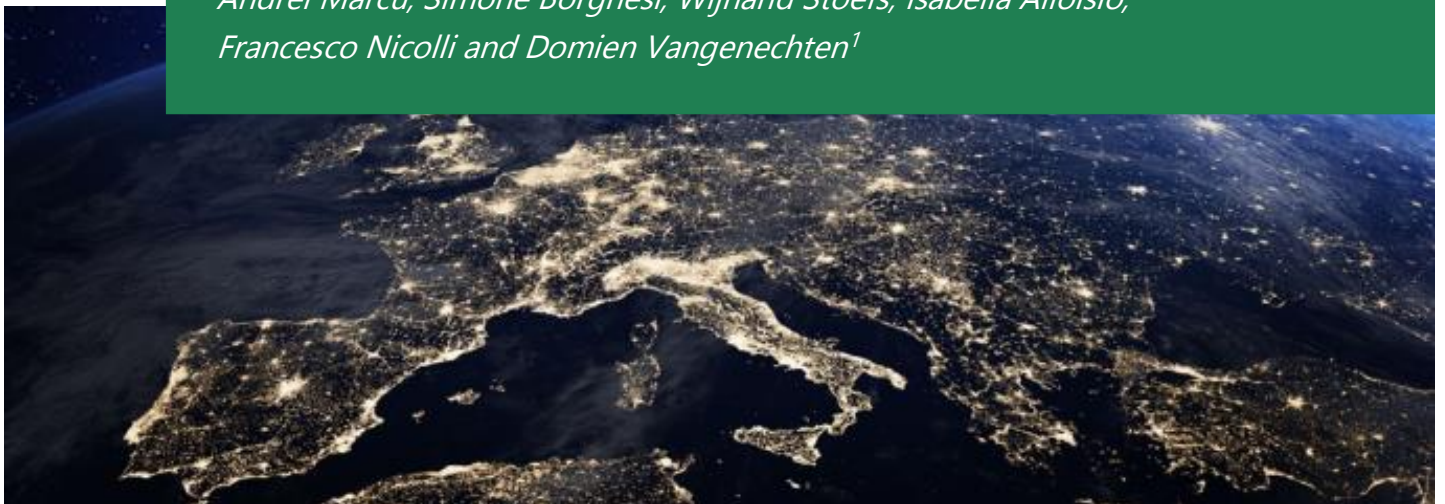


21 January 2019

## The EU's NDC after the Talanoa Dialogue

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## **1 Introduction**

Nationally Determined Contributions (NDCs) represent the efforts of Parties to the Paris Agreement to reach the Paris Agreement's long-term goal of limiting warming to well below 2°C, with efforts to limit temperature increase to 1.5°C above pre-industrial levels. Parties are requested to communicate their first NDC, or update their Intended Nationally Determined Contributions, by 2020.<sup>2</sup>

After 2020, the Paris Agreement's five-yearly stocktaking cycle will provide a regular cycle for increasing ambition. The first stocktaking cycle will start in 2023. Every five years the NDCs must be updated, with each successive NDC representing a progression in ambition beyond the previous one.

This so-called ratchet-up mechanism seeks to, over time, bridge the gap between the current combined mitigation commitments from countries and the emissions reductions that are necessary to reach the temperature goals of the Paris Agreement. This timeframe allows Parties to consider scientific, technological and legislative developments and, therefore, make the new NDCs more ambitious than the previous ones.

The European Union (EU) was one of the Parties under the Paris Agreement calling for the inclusion of the ratchet-up mechanism for ambition. Therefore, failing to enhance the EU NDC could lead to a loss of credibility and weaken the EU's influence in climate negotiations under the auspices of the UNFCCC. The EU can lead by example by issuing a more ambitious NDC. This enhanced NDC would play a critical role creating momentum on the international level and motivating other Parties to further enhance the ambition of their NDCs.

This paper explores a number of major options that the EU could consider if the decision is made to enhance the EU NDC. It shows that the options are varied, with significant differences in terms of additional mitigation effort, political will and environmental impacts.

These options have been discussed through workshops with stakeholders and policy makers<sup>3</sup> and an online survey. The survey asked participants to rate the political and social acceptability, as well as competitive, international and environmental impacts of 9 options for enhancing the EU NDC set out in this paper. The results of these efforts to gather input and foster discussion are analysed at the end of the paper.

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<sup>2</sup> Out of 169 NDC that have been communicated by countries, 15 differ from their earlier INDC.

<sup>3</sup> Workshops have been held in six cities during the Autumn of 2018: Brussels, Florence, Prague, Bratislava, Bucharest and Warsaw

## **2 Current EU's current NDC**

The EU's current NDC<sup>4</sup> pledges to achieve a domestic reduction in greenhouse gas (GHG) emissions of at least 40% compared to 1990 levels by 2030:

“The EU and its Member States are committed to **a binding target of an at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990**, to be fulfilled jointly, as set out in the conclusions by the European Council of October 2014”<sup>5</sup>

The EU NDC is set out in a short three-page table summarising its climate and energy targets for 2030: an economy-wide absolute, single year reduction target compared to base year emissions (1990).

The EU NDC comprises all greenhouse gases (GHG) not controlled by the Montreal Protocol (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>), covering 100% of emissions. The EU aims to achieve its target through domestic efforts only: there is no international component to the NDC.

## **3 Recent developments in EU legislation**

The EU's NDC built on the European Council conclusions of 23/24 October 2014<sup>6</sup>, which set out the 2030 climate and energy framework. The NDC overall target of at least 40% domestic emission reduction by 2030 was divided in two sub targets (that were not communicated in the NDC): 43% emissions reductions in the EU Emission Trading Scheme (EU ETS) sectors, and 30% in the sectors covered by the Effort Sharing Regulation (ESR – also called non-ETS) sectors (from 2005 levels). Moreover, the EU committed itself to have at least a 27% share of renewable energy in its energy production, and to improve energy efficiency by at least 27% (compared to BAU).

In the last 3 years, negotiations have taken place to implement the legislation necessary to reach these targets. The ETS and ESR kept their above-mentioned targets unchanged. The June 2018 EU Clean Energy Package, however, contained higher renewable energy and

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<sup>4</sup> A country's INDC is converted to a Nationally Determined Contribution (NDC) when it formally joins the Paris Agreement by submitting an instrument of ratification, acceptance, approval or accession, unless a country decides otherwise

<sup>5</sup> EU (2015) Intended Nationally Determined Contribution of the EU and its Member States, available at: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/European%20Union%20First/LV-03-06-EU%20INDC.pdf>

<sup>6</sup> European Council (2014), European Council (23 and 24 October 2017) – Conclusions, available at: [http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/ec/145397.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145397.pdf)

energy efficiency targets for 2030, raised to at least 32% and at least 32.5% respectively, both with an upward revision clause by 2023.

The upward revision of these targets, including the effects of other legislation recently adopted such as the Energy Performance of Buildings Directive and the LULUCF regulation with its no-debit rule, means that the EU is now set to go well beyond the 2030 target set out in its NDC. In fact, the new renewable energy and energy efficiency targets alone would *de facto* cut emissions by 'slightly over 45%' by 2030, according to European Commissioner Cañete.<sup>7</sup>

It is important to note that clarity is needed in terms of knowing where the EU is going before we can make concrete commitments in terms of where we want to end up. An internal stocktaking exercise is necessary to determine and quantify:

- The impacts of new EU legislation;
- The cumulative effect of current Member State level climate policies;
- The projected GHG emission reductions resulting from the upcoming National Climate and Energy Plans.

The European Commission's ongoing exercise on redefining the EU long-term climate strategy should provide much of the necessary clarity and allow for these policy processes to be taken into account for the enhanced EU NDC.

#### **4 Why enhance the ambition of the EU NDC by 2020?**

The Paris Agreement contains provisions to raise ambition over time through the "ratchet-up" or ambition mechanism, by which every consecutive NDC must present a progression in ambition. This mechanism is a key element of the Paris Agreement, and presents an *opportunity* to Parties that have submitted their NDC, such as the EU, to enhance their ambition upwards until 2020.

The first argument for a more ambitious EU NDC is the potential impact it could have in the international arena. As mentioned before, the EU was one of the main proponents of this ambition mechanism, and failing to enhance the ambition of its NDC could not only lead to a loss of credibility and weaken the EU's influential role in climate negotiations, but also undermine the international Paris Agreement process.

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<sup>7</sup> European Commission (2018), Opening remarks by Climate Action and Energy Commissioner Miguel Arias Cañete at the Second Ministerial on Climate Action (MoCA) by the EU, China and Canada, available at: [http://europa.eu/rapid/press-release\\_SPEECH-18-4236\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-18-4236_en.htm)

Of course, the EU cannot close the global ambition gap on its own, but a strong EU commitment could provide motivation and momentum for other Parties to follow suit. The Talanoa Dialogue and its Call for Action could create a framework to promote collective action and help strengthen the argument for an ambitious update to the EU's NDC. Ambitious global emission reduction pathways do need cooperation between Parties – if the EU leads, other must move with us. Climate clubs are an example of a mechanism to keep countries moving together and incentivize others to follow suit.

The second argument is that the EU should go further in the reduction of domestic emission. A new and ambitious international climate change commitment could force the EU into taking domestic climate action, and set the direction of current and future policy makers on the direction the EU economy and society will take. This would also send a strong signal to businesses, investors and citizens, and provides a valuable tool for the EU and its Member States for strategy setting.

On the eve of COP24, the European Commission presented its long-term vision for a climate neutral Europe by 2050,<sup>8</sup> and is currently working on the EU's long-term climate strategy to be submitted by early 2020 to the UNFCCC, as reflected in the Paris Agreement, which will include a vision on the relationship between the – current – 2030 target and longer-term goals.

In addition, as mentioned above, the EU has updated its legislation and agreed to more ambitious domestic targets since the adoption of the Paris Agreement. However, analysis by IC4E and Enerdata<sup>9</sup> indicates that the EU's current policies and commitments are currently not sufficient to reach the EU's current long-term targets for 2050.

The EU still has work to do, but some important steps have been taken towards increasing its climate ambition such as the review of the EU's long-term climate vision which explicitly investigates pathways to reach net-zero emissions in the EU. The European Council is due to provide 'overall direction and political priorities' on the EU's long-term strategy during the first semester of 2019.<sup>10</sup> These elements could be communicated in the new EU NDC.

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<sup>8</sup> European Commission Communication COM (2018) 773 final, "A Clean Planet for all – A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy", Brussels, 28.11.2018

<sup>9</sup> IC4E and Enerdata (2018). Mind the gap: Aligning the 2030 EU climate and energy policy framework to meet long-term climate goals, available at: <https://www.i4ce.org/download/full-report-mind-the-gap-aligning-the-2030-climate-and-energy-policy-framework-to-meet-long-term-climate-goals/>

<sup>10</sup> European Council conclusions, 13-14 December 2018. Available at: <https://www.consilium.europa.eu/en/press/press-releases/2018/12/14/european-council-conclusions-13-14-december-2018/>

Finally, the scientific consensus is increasingly clear in that current global commitments are insufficient to adequately tackle climate change. The IPCC's 1.5C special report summary for policy makers<sup>11</sup> concludes that the world needs to reach net-zero emissions by the second half of the century to have a reasonable chance at limiting global warming to 1.5°C.

The UNEP Emissions Gap Report 2017 highlighted that the current commitments made in NDCs cover only approximately one third of the GHG emission reductions that are necessary to be on a least-cost pathway to reaching the Paris Agreement goals of keeping temperature rise “well below 2°C”. The available global carbon budget to reach 1.5°C will be depleted by 2030 under current NDCs<sup>12</sup>.

Therefore, the scientific evidence shows that current global commitments are not sufficient to achieve the Paris goals. The Council of the European Union recognizes this in the October 2018 Council Conclusions and reconfirms the EU's commitment to leading in the UNFCCC negotiations. The Council conclusions add that the EU will continue to create positive momentum to enhance global climate ambition, and is ready to update its NDC by 2020 – dependent on efforts undertaken by other Parties.<sup>13</sup> This readiness was reiterated at COP 24 in a statement by the High Ambition Coalition, announcing that its members (including the EU) are determined to step up their ambition by 2020.

Enhancing the ambition of the NDCs could therefore show leadership, and while the EU cannot compensate the shortfall in global ambition on its own – other countries also need to urgently review their NDCs – the EU can provide momentum for other Parties to contribute more. UN Secretary-General Antonio Guterres will host heads of states and governments in New York at the UN 2019 Climate Summit to push for more climate ambition. The EU could provide momentum to that meeting by having its new and more ambitious NDC ready.

Note that there are also non-climate related events in the EU that also call for revisiting the EU NDC, Brexit is just the most high-profile example.

## **5 Options for enhancing the EU's NDC for 2030**

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<sup>11</sup> IPCC (2018), Global Warming of 1,5°C – An IPCC Special Report on the impacts of global warming of 1,5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Summary for policy makers available at [http://report.ipcc.ch/sr15/pdf/sr15\\_spm\\_final.pdf](http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf)

<sup>12</sup> UNEP (2017), The Emissions Gap Report 2017 - A UN Environment Synthesis Report, available at [https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR\\_2017.pdf?isAllowed=y&sequence=1](https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf?isAllowed=y&sequence=1)

<sup>13</sup> Council of the EU (2018), Council Conclusions for October 9 session. Available at: <https://www.consilium.europa.eu/media/36619/st12901-en18.pdf>

There are many potential options to enhance the EU NDC, and these can be combined to generate a potentially extensive list of concrete ‘recipes’. This paper examines a limited number of options – which can be combined in many ways. They fall under three major approaches. These major approaches and nine options that will be discussed are:

- I. Change the NDC’s domestic headline target, and adjust the main climate legislation
  - Option 1:** Enhance the headline target and adjust EU climate legislation
  - Option 2:** Adopt a carbon budget
  - Option 3:** Widen the scope of the EU NDC
- II. Increase the ambition of climate policies, but without adjusting the EU NDC’s headline target
  - Option 4:** Raise ambition through the ESR
  - Option 5:** Raise ambition through the EU ETS
  - Option 6:** Include efforts in other areas in the EU NDC
- III. Use international cooperative mechanisms in addition to the existing domestic headline target.
  - Option 7:** Use international carbon markets
  - Option 8:** Increase climate finance commitments
  - Option 9:** Increase support for innovation, technology transfer and capacity building

Beyond these three major approaches, there is also the issue of usefulness of the NDC as a communication tool. The EU NDC has two main roles: decreasing GHG emissions and supporting the Paris process. By improving its quality as a tool for communication, the EU’s GHG reduction commitments can more strongly support the Paris process, even if that does not significantly directly impact the climate ambition and environmental delivery of the EU’s international climate commitments.

Communication should be in line with transparency, clarity and understanding as per COP decision 1/CP.21. A clear and more transparent NDC would provide a more accurate picture of what the EU is actually doing, and planning to do, to combat climate change. It could also serve as an example for other Parties to the Paris Agreement to clarify their own NDCs and proposed climate measures. Understanding how each Party plans to reach its commitments can provide much needed trust amongst negotiators.

The quality as a tool for communication of the NDC could be upgraded in several ways.

First, the Paris Agreement (Article 4.16) requires Parties, including regional economic integration organizations, to report on internal effort sharing agreements. This element is currently missing from the EU NDC and needs to be added. The EU should therefore report on its internal effort sharing decisions, including how the emissions target (currently at least



40% domestic reduction) is split between ETS and ESR, and how the ESR efforts are divided between Member States.

Second, the EU could add details and clarifications on the tools and policies it is using to reduce its emissions, and discuss relevant governance aspects, as well as opportunities and challenges. It should also detail the monitoring, reporting and verification tools that the EU has put in place to ensure compliance with climate change targets. It could also describe the EU's use clear policy review cycles and calendars and how it could be used to support the Paris Agreement's ambition mechanism.

Third, the NDC could be updated to reflect ongoing climate action and changes to the Energy and Climate Framework agreed since the publication of the EU's INDC, such as the increased targets for Renewable Energy and Energy Efficiency and the implementation of the 2030 Framework and the Energy Union into legal texts. These developments could now be included in the enhanced NDC.

Finally, as already observed, the EU is currently undertaking a process to review its Long-Term Climate Strategy, with the European Commission recently publishing their Communication 'A Clean Planet for all'<sup>14</sup>. The conclusions of that process could be introduced in the NDC. This will clarify the EU's envisaged long-term pathway beyond 2030, to 2050 or even beyond, and might serve as an example to other Parties working on their own long-term decarbonisation strategies.

It is important to note that only enhancing the NDC through improving its value as a communication tool will limit both the domestic and international perception of the enhanced NDC, and its climate impacts. The EU NDC would not be perceived as significantly more ambitious and 'enhanced' if it does not include additional emission reduction commitments. This would be detrimental for the EU's position in the UNFCCC process, undermine the Paris Agreement's global ambition cycle that the EU championed, as well as mobilise opposition to the new NDC from actors such as civil society organisations, business representatives seeking a clear framework for future investment planning and other Parties to the Paris Agreement.

Therefore, improving the NDC by making it more explicit should be seen as no-regret option, to be considered alongside the options for enhancing the EU NDC outlined in the following sections. The current EU NDC could be elaborated on, and in any case needs to include a discussion on the internal effort sharing agreements required under Article 4.16 of the Paris Agreement. Though enhancing the NDC along these lines may provide limited environmental

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<sup>14</sup> European Commission Communication COM (2018) 773 final, "A Clean Planet for all – A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy", Brussels, 28.11.2018

benefits, it could serve as an example for other Parties and help the NDC fulfil its function as a communication tool.

## **5.1 Change the NDC's domestic headline target, and adjust the main climate legislation**

In this approach, enhancing the EU NDC would entail changing the NDCs headline target, and aligning the relevant EU legislation to the new target. All options under this approach are options for the EU as a whole – they cannot be used by individual or groups of Member States (no 'fragmentation' of EU climate policy).

Adopting a more ambitious domestic headline target would increase the credibility of the EU, allow it to maintain a central role in climate negotiations and hopefully lead to other Parties boosting their commitments as well. This approach is considered the most visible option and strongest signal from an international perspective. It would also provide the most support for the Paris Agreement ratchet-up process from all the options considered in this paper. In addition, it also provides the most clarity for investment decisions, as it minimizes the fragmentation of policies, and the single market, in the EU.

This approach implies adjusting relevant domestic EU legislation to comply with the changed headline target, and possibly a new effort sharing exercise among Member States and/or sectors. This could involve going through the full ordinary legislative procedure – involving the European Commission, Council of the EU and the European Parliament in the decision-making process. Such a procedure could take several years to finalise, especially if several pieces of legislation need to be adjusted in parallel, and if it necessitates revisiting current burden sharing arrangements.

However, the timing, and order of work, could be kept more flexible. The current NDC and its targets were agreed internally and communicated externally before the process to amend key underpinning legislation (EU ETS Phase 4 and ESR) was initiated.

Announcing a new target, and using the predetermined review processes and calendars to amend existing legislation could enable the issuance of the enhanced NDC without necessitating a long legislative process. Many stakeholders and policy makers would welcome not having to reopen ETS and/or ESR discussions so soon after they have been finalised.

Note that current announced measures in the Energy Union are already projected by the European Commission to overachieve the 40% reduction target. The headline target could therefore also be updated to more accurately reflect currently agreed upon policies without revisiting domestic EU climate policies.

There are three main options for revisiting the headline target and aligning domestic legislation to the new target:

Option 1: Enhance the headline target and adjust EU climate legislation

Option 2: Adopt a carbon budget

Option 3: Widen the scope of the EU NDC

### ***Option 1: Enhance the headline target and adjust EU climate legislation***

Option 1 could be considered the most visible and, for many stakeholders, the most logical way of enhancing the EU NDC.

The EU can increase the headline target and then adjust relevant EU legislation. The most likely and relevant candidates among EU legislation for adaptation are the EU ETS, the ESR, the LULUCF regulation, the renewable energy target and the energy efficiency target. Increased climate change efforts could be translated in higher emission reductions targets for any or all of these mechanisms, and the following examples could be implemented:

- Member States' ESR target could be increased. This could be done across the board by the same percentage, or with individual or groups Member States having differentiated additional commitments.
- Existing flexibility mechanisms in the MSR could be limited, either in terms of size, which Member States can use them, the timeframe for their use, or through the abolition of (a) flexibility mechanism(s).
- Increasing the linear reduction factor could be considered the most plausible mechanism for adapting the EU ETS. This would lead to a steeper decline in the annual emission cap for covered sectors.
- Revision of the market stability reserve (MSR). With the current rules, the MSR is expected to remove a considerable number of allowances from the market (more than 3 billion allowances, including the back loaded and unallocated allowances), and to cancel about 2.6 billion of these allowances over Phase 4.<sup>15</sup> Revisions of the MSR are scheduled for 2021 and 2026. During these revision processes the rules could be tweaked to increase the take-in of allowances in the MSR (without them flowing back into the market before 2030) and/or cancellation of allowances in the MSR.

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<sup>15</sup> ICTSD, I4CE, EcoAct, Nomisma Energia and the Wegener Centre for Climate Change (2018), 2018 State of the EU ETS report.

- The implementation of a price floor in the EU ETS could also be used to raise ambition in the EU ETS. For example, the California cap-and-trade uses a minimum price at auctions. The climate mitigation impacts of a floor price would need to be examined in detail before it could be used credibly to support a more ambitious NDC.
- Increase the share of allowances that are auctioned under the EU ETS to increase the pressure on industrial sectors to decarbonize. Attention should, however, continue to be given to possible carbon leakage risks.
- A revision of the renewable energy and energy efficiency targets was already concluded earlier in 2018. However, the current energy efficiency targets are not considered legally-binding.
- Increased climate commitments in the LULUCF regulation, for instance replacing the 'no debit' rule with clear Member State targets for enlarging sinks and carbon stocks in the LULUCF sector.

Besides these paths for increasing ambition in any of the main climate-related EU and Energy Union policies, there are many others measures that could be implemented at the EU level. Examples to raise climate change ambition in other climate related fields include:

- Greening the Multiannual Financial Framework.
- Climate-related public procurement rules for EU investments.
- Sector-specific emission reduction targets for sectors covered by either ETS or ESR. Examples include an additional target for phasing out coal and/or other fossil fuels in the electricity generation sector, phasing out of fossil fuelled vehicles or more stringent GHG emission standards in the transportation sector.

If any of these EU-wide tracks are used to enhance the EU NDCs ambition, it would need to be accompanied by an assessment on how it does not undermine the functioning of the EU ETS or the ESR and actually adds ambition to the EU's climate change efforts. For example, phasing out coal in the power sector could have waterbed effects for other sectors covered by the ETS if the emission reductions in the power sector are not compensated, for example by the corresponding cancellation of allowances.

### ***Option 2: Adopt a carbon budget***

A carbon budget for the EU would require the EU to define the total amount of GHG emissions to be emitted between the starting year and the end year of the enhanced NDC. This would provide clarity, and put pressure on other Parties to follow suit. From an environmental and scientific perspective, global emissions in 2030 are far less relevant than cumulative global emissions till the end of the century, and resulting GHG concentrations in the atmosphere. It

represents an increase in ambition as a limit is placed on cumulative EU GHG emissions – in contrast to the current single-year approach.

The current single-year target is reached if the emissions in 2030 are at least 40% lower than those in 1990. However, the emissions profile over time is flexible (both before and after 2030), and environmental consequences uncertain. As a somewhat extreme and unlikely example, emissions could be at 1990 levels until 2029, and then be drastically reduced the following year through stringent policies, only for those policies to be relaxed again in 2031.

While the risk of the EU engaging in this type of behaviour is very limited, a carbon budget could be combined with a point year target to rule it out and send a signal. This would ensure that emission trends are decreasing over the period. Without a point year target that is not necessarily the case: lower emissions in earlier years could lead to a surplus that is used in later years of the period.

This is, *de facto*, closely related to the current EU system. The current target is a single-year target, but the main policies implementing the target have prominent budgetary aspects. The EU ETS uses annual caps to determine how many allowances are auctioned and allocated and the 2030 ESR targets for Member States are determined using a linear reduction trajectory defining annual emission reductions for the covered period (2021-2030). However, due to the inclusion of flexibility mechanisms in these policies and the functioning of the MSR, neither the ETS nor the ESR can be considered ‘pure’ carbon budgets.

If a budgetary approach is to be implemented, an additional discussion will need to be had on defining the budget and how it is set:

- Through the introduction of a linear reduction factor, ending at -40% in 2030 and adopting long-term targets such as climate neutrality;
- Through the adoption of specific targets for every individual year until 2030 (which do not necessarily have to decrease in a linear fashion);
- As a sum of the current ETS and ESR targets, with a consideration of the flexibilities under the ESR, the functioning of the MSR, and clarity on post-2030 ambition;
- Through the calculation of the total budget of GHG emissions allowed to be emitted until 2030 without adopting specific yearly targets.

This discussion could also include the selection of a starting year for the budget. There are three logical options for the starting point:

- 1990 which has been used as the base year for all of the EU’s international climate commitments,
- the most recent data possible (for ETS that is 2017, but for ESR that is currently 2016),
- or,

- 2021, which is the starting year of the next trading periods of both the ETS and the ESR.

The discussion on the starting point of the budget could be central to its design. The selection of the starting point of the ESR was one of the most important elements of its design. Using the 2020 targets of the ESD as the starting point for the 2021-2030 ESR period would have ignored the expected overachievement of the 2020 targets by many Member States (estimated in 2016 by the European Commission at around 1,7 billion tonnes of CO<sub>2</sub>). The selection of the 2020 target (as opposed to real emissions) for the start of the ESR would therefore have seriously undermined the functioning and environmental delivery of the ESR by 2030. A similar and extensive assessment will need to be made with regards to the starting point of the budget to ensure its functioning.

The end year of the budget could also be a difficult issue to resolve. Does the EU stick with 2030? Or build upon the long-term climate strategy? Or does it define the total carbon budget for the EU till the end of the century or beyond? Is it combined with a point year target?

From an environmental and scientific perspective, an earlier starting point and a later end year may seem more logical. Pragmatically, defining the carbon budget till 2100 seems politically unrealistic, same for a budget covering 1990-2030 as nearly 75% of the period had already passed.

From a communication perspective, a carbon budget has advantages and disadvantages. It would set the emissions the EU allows itself the coming years in stone, especially if it was linked strongly to the EU's long-term climate strategy and proposed emissions pathways to 2050 and beyond. However, the EU's headline target climate target has been a percentage reduction since the start of the Kyoto Protocol. Some would argue that a percentage is more visible for many and that adopting a carbon budget is unnecessarily throwing the communication baby away with the environmental bathwater.

At the international level, there are also possible benefits and pitfalls. A budget could prove divisive at UNFCCC negotiations in light of equity and historic responsibilities for current levels of GHGs in the atmosphere. On the other hand, if it motivates other Parties to adopt carbon budgets it could strengthen the environmental integrity of the Paris Agreement process and NDCs.

### ***Option 3: Widen the scope of the EU NDC***

The scope of the EU NDC is economy-wide according to UNFCCC definitions. However, this definition does not accurately reflect the real world. There are several sources of emissions that are not accounted in this approach: emissions from international transport (maritime or aviation) and embedded carbon in goods and services imported into the EU.

Emissions from international maritime and aviation activities are left outside the scope of the UNFCCC negotiations and discussed in the respective UN bodies (the International Maritime Organisation - IMO and the International Civil Aviation Organisation - ICAO). Climate change is currently under discussion in both those bodies. IMO adopted an initial strategy on GHG emission reductions in April 2018, but is yet to implement specific measures to ensure it fulfils the emission reductions envisaged in its initial strategy. ICAO announced the creation of the CORSIA scheme in 2016, and is currently working on the rulebook of this offsetting mechanism for international aviation.

Notwithstanding these deliberations, the EU could add either, or both, sectors to its NDC. Emissions from both these sources will need to be tackled or further tackled at some point, and the EU could show leadership here.

The EU also imports embedded carbon in imported goods. An analysis by CarbonBrief<sup>16</sup> estimated total imports of carbon into the EU at 770 million tonnes in 2014, which is over 17% of emissions from within the EU (not counting GHG embedded in imports) for that same year<sup>17</sup>. Note that this is still not a complete picture of total emissions by EU consumers as it does not take services into account.

Under the UNFCCC, emissions are supposed to be tackled in the source country. However, discussions on an EU border carbon adjustment (BCA) or border carbon tax have been held throughout EU Member States for decades. BCA could have two uses: (1) as a climate policy pushing producers of goods outside the EU to decarbonize and (2) as a carbon leakage protection instrument for industry within the EU. However, imposing climate-related tariffs on imported goods is likely to be met with international resistance and challenges within the WTO's dispute settlement process, as well as considering an explosive political issue at a time when multilateral trade agreements are under stress.

There are also strong international concerns and potential repercussions with regards to unilaterally tackling emissions from international transportation, which severely limits the political feasibility of expanding the scope of the EU NDC to include international aviation and maritime transportation. In 2012, the EU's attempt to bring aviation into the scope of the EU ETS had to be limited to only intra-EU flights due to strong pressure, both from international partners and the aviation industry. This led to the "stop the clock" mechanism that gave ICAO

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<sup>16</sup> CarbonBrief (2017), Mapped: the world's largest CO2 importers and exporters, available at: <https://www.carbonbrief.org/mapped-worlds-largest-co2-importers-exporters>

<sup>17</sup> EEA (2017), Environmental indicator report 2017, available at: <https://www.eea.europa.eu/airs/2017/resource-efficiency-and-low-carbon-economy/greenhouse-gas-emission>

time to implement a global mechanism to tackle emissions from aviation, which was considered a positive outcome.

The “stop the clock” mechanism allowed the EU to maintain pressure on ICAO and the international community to ensure that the negotiations end up with strong policy that can tackle aviation emissions. If negotiations result in a toothless policy with low environmental integrity, the idea was that the EU could “start the clock” and international aviation to and from the EU would be covered by the EU ETS.

The EU could expand the scope of the NDC to include international transportation in order to add pressure, and create a “stop the clock” mechanism that covers both aviation and maritime transportation. However, this approach is very likely to be strongly opposed by other Parties, and risks undermining progress made and hamper current efforts within ICAO and IMO on climate change.

Time is another dimension along which the scope of the EU NDC could be expanded. The current NDC aims at 2030, with no discussion on what happens after. An enhanced NDC could include targets further in the future, and build upon the EU long-term climate strategy to give a clear signal to international partners, citizens and investors on how the EUs emissions will evolve in the longer term.

### ***Challenges for changing the domestic headline target and adjusting the main climate legislation***

Increasing the EUs climate commitments and sharing the additional effort among economic sectors and Member States is challenging at best, and the EU has just closed of a period of long negotiations on different legislative proposals. These proposals were at the core of the EU’s energy and climate framework and set different climate and energy targets up to 2030. It is unlikely that Member States would be willing to revisit and restart in-depth negotiations to discuss a new increase in targets, and how to transpose those targets into the recently finalized legislation.

The legislative process to increase the headline target and adjust domestic legislation will likely involve fulfilling one or more (potentially parallel) full cycles of the ordinary legislative procedure. This could be very time consuming, the legislative procedure for the Phase 4 revision of the EU ETS took 2.5 years to complete and the outcome of such a process is uncertain at best due to political challenges.

However, amending legislation to increase its ambition could arguably be a less profound and intensive process than the recently finished – more technical – negotiations on the EU ETS and the ESR. There are two potential solutions to avoid a full renegotiation of the EU ETS and the ESR:



- Limit the discussion to redefining the NDC headline target, and use the review process for the EU ETS and ESR to align those policies with the new target. However, following the review calendar could present missed opportunities for increasing EU ambition in the future: the first global stocktake under the Paris Agreement ratchet-up cycle is to begin in 2023, while the ESR for example is only due to be reviewed for the first time in 2024.
- Limit the scope of the renegotiation by only revisiting the key provisions underpinning the level of ambition of these policies. In the ESR, for example, reopening the entire directive could be avoided by either reviewing the criteria for effort sharing, the Member State targets and/or the use of flexibility mechanisms. The EU ETS discussions could be limited to the Linear Reduction Factor or the cancellation of allowances from the MSR.

These elements are, arguably, less technical and more political in nature and could allow for a more focused revision of the legislation.

Currently the EU is set to overachieve its 2020 target<sup>18</sup>. Raising the target for the EU ETS and/or ESR policies could therefore be done without requiring extra action. However, translating current overachievement into a new target might not be perceived as a true enhancement of the EU NDC – both domestically and internationally.

With regards to adopting a carbon budget in the EU NDC, difficult negotiations will be necessary to define key elements of the carbon budget, such as: start year, end year, whether or not to combine with a point year target etc. On the international level, it could be welcomed and give momentum to a wider movement towards carbon budgets, but it could also restart very difficult discussions on historic responsibilities.

The main challenge for expanding the scope of the NDC to include international aviation, maritime transportation and/or carbon embedded in imports and exports is the political reality that on the international level significant opposition and repercussions are very likely. Including these emissions in the scope of the EU NDC could impact efforts to tackle these emissions at the respective UN bodies, negatively impact the functioning of the WTO and trade negotiations and even affect negotiations in the UNFCCC.

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<sup>18</sup> The European Environment Agency estimated in its 2017 Environmental indicator report that 2015 that GHG emissions for the EU will be 26% lower by 2020, compared with 1990. The target for 2020 is 20% lower than 1990, and was reached already in 2014. However, EEA projections do indicate that the current decarbonisation trend will not be sufficient to reach the 2030 target of -40% compared to 1990. Report available at: <https://www.eea.europa.eu/airs/2017/resource-efficiency-and-low-carbon-economy/greenhouse-gas-emission>

## 5.2 Increase the ambition of climate policies, but without adjusting the EU NDC's headline target

Domestic action in the EU can also be upgraded without adjusting the headline target of the NDC. Options under this approach include action taken by the EU, but also by coalitions of Member States or a single Member State. In addition, commitments and actions from actors beyond the EU institutions and Member States governments could be included in the NDC. Such actors could include sub-national levels of government (provinces, cities, autonomous regions), economic sectors or even individual civil society organisations and companies.

In practice, it would mean that ambition is *de facto* increased without a *de jure* adjustment of the headline target. The EU NDC's headline target is not changed, but additional domestic commitments are summed up and are added 'below' the headline target.

Three options are envisaged for enhancing the EU NDC without revisiting the headline target:

Option 4: Raise ambition through the ESR

Option 5: Raise ambition through the EU ETS

Option 6: Include efforts in other areas in the EU NDC

The main advantages of this approach are that it does not need to follow EU legislative processes, or involve new negotiations between all Member States in the European Council on an updated target. It allows Member States to take unilateral action – alone or through a coalition of more ambitious Member States. Ambitious Member States could go further than EU legislation for their own reasons: their economy and international competitive position in the short and/or long term could benefit, their international prestige could increase, or climate action is firmly on the political agenda and voters demand ambitious climate action.

However, by allowing more ambitious Member States to forge ahead with more ambitious unilateral action, other Member States can free-ride and risk falling behind in terms of decarbonization trends and investments. Any climate action that is not coordinated at the EU level risks increasing the level of dangerous policy fragmentation. This could affect the competitive landscape within the EU over the short and the long term.

In the short term it is unlikely that more ambitious Member States will ignore carbon leakage risks, which could even put pressure on the EU's internal market. In the longer term, more ambitious Member States could have a competitive advantage in the green economy, with less ambitious Member States struggling to catch up. These elements hamper the convergence of EU countries in terms of income equality and economic performance.

#### ***Option 4: Raise the ambition of the ESR***

Member States are responsible for national policies to limit emissions from the sectors covered by the ESR legislation – agriculture, transportation, building, non-ETS industry and waste among others. The ESR covers almost 60% of EU emissions, and has an emissions target of -30% by 2030 compared to 2005.

The ESR legislation sets emission reduction targets for individual Member States and includes a number of ‘flexibility mechanisms’ that Member States can use while implementing national policies to reach their target.

There are many potential options that individual or groups of Member States can use to increase the ambition of the ESR sectors. These options include:

- Unilateral overachievement of existing ESR targets by individual Member States or a coalition thereof. Either by publicly communicating a new, more ambitious, Member State ESR target, or through a commitment to cancel ESR credits (AEAs).
- Cooperation between a coalition of Member States to increase ambition together in a specific sector. Countries could cooperate to implement a cross-border mechanisms in a sector covered by the ESR sector, such as charging infrastructure for electric vehicles.
- Member States can limit their use of the available ESR flexibility mechanisms. Commitments could include, for example, promises not to use any credits from the LULUCF sector or the EU ETS to achieve their ESR target, or commit to not bank or borrow AEAs.

#### ***Option 5: Raise the ambition of the EU ETS***

Mechanisms to increase the ambition of the EU ETS at the EU level were already listed in a previous section, and include: increasing the LRF, revising the functioning of the MSR, increasing the auction share of allowances and implementing a price floor in the EU ETS.

Individual or groups of Member States - could, in addition, make a commitment to voluntarily cancel allowances from the EU ETS auctioning calendar. Voluntarily cancelling units permanently removes these units from the emissions trading system, thus decreasing the EU’s cap on emissions.

The EU ETS Directive does explicitly allow for Member States to cancel allowances to compensate for national policies, for instance the closure of electricity generation capacity due to additional national measures (such as a coal phase out in the power sector). The cancellation of allowances should be done in a transparent and predictable manner to minimize market distortions and ensure that market actors can understand the implications of the cancellation and can act accordingly.

Note that voluntary cancellation by a Member State means that the number of allowances to be auctioned by or on behalf of that Member State is reduced. This means that the Member State itself foregoes the financial benefit of auctioning those allowances.

### ***Option 6: Include efforts in other areas in the EU NDC***

Commitments can be made in other areas and through other policies than the EU's main climate change policies. Any policy with a direct, or indirect, climate change mitigation impact could be included in the NDC. These policies could affect sectors already covered by the EU ETS and/or the ESR, but would function beyond those policies at a lower level of climate governance.

Potential fields in which commitments could be made include climate standards for goods and services (for example vehicles), trade policy, fossil fuel subsidies, investment policy, renewable energy, energy efficiency, green mobility, investments in greening the housing stock, aff- and reforestation, green procurement etc.

Climate actions in these fields could be undertaken by a wide range of actors: the EU as a whole, individual Member States or a coalition of more ambitious Member States, cities or regions. But they could also take the form of voluntary commitments by economic sectors, companies, financial institutions or citizen associations. The Japanese NDC for example contains commitments taken from action plans from industrial associations, such as the chemical and iron and steel industries.

The enhanced EU NDC could contain an exhaustive list or table of climate commitments made by a wide variety of actors. Examples of such measures are legion, and include:

- Member States phasing out the use of specific or all fossil fuels in the power sector.
- Member States reforming fossil fuel subsidies and tax incentives for green mobility.
- Cities acting to limit their climate impacts, for example through the greening of urban mobility and their building stock.
- Sectors committing more funds to the research and development of CO<sub>2</sub> neutral, low-carbon technologies or adaptation technologies. Potentially even promising 'open sourcing' any results to ensure new climate-friendly technologies can be picked up widely as fast as possible.
- Funding from a wide variety of sources for afforestation and reforestation projects in the EU.
- Ambitious renewable energy targets for investments by investment funds or economic sectors. Many large retail and telecom companies have already announced their own renewable energy targets.

Some of these examples could have significant climate change mitigation effects, also beyond the borders of the EU. The EU is an important producer of, and market for, vehicles. If the EU

car industry makes a commitment to phase out the production of fossil fuelled vehicles, this would have significant spill over effects.

Note that any commitments formulated in the NDC should be quantitative and clearly defined. Communicating vague and qualitative efforts in the enhanced NDC could be counter-productive for the EU's role in the UNFCCC negotiations, and for the example the EU NDC should set for other Parties to the Paris Agreement.

### ***Challenges for increasing the ambition of climate policies, but without adjusting the EU NDC's headline target***

The main challenge for the EU-wide options under this approach is the need for potentially long and costly negotiations. But there are also significant challenges to adding commitments from other actors than the EU-level to the EU NDC: (1) fragmentation of EU climate policy, and (2) how an NDC that is less harmonised at the EU level would be perceived by domestic actors and international partners.

There is a considerable danger of fragmentation of climate policies and efforts across the EU related to many of the options and examples described above such as a two-speed (or multiple-speed) EU ETS. In addition, the increased ambition of measures by sectors, cities, Member States etc. need to be sufficiently large, transparent and quantifiable in order to provide a credible signal and useful addition to the EU NDC.

Note that fragmenting efforts and policies below the EU level also risks undermining the efficiency and cost-effectiveness of EU's current approach to climate change mitigation. Care is necessary, for example, in terms of how Member States cancel allowances in order to minimise potential market distortions arising from voluntary cancellation. Without clear timetables, transparency and predictability provisions, significant market distortions are possible.

While there are differences between EU Member States in terms of ease to mitigate GHG emissions, such differences should be accounted for at the level of EU policies. Allowing each Member State to decide how far they can go in terms of climate action risks a race to the bottom as countries could seek to compete with regards to stringency of climate policy – undermining the EU's single market.

Changing the nature of the EU NDC from a clear pan-EU target to a list of more bottom-up commitments will also not help the overall message delivered by the EU through its NDC. Commitments made by the EU as a whole provide a stronger signal than commitments made at other levels of governance or in the private sector. There is a difference in optics between EU and Member State level commitments, and an even stronger difference when compared with efforts promised by cities or companies.

In addition, there could also be legal hurdles to adding commitments from non-state actors to the EU NDC. Who is responsible for the compliance with commitments taken below Member State level: e.g. a voluntary contribution from a sector that has activities across the EU. Can such commitments actually be included in an NDC without a Party to the Paris Agreement taking responsibility for them?

Finally, climate change is a collective action problem, and if even the EU Member States cannot coordinate their response together, it does not bode well for the Paris Agreement process where the EU wants to show leadership and push for compromise.

### **5.3 Use international cooperative mechanisms in addition to the existing domestic headline target**

The current EU NDC specifies that the EU's target is to be reached domestically. An enhanced EU NDC could:

- add an international pillar to the domestic target, without updating the NDC's current domestic target ("at least 40% domestic reduction, plus x% through international cooperation"), or
- be included in a new headline target ("at least 40+x% reduction through domestic measures and international cooperation")

Additional international commitments could be undertaken by the EU as a whole, or by Member States or a coalition of Member States.

The advantages of adding an international pillar to the EU's NDC include potentially bypassing the need to revisit the domestic target and new related new effort sharing negotiations. Domestic policies would also not need to be amended, except to potentially allow for the use of international measures within domestic policies (for example using international credits for EU ETS or ESR compliance). At the same time, it could send a powerful signal that the EU, or its Member States, is willing to engage with other Parties to the Paris Agreement, show leadership with respect to international climate cooperation, support other Parties, and ensure they can also benefit more directly from the EU's climate commitments (beyond the global environmental benefits enjoyed by everyone).

The international pillar could include several climate measures. The main options that are discussed in this paper are:

- Option 7: Use international carbon markets
- Option 8: Increase climate finance commitments
- Option 9: Support innovation, technology transfer and capacity building

### ***Option 7: Use international carbon markets***

The EU, individual Member States or a group of Member States could use international carbon markets to add an international layer on top of the current – domestically focused – NDC. This should proceed according to the Article 6 of the Paris Agreement rulebook, once it has been finalised. Credits could be issued in accordance with Article 6.2 and Article 6.4 mechanism under the Paris Agreement, currently under development in UNFCCC negotiations.

This would ensure that the EU remains credible in the UNFCCC negotiations on Article 6, as it would create demand for units issued and traded under the Article 6 system. However, this implies that credits under Article 6 are of the highest standard in terms of environmental integrity and additionality.

If the Article 6 negotiations do not result in a system in which EU stakeholders have the highest level of trust, the EU could put additional requirements on projects and credits (for example on vintage, technology or country of origin) beyond those set by the Paris Agreement rulebook. This would not only complicate trading of international credits through the creation of a sub-market for highest standard credits, but also undermine international negotiations on Article 6.

International carbon credits could be acquired by the EU or its Member States through a variety of ways: trading on international markets, multilateral funds or bilateral projects. The EU could also commit to a purchasing strategy that ensures higher environmental benefit, such as a 'net global mitigation strategy'. Not all credits purchased towards its NDC would be used for compliance which would increase ambition.

Lower marginal abatement costs of climate mitigation efforts in third countries means that the use of international markets could enable access to cheaper mitigation options abroad for EU stakeholders.

### ***Option 8: Increase climate finance commitments***

The EU or Member States could increase their contributions to climate finance, either through bilateral commitments or multilateral financing mechanisms. This could aid low income and/or vulnerable countries with both mitigation and adaptation, for example through climate-friendly development projects, renewable energy infrastructure, etc.

Existing mechanisms that could be used include the Green Climate Fund and the Global Environmental Facility at the global level, or the European Development Fund and the European Investment Bank at the EU level.

A report by ACT Alliance EU<sup>19</sup> (released in April 2018) analysed the climate financing contributions from individual EU Member States and found that in 2016 EU Member States contributed 15.5 billion euros in 2016, and that total financing from the EU has more than doubled between 2013 and 2016.

However, not only are negotiations on climate finance under the auspices of the UNFCCC relatively blocked, the EU is already considered by many developing countries as not on track to reach 2020 climate finance commitments. Will new commitments in this area be a credible signal on increased ambition from the EU?

### ***Option 9: Increase support for innovation, technology transfer and capacity building***

A third option for increasing the scope of the EU NDC to the international level relates to including commitments related to innovation, technology transfer and capacity building.

Innovation is required to 'green' technologies and address climate change, but new technologies which have been developed also need to be disseminated to maximise their impact. Therefore, technology transfer (for example through the UNFCCC's Technology Mechanism) is another area where the EU could enhance its NDC through the addition of clear commitments in this field.

Extra commitments with respect to capacity building could improve the capacity of individuals, organizations and institutions in developing countries and countries with economies in transition regarding identifying, planning and implementing ways to mitigate and adapt to climate change. Increased commitments to the UNFCCC's Capacity Building Frameworks are one example for enhancing the EU NDC with respect to capacity building.

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<sup>19</sup> ACT Alliance EU (2018), 'An analysis of the Climate Reporting of the European Union', report accessible through: <https://actalliance.eu/wp-content/uploads/2018/04/Analysis-of-the-climate-finance-reporting-of-the-EU.pdf>



## ***Challenges for using international cooperative mechanisms***

The same caveats that applied to earlier ones also apply to these three international options: the trade-off between pan-EU negotiations versus fragmentation of climate policy. But the addition of an international component to the EU NDC also faces a number of additional challenges.

The use of international markets and climate finance tools have budgetary implications for Member States and/or the EU budget if public finances are utilized. Not only could this be untenable for finance ministries, but spending taxpayer money outside the EU instead of inside the EU could have political repercussions in many Member States. Using international carbon markets and/or increasing climate finance commitments would reduce funding for the climate transition in the EU, and thereby limit climate dividends linked with green growth.

In addition, a high reliance on international mechanisms, as opposed to extra domestic efforts, could be unacceptable for other Parties to the Paris Agreement and domestic stakeholders. The view that the EU should first and foremost focus on its domestic transition is widely held, as is the distrust of international carbon markets due to historic issues with environmental integrity and additionality. An Oeko Institut study from 2016 estimated that only 2% of CDM projects they reviewed had a high likelihood of being additional<sup>20</sup>.

The Article 6 negotiations will be critical in this regard. Not only does the Article 6 system need to be operational on time, but it also needs to conclude with a result that inspires full trust among EU stakeholders, especially with regards to environmental integrity and additionality. Otherwise the EU might set additional requirements on credits, such as vintage or additionality. It is possible, for example, that if all Clean Development Mechanism (CDM) credits are transposed without limitations into the Article 6 system that the EU could set additional requirements such as:

- location of project, with a prioritization of developing and least developed countries
- vintage of credit, with older credits being banned to ensure that current and future climate efforts are incentivized
- limits on technologies, for example no credits related to coal power plants

Furthermore, will commitments in the fields of innovation, capacity building and technology transfer be perceived as strong enough for the EU NDC to be considered 'enhanced'? Innovation is considered an important element of the EU's competitiveness, making it

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<sup>20</sup> Oeko Institut (2016), How additional is the Clean Development Mechanism? Analysis of the application of current tools and proposed alternatives. Available at: [https://ec.europa.eu/clima/sites/clima/files/ets/docs/clean\\_dev\\_mechanism\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/ets/docs/clean_dev_mechanism_en.pdf)

challenging to encourage development, diffusion and deployment of new technologies to third parties.

With regards to the level of the commitments on using international cooperative mechanisms (EU-wide, individual or by groups of Member States), the issue of visibility of the signal remains an important one. An EU-wide commitment would likely provide a stronger signal and be perceived as stronger than Member State level commitments.

## **6 Conclusion**

There is a wide range of options available to the EU, its Member States, and other actors to enhance the ambition of the EU's NDC. These options should not be seen as mutually exclusive, but rather as a list of options that can be combined into a package.

There are both opportunities and challenges related to each of the options. There is an important trade-off to be considered on how to proceed with enhancing the EU NDC: strength of the signal of the new NDC versus ease of negotiation and implementation of new commitments.

On the one hand, updating the EU's headline target, amending relevant domestic policies, expanding the scope of the NDC and additional EU commitments in the fields of climate finance and use of international markets would provide the strongest signal – both to actors in the EU and international partners.

But these options could also be the most challenging to implement as they imply a successful conclusion of EU negotiations on a difficult subject: effort sharing. Member States will have to find agreement to update the EU's headline target and the distribution of any additional emission reduction efforts, while revisiting policies could involve going through lengthy and costly legislative processes involving the European Commission, the European Parliament and the Council of the EU – with the outcome of these negotiations uncertain. The EU has recently revisited its Energy and Climate Framework, and it is unlikely that there is much appetite among the relevant institutions to restart this process.

These effort sharing negotiations could, however, be left till after the announcement of a new headline target by the EU, just as work on the Energy Union and 2030 Energy and Climate framework was still ongoing long after the EU published its INDC in 2015. Alternatively, only those provisions underpinning the level of ambition of key policies could be reopened for discussion.

On the other hand, individual Member States, groups of more ambitious Member States or other actors (cities, companies, sectors) could take on unilateral commitments and bypass the need for negotiations at the EU level.

While the contributions from these actors (especially from Member States and large sectors of the economy) could be significant in terms of emission reductions, the signalling power of these commitments - if included in the NDC - could be perceived as weaker than that of EU-wide action.

That is less relevant from an environmental and scientific point of view (a ton is a ton after all), but could undermine the EU's position of a leader in the UNFCCC process and be a weaker example to other Parties in the framework of the ratchet-up mechanism. It could also be perceived as sign of division within the EU and weaken its standing. Fragmentation of policy could also have many negative consequences in the future, not least on the functioning of the EU's main climate change policies, but also on the functioning of the single market.

While differences between Member States do exist in terms of the economic, social and/or political ability to implement additional climate actions, these differences have been taken into account during the formulation of current EU climate change policy. EU-wide ambition backing an enhanced NDC could therefore be implemented while still taking those differences into account, without the need for individual Member States to take additional unilateral action.

There are other pressing issues that could significantly impact the enhanced EU NDC and how it is perceived.

The impact of Brexit on EU climate change policies and commitments is yet to be determined, but it could make meeting the targets more demanding.

Any commitment made needs to be credible, not only in terms of environmental significance, but also in terms of plausibility. The EU must be able to deliver on its promises or international partners will not consider them credible.

Across the EU, climate change policies should be assessed with regards to Just Transition – many stakeholders argue that there is insufficient focus on social and economic policies to help manage the negative impacts of the transition to a low-carbon economy. This issue will remain key for many Member States in the future, especially during intra-EU effort sharing negotiations.

In conclusion, the case for revisiting the EU NDC is compelling, and if the decision is made to do so, there are many options for the EU to consider during the discussions on a new enhanced NDC. However, there are significant concerns related to these options and their practical implementation.

Arguably the most important concern is that the EU cannot tackle climate change in isolation. Other Parties to the Paris Agreement will need to step up as well, yet the EU can play a strong role as a leader and provide an example for what the next generation of NDCs could look like, and how ambition can be raised during each ambition cycle of the Paris Agreement.

A strong signal from the EU on increasing its climate change mitigation ambition could do much to help reach the goals of the Talanoa Dialogue and of the Paris Agreement in general. Creating momentum to reach those goals should be one of the main considerations of EU policy makers during the discussions on how and when to enhance the EU NDC.

## **7 Analysis of qualitative and quantitative input**

### **7.1 Methodology**

The goal of this project was not only to identify and analyse the main options for the EU to enhance its NDC, but also to gather feedback on the options. Feedback was gathered through a set of six outreach workshops held across the EU in Brussels, Florence, Prague, Bratislava, Bucharest and Warsaw.

In addition, an online survey was created to gather input from a wider range of stakeholders on the nine options introduced in the previous section. A multi-criteria framework was used in the survey to evaluate the options. The evaluation aimed at assessing their social and political acceptability and their environmental, competitive and international impacts. Practically speaking, a group of European experts was asked to evaluate the nine options according to the following five criteria:

- Political acceptability: any change to the current EU NDC needs to be politically acceptable, as the European Council will need to agree on the changes. This implies that Member States not only acknowledge that the NDC needs to be updated and enhanced, but also agree on the way forward to do so. This is especially important with regards to enhancing the NDC in a timely fashion.
- Social acceptability: this criterion is related to the way society at large, public opinion, would react and accept the social impact of an enhanced EU NDC – which includes changes in employment in economic sectors and possible behavioural changes necessary to reach the climate goals.
- Impact on competitiveness: the degree in which the enhancement of the EU NDC affects the competitiveness of the EU industry compared to other countries. The competitiveness impacts could be short-term and/or long-term.
- Environmental impact: The enhanced EU NDC environmental impacts could be identified on a number of axes. Among them, the most important impact concerns its effect on GHG emissions in the EU and global climate change mitigation. However, additional potential impacts may concern air and water pollution, land use, land use change etc...
- International impact: International impact concerns the manner in which the international community would perceive and respond to an enhanced EU NDC. It concerns the impact of the enhanced EU NDC on the international climate negotiations under the auspices of the UNFCCC, including third countries' revision of their own NDCs.

In the survey, respondents were asked to rate the nine options on a five-point scale, which range from 1 to 5, where 1 means not acceptable (or highly negative impact) and 5 means

very high acceptability (or highly positive impact). A summary of the rating system can be found in Table 1 below:

Table 1: Rating system for the criteria used in the online survey

<b>Acceptability</b>	<b>Impact</b>
1. Not acceptable;	1. Highly negative impact;
2. Low acceptability;	2. Negative impact;
3. Acceptable;	3. No impact;
4. High acceptability;	4. Positive impact;
5. Very high acceptability.	5. Highly positive impact.

The questionnaire was sent to approximately 450 recipients, chosen among a list of experts employed in the academia, business, think-tanks, civil society organisations, governments and in public and private research centres. Fifty-four replies were received.

Initially a draft questionnaire, which included open questions, was sent to a more select group of approximately 40 experts (18 replies were received). The draft survey was used to gather (1) feedback on the survey itself (type of questions, options selected for analysis etc.) and (2) qualitative input which fed into the outreach workshops held across the EU.

In the following analysis, a quantitative analysis is presented first, relying on a matrix summarising the scores of all different options received through the final questionnaire. After that, the options will be discussed more qualitatively one by one, using input from the draft questionnaire, the final questionnaire and the various workshops' comments.

It is important to highlight that the results, both qualitative and quantitative, have been gathered from a very small sample that cannot be considered representative of either the EU population, or experts in EU climate policy. The results should, therefore, be seen rather as indicative of how the proposed options are perceived in our small sample, although they may still be widely shared across the EU. The qualitative results do raise several very interesting concerns that should be addressed by policy makers in view of the update of the EU NDC by 2020.

## 7.2 Aggregate results: The matrix

The matrix below summarises aggregate results and allows for a comparison of the different options according to different criteria.

The numbers in the cells reflect the average response received for each option on the respective criteria. To ease comparisons, cells are coloured in white for value close to 'neutral' value (range of 2,8- 3,2, i.e. acceptable or no impact) and range from darker red, when values are close to one (no acceptability or high negative impact), to darker green, when values are close to five (very high acceptability or high positive impact). The use of relatively wide ranges in Table 2 is necessary to ensure a credible level of robustness, as the number of respondents is relatively small.

Table 2: Matrix with aggregate scores along five criteria

	Political acceptability	Social acceptability	Impact on competitiveness	Environmental impact	International impact
1: Enhance the headline target and adjust EU climate legislation	2,61	3,00	2,80	4,10	3,88
2: Adopt a carbon budget	2,79	3,11	3,02	3,79	3,55
3: Widen the scope of the EU NDC	2,50	3,04	2,77	3,94	3,34
4: Raise the ambition through the ESR	2,60	2,81	3,02	3,85	3,55
5: Raise the ambition through the EU ETS	2,55	3,00	2,65	3,80	3,50
6: Include efforts in other areas in the EU	3,18	3,28	3,21	3,93	3,56
7: Use international carbon markets	2,98	2,80	3,45	3,70	3,87
8: Increase climate finance	2,84	2,98	3,30	3,91	3,96
9: Increase support for innovation, technology transfer and capacity building	3,25	3,32	3,37	4,00	4,00

From a quick and visual analysis of the matrix some very general conclusions can be drawn. Reading the table in columns, it is clear that the first five options have lower political acceptability; options 6, 7 and 8 are close to the neutral value; only option 9, “Innovation, technology transfer and capacity building”, has been considered slightly politically acceptable. This indicates that the respondents of the questionnaire do not consider any of the options truly politically acceptable, nor wholly unacceptable either.

Concerning social acceptability, options 4 and 7 are the least preferred, but still fall within the ‘neutral zone’, along with options 1, 2, 3, 5 and 8. Options 6 and 9 show minor positive results.

The impact on competitiveness is generally considered positive for the last 4 options. Options 3 and 5, however, are considered to lead to slightly negative competitive impacts.

The options receive better ‘scores’ on the last two criteria. The international and, especially, the environmental impacts of all options are considered positive. There does not seem to be a trade-off among various options for what concerns the last two criteria: this means that enhancing the EU NDC through any of the nine options presented is expected to have both positive environmental and international impacts.

Looking at the table option by option however, there are some interesting differences. The options that would, arguable, involve the most political will (options 1-5) are considered the least politically acceptable. The last 4 options (which might not require extensive negotiations at the highest levels on burden sharing) are deemed less politically unacceptable, but also more positive for the EUs competitive position. The final option (“Innovation, technology transfer and capacity building”) is the only one considered by the sample to palatable on all five criteria. However, it is also arguably the option that implies the least in terms of actions and costs for the EU as a whole.

To conclude, the sample used for this analysis is relatively small, so it would be imprudent to reach any strong conclusions based on it. However, two interesting results do emerge: stakeholders seem to see an inverse relation between necessary political will and viability of an option. The more difficult options to implement – because for example the EU ETS or ESR negotiations have to be reopened – are considered the least politically acceptable ones, even if they might send a more credible political signal, use existing policies and be more effective in terms of environmental impact. This could be perceived as that respondents believe there is a lack of political will to push for stronger climate action.



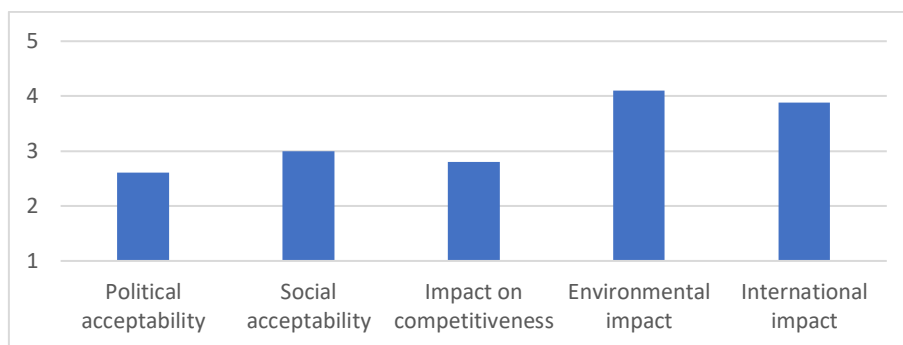
### 7.3 Analysis of individual options

Looking at each option separately, we can include qualitative feedback received through the draft questionnaire and the outreach workshops in the discussion. In this section, we therefore comment on each option, complementing quantitative results with qualitative insights.

#### ***Change the NDC's domestic headline target, and adjust the main climate legislation (options 1-3)***

##### *Option 1 - Enhance the headline target and adjust EU climate legislation*

Graph 1: average outcome for Option 1 on each of the five criteria



The received responses indicate that political acceptability, competitiveness impacts and, especially, social acceptability are close to neutral. The environmental and international impacts of option 1 are perceived as positive.

These limited quantitative results highlight a potential trade-off with regards to option 1: despite perceived very positive environmental and international impacts, the respondents indicate relatively low political acceptability. Qualitative feedback hints at the reasons behind this perceived discrepancy.

Concerning political acceptability, respondents agree that the EU should maintain its climate leadership and strengthen its NDC, but the reopening of EU ETS and ESR negotiations is seen as problematic. Lengthy negotiations were concluded relatively recently and reopening them could lead to political stalemate, regulatory uncertainty, and necessitate convincing Member States to raise ambition.

On the other hand, there are opportunities coming up in the regulatory calendar to tweak policies to enhance ambition, without reopening the entire policy. The MSR will see its first review in 2021, where a higher surplus withdrawal rate and cancellation from the Reserve would increase ambition of the EU ETS. Revising the ESR is considered by some respondents to be more problematic, as it involves effort sharing negotiations between Member States.

Revisiting the headline target is possible, however, through changes in the energy efficiency and renewable energy targets – as was already done in 2018.

Enhancing the headline target is considered neither acceptable nor unacceptable from a social point of view by the respondents. Growing populist movements may make raising climate ambition more challenging, while costs and cost pass through can also play an important role, as was made clear by the *gilet jaunes* movement in France (which emerged after the questionnaires had been submitted). Behavioural change by consumers and energy transitions for Member States reliant on fossil fuels are additional challenges for raising ambition.

These challenges are somewhat balanced by the growing awareness of air quality concerns and the co-benefit climate action could deliver on that issue. Respondents also highlighted that positive momentum could be enforced by a strong coupling of climate action with opportunities for economic growth, innovation and jobs.

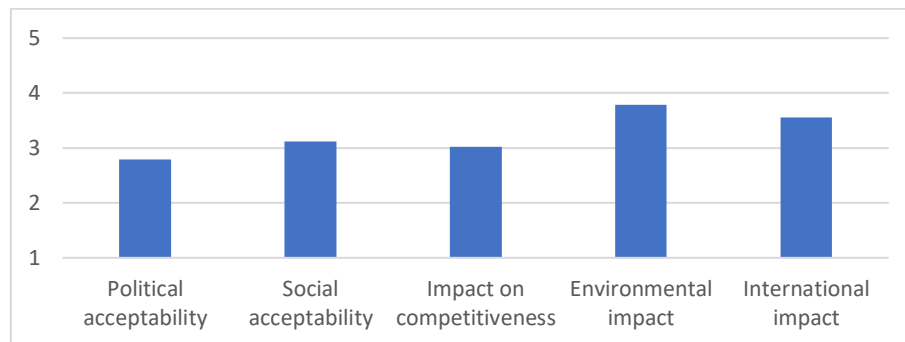
On competitiveness impacts, some respondents agree that there are potential short-term negative impacts, and medium to long-term positive impacts due to first-mover advantages. Others highlight that competitiveness impacts depends on the degree to which ambition is raised and on implementation. The negative competitive impacts are expected by some respondents to be higher in certain sectors, but on the other hand EU companies will have an opportunity to become leaders in low carbon technologies, such as electric mobility. One respondent highlighted that strengthening the EU ETS could accelerate the low carbon transition while maintaining safeguards for industry, whereas strengthening the ESR could have larger competitiveness impacts.

Option 1 is considered to lead to the best environmental impacts according to the sampled experts. The perceived positive environmental impacts are linked to more feasible decarbonization pathways towards 2050 and a more efficient transition to a zero-carbon economy if higher ambition is implemented through the EU ETS. Respondents mentioned that updating the EU NDC could have significant positive impacts by creating international momentum, increasing EU international credibility and reducing GHG emissions worldwide. Some respondents believe that environmental impacts will indeed be positive, but relatively modest due to carbon leakage protection still being too wide – shielding industry from incentives to decarbonize.

Concerning international impacts, respondents generally agree that raising ambition and increasing the ambition of the EU NDC would strengthen the EU's negotiating position in the UNFCCC and could provide momentum to other countries to also raise their ambition by 2020.

## Option 2 - Adopt a carbon budget

Graph 2: average outcome for Option 2 on each of the five criteria



Option 2 is also evaluated as close to neutral on the first three criteria, while environmental and international impacts are again perceived as positive.

The qualitative interviews indicated that most respondents understand that there is already a link to a budgetary approach through the EU ETS and ESR, and that some actors, such as NGOs and MEPs, support transforming the NDC to a carbon budget. The positive impacts of a carbon budget depend on its size and timing – such as start and end year. Respondents indicate that the carbon budget should be set well in advance so that it provides certainty to investors and the private sector can adapt.

Several respondents believe that adopting a carbon budget is a zero-sum game, which would make international negotiations more difficult (for example because of the possibility of raising discussions on historic responsibility) and that, although it is important in terms of climate science, the value for EU climate policy would be limited.

With regards to social acceptability, social justice issues were raised as pivotal, while distributional impacts are perceived as negligible. Communication of the new type of targets was highlighted as another important issue to consider with respect to carbon budgets: is it easier to explain to citizens, or would it involve radically new communication strategies?

On competitiveness, translating current targets into a budget is not seen as having any competitiveness impact. However, there could be competitiveness impacts if there is some *a priori* partition of the budget among economic sectors.

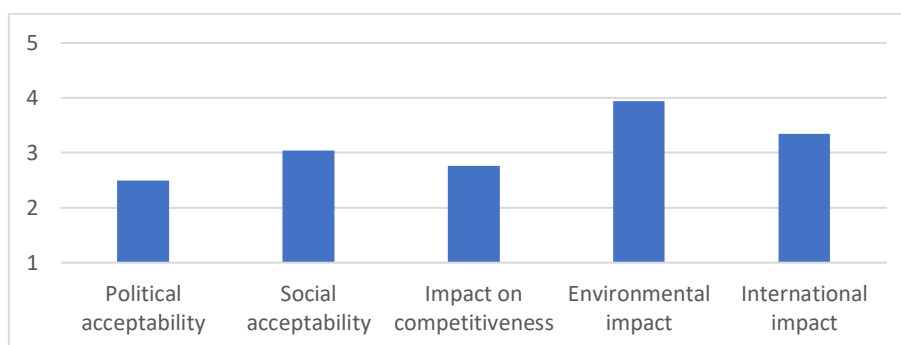
For the majority of respondents, a carbon budget would encourage early action and therefore have a positive environmental impact - this does, however, depend on the size of the budget and on its implementation.

A carbon budget would send a strong signal and strengthen EU leadership and credibility in the international arena according to the majority of experts. But the strength of this signal

depends on the size of the carbon budget. However, some respondents emphasized the risk that the budget could be contested in international negotiations, regardless of how it is set.

### *Option 3 - Widen the scope of the NDC*

Graph 3: average outcome for Option 3 on each of the five criteria



The responses on this option are similar to the two previous cases, confirming that these options aimed at increasing the ambition of the NDC are not considered highly acceptable, despite having perceived positive environmental impacts. Increasing the scope of the NDC is expected by the respondents to have a less positive international impact, mostly due to the influence EU action on international transport would have on international partners and negotiations in those areas.

Since aviation and shipping are negotiated by international bodies such as ICAO and IMO, and are not regulated by ETS nor ESR, most respondents consider it politically unlikely that these sectors would be included in the EU NDC. Reasons are varied: individual Member States and interest groups are strongly opposed; both sectors are not fully under the jurisdiction of the EU; NDC scope should follow national inventories; and third countries are likely to protest expansion of the EU NDC's scope.

Survey respondents underline two issues related to the social acceptability of option 3: the limited social impacts (jobs) due to inelastic demand for these sectors, and the potential for distributional impact. Increasing costs for air travellers would work as a progressive taxation.

International shipping and aviation are globally competitive industries, leading to potentially negative impacts on competitiveness. However, two respondents disagreed as any measures would apply equally to EU and international operators. Moreover, there is a potential for cost pass through to consumers and downstream businesses.

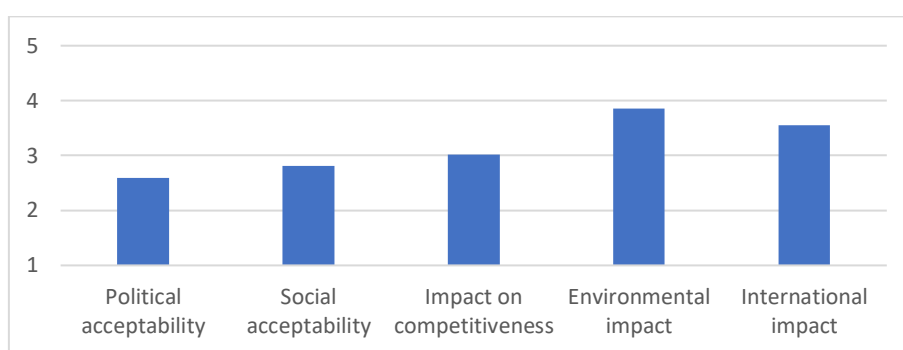
The environmental impact is considered relatively high as the aviation and shipping sectors are large and growing emitters. The size of the environmental impact depends for most of the respondents on whether the two sectors are included in the EU ETS. In that case, there would be higher demand for EUAs with potential stronger incentives for other sectors as well to decarbonize.

Most of the surveyed experts agree that tackling emissions from international transport could strengthen EU leadership. Since it is currently not well established who is responsible for emissions from international aviation and shipping, the need for international coordination is noted as fundamental to avoid tensions with international partners.

***Increase the ambition of climate policies, but without adjusting the EU NDC’s headline target (options 4-6)***

*Option 4 – Raise ambition through the ESR*

Graph 4: average outcome for Option 4 on each of the five criteria



Option 4, “Raising the ambition through the ESR” is also not considered politically acceptable, even if its potential environmental and international impacts are expected to be positive. Most qualitative respondents agree on low political acceptability for unilateral action by individual Member States - EU-wide action is considered more suitable as all countries would contribute to the increased ambition and it would limit intra-EU fragmentation. However, since ESR negotiations have been among the most difficult within the EU 2030 framework, it is unlikely for many respondents that these would be reopened.

Social acceptability is impacted by the burden of abating emissions in ESR sectors (transport, buildings, waste, agriculture) falling on households.

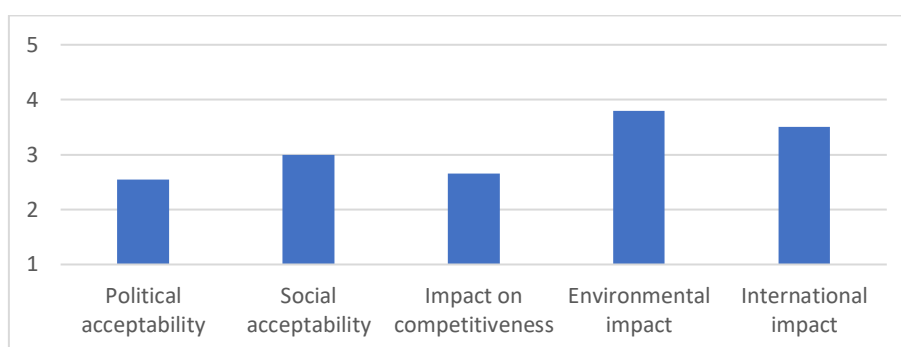
The impact on competitiveness is considered limited by some respondents since many ESR sectors are not internationally tradable. However, Member States that already have high targets could see competitive impacts in the agricultural sector. According to some respondents, fragmented EU action could lead to a less even playing field and might give rise to intra-EU competitiveness concerns for more ambitious Member States.

The environmental impact is again seen as positive; however, respondents agree that this impact depends on implementation. Increased action by individual Member States, although considered more likely than EU-wide action, is perceived as having a lower environmental impact.

Increased ambition is identified as having positive international impacts for all 9 options, as it creates momentum for third parties and increases the EU’s position as a climate leader. However, for option 4 this is mitigated by the perceived undermining of the EU signal by unilateral Member State action. Therefore, a more limited impact is expected on the other Parties under the UNFCCC.

### *Option 5 – Raise ambition through the EU ETS*

Graph 5: average outcome for Option 5 on each of the five criteria



Option 5 has also received mixed scores from surveyed experts. Its political acceptability and the impact on competitiveness are perceived negatively, while potential environmental and international impact are identified as positive.

For some respondents in the qualitative analysis, the low political acceptability is linked to implementation and Member State energy mixes, with voluntary action unlikely for those Member States with high reliance on fossil fuels. Many respondents seem to agree on the need for a higher carbon price to foster innovation and investment.

Social acceptability is country and sector specific. Member States that still rely heavily on fossil fuels could be impacted more heavily by increased EU ETS ambition and a likely increased carbon price. Higher costs for utilities might be transferred through to households.

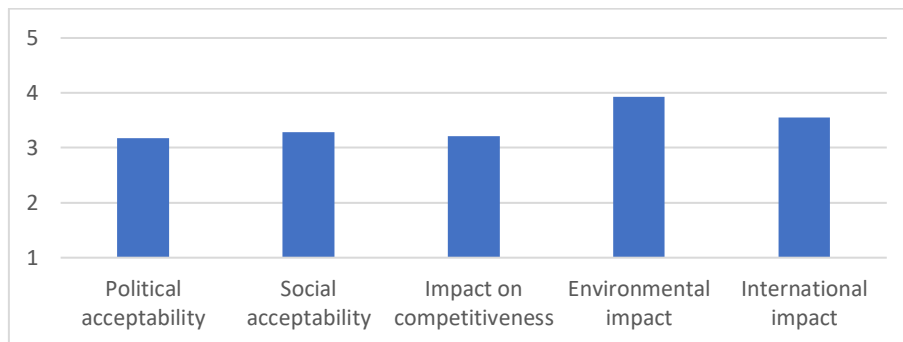
With regards to competitiveness, respondents disagree on the impacts of Option 5. Increased EUA prices may have negative competitiveness effects, especially in specific sectors such as coal and lignite. Others highlight that carbon leakage protection tools are already in place in the EU ETS. Intra-EU competitiveness concerns are considered low because the nature of the EU ETS as an EU-wide instrument. Most concerns relate to international competitiveness.

Most respondents agree on a positive environmental impact, but argue that its size depends on implementation. Unilateral action is expected to have a less strong environmental impact than action in the EU ETS at the EU level.

On international impacts, EUA price increases due to action in the EU ETS could send a signal that the carbon pricing approach is successful in the EU.

### *Option 6 – Include efforts in other areas in the EU NDC*

Graph 6: average outcome for Option 6 on each of the five criteria



This option scores close to ‘neutral’ on the acceptability criteria (though on the positive side). Political and social acceptability are above average. Competitiveness impacts fall within the ‘neutral’ range. The environmental and international impacts are considered to be relatively positive.

A flexible approach on what to include in the NDC is expected to be politically viable (even called a no-regrets option by one respondent) although having limited environmental effectiveness for several respondents. Several surveyed experts mention that EU level action would be more effective.

Social acceptability very much depends on the actual measures in place and how they are implemented.

Not adapting the headline target is considered by one respondent as being too flexible and therefore ineffective. Therefore, expected impact on international competitiveness is limited.

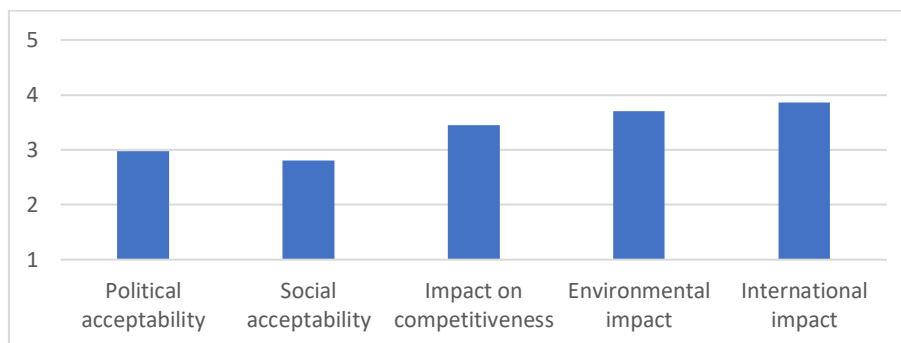
The environmental impact is considered positive. The need for clarity, concrete actions beyond targets, and lock-in of commitments is emphasized by respondents.

This option is not considered as visible or as easy to verify as other options, and its international impact is therefore relatively limited for several respondents.

## **Use international cooperative mechanisms in addition to the existing domestic headline target (options 7-9)**

### *Option 7 - Use international markets*

Graph 7: average outcome for Option 7 on each of the five criteria



Option 7 is expected to have a positive impact according to all impact criteria, including competitiveness. Political and social acceptability, on the contrary, are close to, but below the ‘neutral’ value.

In the qualitative questionnaire, political acceptability for option 7 is often considered low, mainly due to the negative experience with past KP instruments (CDM/JI) and issues of additionality and environmental integrity. Other concerns are linked to difficulty of increasing international spending in a time of budget constraints, and because there has already been a public commitment to not use international offsets post-2020.

Social acceptability, as perceived by the surveyed experts, is also hampered due the bad reputation of international offsets, i.e. they are considered as “cheating” towards domestic reduction targets. One respondent highlighted that domestic action could be more socially acceptable due to co-benefits of climate action (jobs, innovation, air quality etc).

Respondents expect a positive competitiveness impact, due to higher abatement costs in the EU compared to third countries. For a number of respondents, using public finances to tap international carbon markets could lead to reduced public spending in other areas, such as innovation.

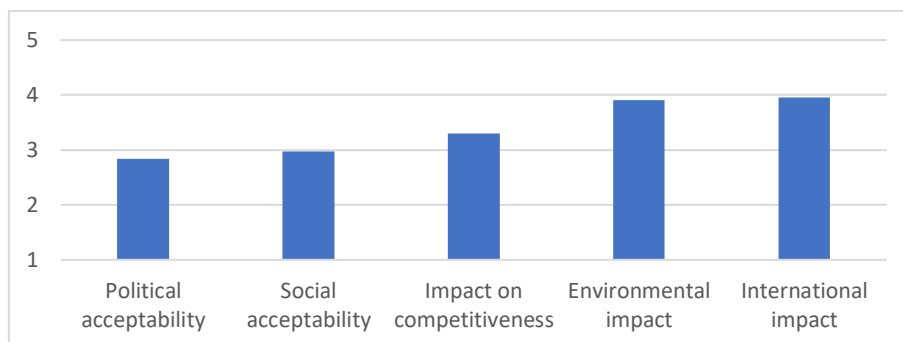
Environmental impacts are perceived as positive, but highly dependent on the environmental integrity of the units - additionality and MRV are considered crucial to limit environmental risks.

International impacts are regarded more positively, as the EU could give a strong impetus towards the development of international carbon markets. Buying units abroad would benefit host countries and help foster global climate action.



### Option 8 – Increase climate finance commitments

Graph 8: average outcome for Option 8 on each of the five criteria



Results for international climate finance indicate ‘neutral’ acceptability, but positive impacts on competitiveness, the environment and the international arena.

The qualitative analysis suggests that political acceptability is undermined by public budgetary constraints.

The socially acceptability is limited due to potential opposition to increased investment abroad, while resources could be used domestically as well.

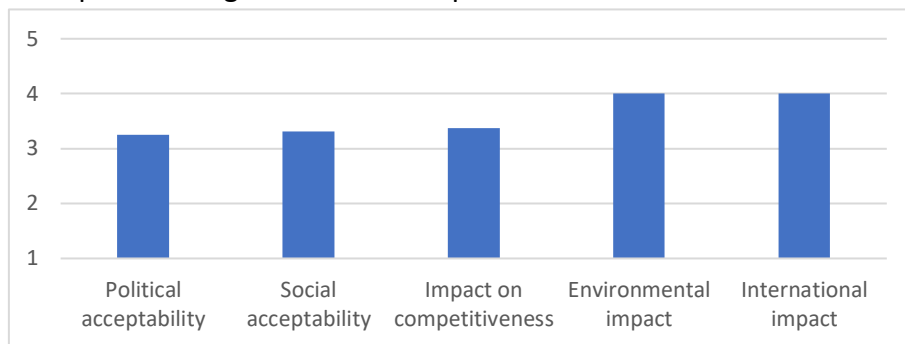
Additional climate finance has, according to most of the respondents, a positive impact on competitiveness. While respondents did not elaborate why they see a positive impact, we expect that it is considered to have a better competitive impact than other options as burdens for intra-EU industry are not increased through this option.

The environmental impact is deemed to be relatively high at the global level, but respondents highlight that there would not be a positive environmental impact in the EU.

The international impact is expected to be high. Additional climate finance is considered key to securing buy-in for the Paris Agreement and there are expectations for the EU to increase climate finance. On the other hand, if only this option is used, it could provoke international opposition as the EU should also push for domestic mitigation actions.

### Option 9 - Increase support for innovation, technology transfer and capacity building

Graph 9: average outcome for Option 9 on each of the five criteria



Option 9 is considered acceptable on both acceptability criteria and is expected to have positive impacts on the three surveyed issues.

The qualitative responses on this option are mixed. The EU is seen to have the opportunity to play a key incubator role for green innovation and this option is seen as being able to deliver easily scalable climate solutions. On the other hand, respondents indicate that if this is not coupled to climate finance it is unclear how it would be implemented.

Social acceptability is burgeoned by the perceived role of climate leader and innovator this option entails. However, respondents also highlight that only using this option is unlikely to be socially acceptable to EU citizens and NGOs as it is a less ambitious option than others covered in this paper.

The diffusion of low carbon technologies worldwide could either increase the competitiveness of EU companies, or reduce it due to imitation. One respondent mentioned that by enlarging the market for climate technologies, technology transfer and innovation could decrease global costs for these technologies.

Respondents indicated that the environmental impacts might diver in the short and long run. In the short term, it is unlikely to lead to significant GHG emissions globally, but in the longer run it might become crucial to closing the emissions gap through the faster spread of efficient technologies.

Most respondents agree on that the international impact will be positive, but qualitative respondents highlight that it is unlikely to lead to significant additional technology transfers to third countries.