SR1.5 shows that to limit warming to 1.5°C, global GHG and CO₂ emissions must peak around 2020 and rapidly decline by about 45% by 2030 (from 2010 levels), net zero CO₂ emissions need to be reached by 2050, and GHG emissions need to reach net zero by 2070.

We need to use the critical window of opportunity between now and 2020: the IPCC SR1.5 shows how limiting warming to 1.5° C can still be achieved but reminds us all that we are not currently on track. The report finds that current NDCs communicated under the Paris Agreement are not consistent with limiting warming to 1.5° C. Instead, the collective level of ambition implied by the current set of NDCs would raise emissions to 52-58 GtCO₂eq by 2030, far above the 25-30 GtCO₂eq required to achieve the 1.5° C limit. Sources such as the Climate Action Tracker² show this leads to warming exceeding 2°C soon and reaching 3°C by 2100.

1 Parties agreed in Paris to submit to the UNFCCC Secretariat their NDCs at least 9 to 12 months in advance of relevant session of the CMA (decision 1/CP.21, para 25), which for 2020 is CMA-3 at COP26 – this translates to submission by February 2020 at the latest with COP26 scheduled to be held in November 2020 2 https://climateactiontracker.org/global/cat-thermometer/



Achieving the long-term temperature goal of the Paris Agreement requires transformative systemic change across the whole economy and society globally. This transformational change needs to happen at a scale and pace consistent with the goal and integrated with the achievement of sustainable development goals. It can be done: according to the IPCC SR1.5, the change needed is unprecedented in scale, but not in speed. Primary energy supply needs to be fully decarbonised by midcentury, with large energy demand reductions by 2030. A strong message from the IPCC SR1.5 is the need to rapidly reduce the use of fossil fuels, in particular coal and oil, and rapidly increase the use of renewable energy, with a fully decarbonised electricity generation sector by the 2040s, a complete phase out of coal by 2050 at the latest and the share of gas in electricity generation limited to approximately 8% by that time (including gas use with carbon capture and storage). This means that many new investments in gas infrastructure would not be compatible with the long-term temperature goal.

These sectoral transformations imply a major and timely shift of investment patterns, away from fossil fuel investments and towards zero carbon investments. Investments in energy efficiency and low carbon technologies need to double in the next 20 years. With investments in fossil fuels needing to decrease by a quarter in the same time, this leads to annual investments in energy efficiency and low carbon technologies overtaking fossil investments globally by around 2025. A failure to adequately shift investment patterns risks creating stranded assets and higher costs.

The good news: some transformations are well underway, in particular the shift to renewable energy-based electricity and electrification of mobility, with a rapid fall in costs, as well as other social and technical innovations transforming urban and transport infrastructure. These need to be accelerated. These ongoing technological advances and market developments, in particular rapidly falling costs of renewable energy technologies, and advances in storage technologies present opportunities for scaling up actions and raising the level of ambition of NDCs. Current NDCs are based on pre-2014 assessments of technology costs and are therefore outdated, particularly as renewable energy and storage costs have dropped significantly, and are projected to continue to decline substantially. This changes the economics of mitigation substantially, creating opportunities that did not exist when NDCs were first conceived.

O4 A long-term and whole-economy view is essential

The development of plausible, long term strategies is critical in order to understand and define action in the short term. A deeper understanding of the future economy under climate constraints and implications of such pathways is the basis for implementing effective policy responses that manage the necessary transition in a way that minimizes disruptions. As such, longterm strategies at sector and sub-sector level provide important framing for any short-term policy planning. Coverage of the entire economy is important to understand and manage linkages between sectors, as well as to maximise synergies and minimise trade-offs with other goals, in particular sustainable development goals in an integrated way.

Long term strategies facilitate the establishment of implementation strategies, policy frameworks and investment plans, and provide predictability to sectoral stakeholders. Crucially they also help to avoid "doing the wrong thing" in the short term. An example would be moving from coal to gas in the power sector, which reduces emissions but is not aligned with the long-term goal of zero emissions. A long-term view helps to avoid missed opportunities and helps to identify synergies that may only play out over the longer term. Lack of early investment in enabling infrastructure or preparation for new and emerging technologies may make the adoption of such infrastructure and technologies more difficult in the future. If a long-term, all-economy perspective is not taken, the likelihood of stranded assets and sectors locked into climate-incompatible pathways will be significant. Strategies and investment plans will need to take account of and continuously adjust to a long-term perspective across the economy.



Incrementalism risks the Paris goal slipping out of reach

Current mitigation efforts are insufficient and not aligned with pathways that are consistent with the long-term temperature goal of the Paris Agreement. If focus is confined to implementing the current NDCs and the ambition level of these NDCs is locked in until 2030, the temperature goal will be out of reach.

Many of the NDCs submitted in 2015 present "policy as usual", rather than considering highest possible ambition in light of the Paris goal and recommendations by science. Many countries currently are not focusing on efforts to raise ambition for the next NDC round in 2020, and are instead only putting emphasis on implementation of current policies (NDC Update Report³). Implementation of current commitments is important but not enough, as global emissions continue to grow rather than peak and rapidly decline.

Understanding long-term ambition at the sector level is crucial for the NDC cycle. The incremental bottom up target setting enshrined in the Paris Agreement needs to take into account benchmarks which draw from pathways aligned with the temperature goal. This includes careful consideration of not only "what to do", e.g., implementation and enhancement of current NDCs, and increased ambition of new or updated NDCs, but also "what not to do", e. g. further expansion of fossil fuel infrastructure. Targets need timely ratcheting up in accordance with these Paris-aligned pathways.

Here, long-term strategies provide important context and direction for the ambition level of NDCs, by informing successive targets, and allowing for the back casting of these targets, starting from Paris-compatible emission and technology pathways. In the absence of long-term strategies, following an incremental process without a long-term perspective will put achievement of the longterm temperature goal at significant risk.

06

Higher ambition brings sustainable development benefits already in the short term

Mitigation actions are often synergetic with the achievement of sustainable development goals (SDGs). There are many linkages where ambitious climate mitigation has positive impacts on other areas of development. These benefits can be realized in the short term and can be an important driver of more ambitious climate action. For example, the rapid shift from fossil fuels to renewable energy and reductions in energy demand produce immediate, short term development benefits in the form of reduced air pollution, the creation of decent and sustainable jobs, greater access to clean energy, reduced fuel poverty and reduced fuel import dependency.

Understanding the sustainable development implications of climate ambition is critical to manage the transition process: to identify winners and losers; to identify opportunities and trade-offs; and to establish a shared narrative and vision. Focusing only on the "win-win" may not be enough to carry the transition as deep emission reductions may not be net positive in all cases. Careful planning is needed to avoid or manage negative distributional effects.

At the same time a lack of an ambitious long-term climate perspective can put achievement of the SDGs at risk. Lower ambition in the short term may lock countries into socially and economically unfavourable technology pathways and prevent reaping the opportunities associated with technology innovation and transition. As shown in IPCC 1.5SR stringent mitigation action in line with 1.5C brings many SD co-benefits that outweigh potential trade-offs which in turn can be minimized by stringent near-term action and deploying an integrated mix of SDG focused policy options.

Similarly, linkages between mitigation and adaptation in particular considering dynamic climate impacts need to be considered in (long term) planning.

All countries matter

07

Each tonne of GHG, each year and each fraction of a degree increase matters now to avoid the worst impacts of global warming. Hence, all countries – large and small - need to maximise their efforts to decarbonise as quickly as possible.

The collective and universal effort at the core of the Paris Agreement recognizes the "principle of equity common but differentiated responsibilities and respective capabilities, in the light of different national circumstances". In this light, some countries need to decarbonise faster at their own cost than others with less capabilities, and limited access to resources. The latter need to be supported to peak their emissions growth as soon as possible and reduce emissions thereafter.

Countries with limited capacities and resources should be supported in seizing opportunities and benefits associated with scaling up ambition and long-term transition planning. Short and long-term planning as well as mitigation and development planning need to go hand in hand and can be mutually reinforcing.

False narratives, that suggest that countries face a trade-off between development on the one hand, and investments in ambitious climate mitigation efforts on the other, may discourage some countries from the necessary sector transformation, impairing their ability to effectively steer this transition and reap benefits both in short and long term. In the worst case such narratives may encourage the expansion of fossil fuel infrastructure that soon will be obsolete, causing significant stranded assets and increasing air pollution and other damages.

All countries matter, and all countries will benefit from reduced emissions if countries with higher responsibility and higher capacity support those with less capacity through the transition process.



Some countries need to support others

Paris-compatible transformations necessary to achieve net zero emissions in line with the long-term temperature goal present a massive undertaking for all countries. The Paris Agreement is built on the notion that all countries have to play a role in collectively achieving the Paris goals, and that those countries which bear more historical responsibility and have more capacity should take the lead and provide support to those countries that do not.

Perhaps the most powerful way of supporting the global transition is to lead by example: countries with respective capability and responsibility are in a position to be role models, by striving for deep emission reductions that will bring down technology costs through market volume and innovation. Countries with higher capacities can lead by example, taking the ambition raising mechanism of the Paris Agreement very seriously, in recognition of the urgency of scaling up ambition of NDCs by 2020 to keep the LTTG within reach. Leading by example and sharing experiences on the challenges and opportunities can be very useful for other countries to take guidance from.

Despite differences in country circumstances, the Paris Agreement foresees that all countries pursue an ambitious low-emissions development path, including those countries in need of support. To this end, the Paris Agreement mandates financial, technology transfer, and capacity-building support (Art 9-11). Such support should be targeted at translating NDCs into investment strategies and updating NDCs towards increasing alignment with the goals of the Paris Agreement. Targeted technical assistance can help build national capabilities for supporting growing ambition in the NDC cycle, including through institutions, planning, policy and regulatory approaches to design, incentivize and implement transformational interventions.



All financial flows need to be made Paris-compatible

The Paris Agreement calls for making finance flows consistent with a pathway towards low-greenhouse gas emission and climate-resilient development (Art 2.1(c)). The IPCC SR1.5 has brought a renewed sense of urgency and clarity on the role of redirecting global financing: pursuing efforts towards 1.5°C requires a major shift in investment patterns and the alignment of the financial system. Specifically, annual low-carbon investments need to overtake fossil investments globally by around 2025. International climate support levels remain insufficient and are only a fraction of global finance flows. Despite increasing lowcarbon investments in recent years, levels remain way below identified investment opportunities and need to be aligned with 1.5°C.

There is urgency for both scaling up international support flows and ensuring the consistency of broader finance flows (and capital stock) pursuant to Article 2. 1(c). This means that all finance flows, including those without explicit climate benefits must reduce the likelihood of negative climate outcomes. International public support and leveraged private finance should only be made available for Paris-compatible sustainable development projects. By extension of the whole-of-government approach to climate change policy, it is logical that the notion of Paris-compatibility will be integrated as a necessary condition in all fields of development cooperation.

To establish Paris-consistency as the benchmark for all support, it is not sufficient to take the current NDCs or existing climate policy as benchmark, as they will not drive the necessary structural changes in the financial system towards 1.5°C. Support should be prioritized for those investments with the potential to accelerate systemic transitions. More needs to be done to understand public finance flows' consistency with the Paris Agreement and recipient countries' needs in terms of scale and direction of investments and support.

Beyond international support, all government domestic spending should align with the Paris goals and the private sector should be enabled by adequate policy and regulatory frameworks to redirect capital flows. Creating this enabling environment for the redirection of finance and capital flows requires a range of policy instruments, including reduction of (often economically and socially inefficient) fossil fuel subsidy regimes and the introduction of innovative price and non-price national and international policy instruments.



This task can only be achieved by working together

The fundamental sector transformations can only be achieved by working together and learning from each other. Although there is an abundance of cases of successful projects and programmes, examples of sectors that have gone through a full transition to zero emissions are still rare.

There are several areas in which donors and their implementing organisations can support partner governments with ambition raising through successive NDC cycles:

- 1. Enhanced institutional, human and knowledge capacity: For countries with limited human resources and capacities, it can be difficult to develop long-term sector plans in addition to short-term implementation action. The risk to lose sight of the long-term target is aggravated by the short-term project-based nature of a large portion of climate finance support. Technical guidance and lasting capacity building support at scale are needed for ambitious and iterative long-term sector planning, including through cross-sector coordination processes, in addition to project based implementation support.
- 2. Dialogue and evidence: Sector transitions may require bargaining processes which need to be informed by good analysis and evidence. Evidence and information on benefits can make the transition easier by reducing uncertainty, highlighting opportunities, and showing where business models need to be reformed. There is a need for specific support to sector stakeholder dialogues and creating a solid evidence base for impacts, benefits and opportunities of the transition pathways to inform those dialogues.
- **3. Doing the right thing:** Especially in the fields of infrastructure investment and service provision planning, technology choices that are made now can and will have impacts in decades to come. The timeframe for the transition is so short that wrong infrastructure choices will result in additional risk and asset losses. International support can help identify which investments are Paris-compatible, which are not, and where opportunities exist to accelerate the transition. Publicly funded investments need to be focused on Paris-compatible investments only in all countries.

4. Clarify needs: Sector transformation is capital intensive and raising ambition means increasing and often diverting investments away from carbon-intensive options towards Paris-compatible pathways. Governments will therefore need to clarify which investments are required where and when. Capacity-constrained countries are also encouraged to identify international support needs for priority and high-impact climate action areas. Entry points for ambition raising support include clarification of additional investment needs associated with a Paris-compatible sector pathway as well as making a compelling case for raising capital and attracting financial support. Joint learning and international sharing of experience among equals will be a positive force to drive the ambition mechanism. Global platforms and international organisations concerned with climate and development can play an important role here, for example through facilitating discussions, hosting communities of practice, and commissioning of analysis.



Contacts

NewClimate Institute

Frauke Roeser f.roeser@newclimate.org

Niklas Höhne Lukas Kahlen

Climate Analytics

Jan Sindt jan.sindt@climateanalytics.org

Bill Hare Damon Jones

ECN part of TNO

Xander van Tilburg xander.vantilburg@tno.nl

James Rawlins Jonna Luijten