

Establishing the new EU strategy on adaptation to climate change

Impact assessment (SWD(2021) 25, SWD(2021) 26 (summary)) accompanying the Commission communication on 'Forging a climate-resilient Europe - the new EU strategy on adaptation to climate change' (COM(2021) 82)

This briefing provides an initial analysis of the strengths and weaknesses of the European Commission's [impact assessment](#) (IA) accompanying the above-mentioned [communication](#) on the new EU strategy on adaptation to climate change (new adaptation strategy), which aims to realise the 2050 vision of a climate-resilient EU. The IA was published on 24 February 2021 and was subsequently referred to the European Parliament's Committee on Environment, Public Health and Food Safety (ENVI).

The Commission's communication builds on Article 4 of the [proposal](#) for a European climate law regulation, which requires the Member States and the EU to enhance their adaptive capacity, strengthen their resilience and reduce their vulnerability to climate change. The new EU adaptation strategy was first announced in the European Green Deal [communication](#) in December 2019. The European Parliament welcomed the new strategy as a key component of the EU's climate policy in its [resolution](#) of 17 December 2020 and called for a renewed and improved focus on climate adaptation. The Council, meanwhile, repeatedly stressed the need for further action on adaptation, most recently in [January 2020](#). The new strategy on adaptation to climate change is part of the [2021 Commission work programme](#).

Problem definition

According to the IA, the problem is four-fold (IA, pp. 10-16):

1 Insufficient knowledge to support decision making

There is a lack of relevant indicators and meaningful data for informing and assessing national and local adaptation action. When available, climate data and projections to anticipate impacts are frequently not available at the local level, where many critical decisions need to be taken. Similarly, adaptation solutions are often either not customised for the local specificities or not yet tested on a large enough scale to facilitate replication elsewhere. Furthermore, there is a lack of appropriate methodologies and indicators to integrate climate change adaptation with disaster risk reduction strategies.

2 Weaknesses in implementing, monitoring and reporting adaptation action

There is currently only limited agreement on the principles, requirements and guidelines for adaptation at the EU level, which results in the lack of a common method for systematic monitoring and evaluating the implementation of adaptation policies. Moreover, effective mechanisms to monitor and report on the implementation of national and local strategies are lacking as well. By April 2020, each of the 27 Member States had adopted a national adaptation plan (NAP) and a strategy (NAS) under the 2013 climate adaptation [strategy](#). According to the IA, many of these plans and strategies are not yet being implemented. For example, Italy, Ireland, Slovakia, Slovenia, Greece,

Hungary, and Poland have not yet adopted their own NAPs, while many more have yet to establish monitoring indicators and methodologies. Furthermore, across the EU, the cross-boundary effects of climate impacts are also not sufficiently considered, and transboundary cooperation remains relatively weak.

3 Adaptation action is not taken quickly enough

Although the 30 % increase in ambition for climate mainstreaming in the 2021-2027 multiannual financial framework is likely to benefit adaptation action, the EU's tracking system for climate action does not differentiate between how much is spent on climate change mitigation¹ and how much on adaptation.² According to the Commission, tracking climate and environmental objectives in expenditure remains a crucial issue for the common agricultural policy (CAP) and cohesion policy. Guidance for mainstreaming has been provided in some policy areas, but its effectiveness is unclear. A related issue is the approach to the insurance of climate risks, which varies widely across Member States. Based on Joint Research Centre (JRC) data, this could possibly lead to distributional consequences, because regions will be affected differently based on their location, climate, population, legal system and geography. According to the IA, (un-)insured losses and risks are overall inadequately reported and acted upon.

4 Climate impacts from outside the EU are not addressed

According to the IA, the EU's strategic approach to adaptation needs to be better aligned with international developments such as the adoption of the [Paris Agreement](#) and the UN sustainable development [goals](#). The international angle is relevant not only from a climate and environmental policy perspective, but also from one linked to the need to address foreign and security policy, e.g. effects in Europe from global climate change impacts on international stability and security, or on population displacement. The EU, due to its geopolitical, security and trade ties with other countries as well as its proximity to countries that are likely to be less able to adapt to climate change, is highly vulnerable to international spill-over effects (IA, p. 15).

The IA elaborates on the corresponding nine problem drivers at length, noting that the problems and drivers are mutually reinforcing and/or overlapping with each other (IA, pp. 16-25):

- 1 accelerating pace of climate change impacts;
- 2 knowledge gaps regarding climate change adaptation;
- 3 low public engagement and professional awareness;
- 4 insufficient priority given to adaptation in some Member States and regions;
- 5 slow adaptation and implementation of local adaptation strategies;
- 6 insufficient public- and private-sector adaptation investment;
- 7 lack of customised and cost-effective adaptation solutions;
- 8 international policy developments; and
- 9 climate change generating spill-over effects across the globe.

The problem definition in the IA is underpinned by recent assessments made by the European Environment Agency (EEA), contributions from stakeholders, JRC studies, academic articles and the findings of the [evaluation](#) from 2018 of the 2013 EU [strategy](#) on adaptation to climate change. All data sources are accessible online and have been systematically referenced in the IA. However, the scale of the problem could have been explained further through the provision of estimates for problems 1 and 4.

Subsidiarity / Proportionality

In addition to explaining the legal basis (Articles 191 and 192(1) of the [Treaty on the Functioning of the European Union](#) (TFEU)) and the Paris Agreement, the IA discusses the need for action at EU level and the EU added value. Furthermore, the IA compares the options in regard to their proportionality, as required by the [Better Regulation Guidelines](#) (BRG). At the time of writing, four [national](#)

[parliamentary assemblies](#) had begun scrutinising the Commission proposal and one had completed the process.

Objectives of the initiative

The general objective of the new EU [adaptation strategy](#) is for the EU to be a climate-resilient society that is fully adapted to the unavoidable impacts of climate change, has reinforced adaptive capacity and minimal vulnerability, and contributes to achieving the Paris Agreement's global goal on adaptation by 2050 (IA, p. 27).

For the purpose of achieving the general objective of the new adaptation strategy, the following specific objectives have been set (IA, pp. 28-31):

- 1 to improve knowledge of climate impacts and development of solutions;
- 2 to reinforce planning, implementation and climate risk management;
- 3 to accelerate adaptation action; and
- 4 to strengthen global action for climate change adaptation and resilience.

Overall, the specific objectives correspond to the problems that have been identified. Contrary to the BRG requirements, the IA does not set any operational objectives to define the concrete deliverables of policy actions under the preferred option. The IA suggests indicators for the four specific objectives but does not set any concrete targets for achieving these. The absence of operational objectives and concrete targets means that the objectives are not entirely measurable and therefore do not comply fully with the SMART requirements (specific, measurable, achievable, relevant and time-bound) set by the BRG ([Tool#16](#)).

Range of options considered

The IA discarded two policy options. These are summarised below, including the reasons why they were discarded (IA, pp. 37-38):

- **No EU adaptation strategy:** this would be difficult from a legal perspective, as international commitments require the EU to take actions on adaptation to climate change;
- **'One size fits all' type regulation** mandating Member States and other stakeholders to take specific actions: besides being inefficient, costly and potentially leading to maladaptation, such an arrangement would raise questions relating to the subsidiarity and proportionality of EU action.

In addition to the baseline scenario (do-nothing option), the IA assesses two additional options (IA, pp. 31-38):

- **Baseline:** Under this option, the eight actions that constitute the 2013 adaptation strategy in its current form would continue to be carried out. The starting point of this option is updated with an improved understanding of climate change impacts based on recent scientific data and the changes brought about by the Covid-19 crisis in terms of new investment sources (the [Recovery Fund](#)) and increased attention to resilience.
- 1 **Deepening of existing actions under the 2013 adaptation strategy (Option 1):** This option proposes changes to both the form and nature of the eight actions under the 2013 adaptation strategy. According to the IA, this option represents a clear step up in terms of ambition, with commensurate increases in visibility and effectiveness for EU-level action, while remaining well within the policy space of the 2013 adaptation strategy (see Table 1). This option could also help meet (albeit to a limited extent) the international objective (specific objective 4).
 - 2 **Deepening of existing actions and adding new ones to the 2013 adaptation strategy (Option 2):** This option adds six new actions to the 2013 adaptation strategy in addition to the actions listed in option 1, which are also included in

option 2 (see Table 1). According to the Commission, this option is one of greater political ambition as regards EU adaptation policy than option 1, and brings full thrust to the achievement of the international commitments (specific objective 4).

Table 1 – Main actions under the policy options

Baseline	Option 1	Option 2
<ul style="list-style-type: none"> 1) encourage all Member States to adopt comprehensive adaptation strategies; 2) provide LIFE funding to support capacity-building and step up adaptation action in Europe (2014-2020); 3) introduce adaptation in the Covenant of Mayors framework (2013/2014); 4) bridge the knowledge gap; 5) further develop Climate-ADAPT as the 'first-stop shop' for adaptation information in Europe; 6) facilitate the climate proofing of the CAP, cohesion policy and common fisheries policy; 7) ensure more resilient infrastructure; 8) promote insurance and other financial products for resilient investment and business decisions. 	<ul style="list-style-type: none"> 1) close further gaps in adaptation-relevant knowledge, through systematic data collection and sharing, and by working with key public and private partners; 2) further develop Climate-ADAPT as the 'first-stop shop' for adaptation information in Europe; 3) strengthen the evaluation, monitoring, reporting and implementation of adaptation strategies; 4) prioritise nature-based adaptation, including coastal protection and green and blue infrastructure; 5) step up efforts to build resilience in cities and empower local action; 6) further mainstream and integrate adaptation in EU legislation and instruments; 7) climate-proof infrastructure and disaster risk management; 8) close the climate protection gap – microeconomic aspects of adaptation to climate change. 	<p>This option includes all eight actions under option 1 and adds the following new actions:</p> <ul style="list-style-type: none"> 9) support partner countries and regions in their efforts in climate change adaptation and disaster management; 10) scale up international adaptation finance and disaster risk financing, unlock innovative sources of finance, and mobilise private finance; 11) strengthen EU engagement globally and learn from adaptation frontrunners; 12) adaptation solutions / Horizon Europe mission on adaptation to climate change, including societal transformation; 13) close the climate protection gap - macroeconomic aspects of adaptation to climate change; 14) ensure the availability of fresh water.

Source: IA, EPRS.

According to the IA, the above actions represent the main activities that would potentially take place under each option. Each action consists of a set a measures – the specific, tangible steps that will implement the actions (IA, pp. 31-32). Annex 6 of the IA (pp. 120-132) contains a non-exhaustive list of measures under option 1 (63 measures) and under option 2 (42 measures plus those under option 1, thus 105 in total). On page 32, the IA states that 'while many measures are not of a legislative nature, several notable examples will be pursued with separate legislative action'. However, neither the main text of the IA nor the annexes make it sufficiently clear which measures will be pursued with legislative actions. Although the IA gives a selection of measures for each policy option, it also refers the reader to the lengthy list of measures provided in the annexes, which tends to blur the clarity of the options' descriptions. Furthermore, the list of measures appears incomplete, as it is labelled as non-exhaustive.

Moreover, the baseline does not account for policy developments from 2018 onwards, such as the Commission communication on '[A Clean Planet for All](#)', the [European Green Deal](#) or the climate law [proposal](#). Therefore, the baseline does not appear to be dynamic, contrary to the requirements of the BRG, which states that it 'should take account of both national and EU policies in place and reflect possible development of these in the absence of new EU-level action' (BRG, p. 21). By the IA's own admission, 'option 1 ... would be much more aligned with EU policy developments since 2018' (IA, p. 60), which would suggest that option 1 is in fact a dynamic baseline in the sense of the BRG. In conclusion, the range of options proposed for the strategy is very limited. The **preferred option**

is option 2: deepening of existing actions and addition of new actions to the 2013 adaptation strategy.

Assessment of impacts

According to the IA, 'the number and variety of actions and measures under the Adaptation Strategy is high' and the specific impacts of individual measures and actions are too numerous to be considered (IA, p 115). Therefore, adhering to BRG [Tool #19](#), the IA undertakes a screening to identify the most significant impacts that it needs to assess. Based on the screening, the IA selects a total of 18 out of 105 measures under both options for mini-assessments. Several related measures are assessed together, resulting in a total of 14 mini-assessments. Measures under actions 3 and 6, which both fall under option 1, were not selected for a mini-assessment. The mini-assessments were predominantly done for the preferred option 2.

The IA provides a qualitative assessment of the economic, social and environmental impacts of the options (pp. 38-58). In addition, the IA contains a qualitative assessment of the total costs and benefits of the preferred option, but does not provide any quantitative estimates. Quantitative assessments are provided for the macroeconomic and employment indicators. The IA points out that while adaptation measures can reduce the negative economic impact of climate change in terms of economic welfare, they can never completely offset it. Thus, an annual decrease of economic welfare losses by 2050 for the EU-27 under the preferred option is estimated between 0.45 % and 0.63 % compared to 0.67 % and 1.1 % under the baseline, in the 2°C and 4°C temperature increase scenario respectively (IA, pp. 42, 47). Reductions in employment losses under the preferred option by 2050 for the EU-27 are projected to vary from 0.85 % to 1.14 % compared to 1.27 % and 1.94 % under the baseline, in the 2°C and 4°C temperature increase scenario respectively (IA, pp. 50, 52). For context, the IA provides the following figures: a 0.8 % change in employment is equivalent to around 1.6 million jobs/year, while a 1.1 % change in GDP corresponds to around €200 billion in current values (IA, p. 52 and p. 42). The projections of economic welfare and employment differences from the baseline are provided by macro region for 2030, 2040 and 2050 and at the country level for 2050 (Annex 4 of the IA, pp.101-114).

Among the notable impacts of the preferred option are its implications for the public authorities, mainly as a result of its internationally oriented action. Option 2 implies an increased focus and need for spending on climate resilience for the EU external action and development activities. The overall increase in public spending on adaptation is assessed as significant compared to the baseline but is not quantified. Costs to Member States are expected to be low and consist primarily of the time and resources necessary to engage with monitoring and reporting (IA, pp. 48-49). The IA compares the options based on the mandatory criteria of efficiency, effectiveness and coherence, as well as in regard to their proportionality as required by the BRG, and concludes that option 2 is the preferred option.

SMEs / Competitiveness

According to the impact screening undertaken in the IA, the new adaptation strategy is society-wide and not specifically an economic intervention, so impacts on SMEs are excluded from the assessment (IA, p. 116). However, the IA occasionally mentions SMEs when discussing the regulatory burden and indicates that overall, there are some negative impacts on businesses under the preferred option relative to the baseline, without specifying the size of these businesses.

Simplification and other regulatory implications

The IA does not explicitly mention simplification or other regulatory implications. It considers option 2 more coherent with other European Green Deal policies than option 1 or the baseline (IA, p. 60), but does not discuss the linkages between the proposed measures and the specific Green Deal initiatives in detail.

Impacts on third countries

The impact on developing countries is assessed qualitatively, as being marginally positive under option 1 and more significantly positive under option 2. The impact of option 2 will depend on the willingness of partner countries to engage with the EU, but the IA states that the outlook is positive for both the impact on partner countries and the impact on the EU's international relations, (pp. 56-58). The IA does not provide any further details in this regard.

Monitoring and evaluation

Neither the IA nor the strategy lays out any requirements regarding monitoring and evaluation. According to the IA, the proposed strategy's key objective – achieving a 'climate resilient society' – is not something that can be measured numerically. The long-term nature of both the problem at hand and the impact of the measures does not make it possible to track and evaluate the impact of the strategy (IA, p. 63), but the IA does refer briefly to the reporting requirements under the [Regulation](#) on the Governance of the Energy Union and the [proposed](#) European climate law regulation that will provide a source of information for the future monitoring and evaluation of the strategy. The IA provides an 'illustrative first summary of some potential indicators' for the four specific objectives but does not set any concrete targets for achieving these (IA, pp. 64-65). The ultimate success of the strategy would mean a succession of positive assessments of progress towards increased climate resilience at the EU level (IA, p. 32), but the IA does not explain how this progress will be monitored.

Stakeholder consultation

Stakeholders were offered an opportunity to provide their [feedback](#) on the inception IA between 12 May 2020 and 30 June 2020. In parallel to the inception IA, an open public [consultation](#) (OPC) took place between 14 May 2020 and 20 August 2020, exceeding the 12-week requirement on account of having covered the summer vacation period. A total of 956 replies were received to the OPC and 172 replies to the inception IA. The results of the OPC are reported in the synopsis report accompanying the IA (Annex 2, pp. 68-94). However, stakeholders' views are reported in an aggregated manner rather than being broken down into categories. The largest number of replies to the OPC came from Belgium, France, Germany, Italy and Spain. A targeted stakeholder consultation was also conducted, covering 40 stakeholder interviews, a public webinar and two online workshops. The insights from stakeholder consultations are consistently reported throughout the IA, and they seem to support the objectives and the actions under the preferred option (IA, pp. 30-31 and pp. 79-89).

Supporting data and analytical methods used

The IA is informed, among other sources, by the 2020 JRC PESETA IV [study](#) and by the results of the [COACCH](#) Horizon 2020 project, both of which were publicly available at the time of writing and were transparently referenced in the IA. Additionally, the IA draws on the results of the stakeholder consultation, on which it consistently reported. The IA identifies the costs and benefits, but does not quantify them (Annex 3 of the IA). Annex 4 provides an explanation of the analytical tools used in the IA (pp. 101-114). Economic modelling was possible for five measures proposed under the strategy and was done using the Global Inter-industry Forecasting System – Energy (GINFORS-E) model. A description of the [GINFORS-E model](#) and an overview of the impacts it helped to assess in this IA is available in the Commission's public Modelling Inventory and Knowledge Management System ([MIDAS](#)). The limitations of the different types of analysis used are clearly stated. For example, the results from PESETA IV are based on a comparative static analysis, while the GINFORS-E model uses a dynamic environment in which the economies of the Member States develop over time, which makes it difficult to compare the results of the two analyses (IA, p. 102). Furthermore, economic parameters become more and more uncertain when looking more than a few years ahead (IA, pp. 109). The assumptions on the uptake of measures are only provided for the measures subject to mini assessments, where full uptake is assumed. This does not seem realistic, since by the IA's own

admission, 'very few measures are mandatory for the targeted groups' (IA, p. 38) and 'the measures suggested are fairly soft and require full implementation to reach their impacts' (IA, p. 110). A sensitivity analysis was conducted to assess the variation in impacts under different IPCC temperature scenarios, ranging from a more moderate to a less moderate temperature rise (1.5°C, 2.0°C and 4°C by 2100). Overall, the evidence used in the IA is extensive, but its usefulness for the assessment of impacts and quantification remains limited, not least because of the lack of clarity on the precise nature of the measures (legislative or voluntary).

Follow-up on the opinion of the Commission Regulatory Scrutiny Board (RSB)

The RSB adopted a positive with reservations [opinion](#) on a draft version of the IA report on 4 December 2020, noting that, as the IA accompanied a high-level strategy, it had to provide a proportionate level of analysis, which was a challenging task. The RSB finds that the report does not state clearly enough 'what will be decided in this Strategy and which actions will require separate (legislative) follow-up'. Furthermore, the board mentions a discrepancy between the positive outcome of the 2018 evaluation and the problem description. Finally, the RSB notes that it is unclear what an appropriate degree of preparedness would be, taking into account the high level of uncertainty regarding local climate change impacts. The IA provides explanations on how it has addressed the recommendations made in the RSB opinion (IA Annex 1, pp. 66-68). The IA seems to have taken the RSB's recommendations on board, except for the first one: it is still not sufficiently clear what legislative actions would ensue from this communication.

Coherence between the Commission's proposal and IA

The Commission's communication appears to follow the IA recommendation, in that it is based on the preferred option 2. The European Parliament's [resolution](#) of 17 December 2020 on the new adaptation strategy called for 'the new strategy to include binding and quantifiable goals both at EU and Member State level, ... a more frequent review process, with clear goals, a proper assessment, and indicators informed by the latest science to measure progress in its implementation' (point 9). As mentioned above, the IA does not set any concrete targets for achieving the four specific objectives and provides only an illustrative first summary of some potential indicators. Furthermore, the EP resolution calls for 'the integration of mandatory climate risk assessments into the EU strategy on adaptation to climate change, including of national adaptation plans' (point 11). The strategy aims to develop an EU-wide climate risk assessment (p. 15), in line with measure 7.4 of the IA (p. 125); however, as mentioned above, the IA does not make it sufficiently clear which measures would be mandatory under the strategy.

As noted by the Regulatory Scrutiny Board, the IA accompanied a high-level strategy on adaptation to climate change, which created particular challenges for the IA in terms of having to provide a proportionate level of analysis. Some of the strong points of the IA are that the problem addressed by the strategy is well defined and substantiated with evidence. In addition to this, the IA provides a clear set of objectives that correspond to the problems identified. It furthermore compares the options based on the mandatory criteria of efficiency, effectiveness and coherence, as well as in regard to their proportionality as required by the BRG. The IA provides a qualitative assessment of the economic, social and environmental impacts of the options. Moreover, it provides quantitative assessments for the macroeconomic and employment indicators. The evidence used in the IA is extensive, reliable and transparently referenced. The insights from the stakeholder consultation are consistently reported throughout the IA and the limitations of the different types of analysis are clearly stated. On the downside, however, the IA contains a number of shortcomings that reduce its overall quality. To begin with, the IA does not mention any concrete targets for achieving the four specific objectives and provides only an illustrative first summary of some potential indicators, which is not sufficient to monitor and review the progress of the strategy. The range of options (2 + baseline) proposed for the strategy is very limited. The IA does not make it sufficiently clear which measures will be pursued with legislative action and which measures will be voluntary. Due to the challenges of proportional analysis, the list of measures under the options is labelled as non-

exhaustive and thus appears incomplete, while the number of measures whose impacts are assessed remains limited. The overall increase of public spending on adaptation is assessed as significant compared to the baseline but is not quantified. Moreover, the linkages between the proposed measures under the preferred option and the specific Green Deal initiatives are not discussed in detail. Finally, the assumptions that the measures will be fully taken up seem rather unrealistic.

ENDNOTES

- ¹ *Mitigation* means making the impacts of climate change less severe by preventing or reducing the emission of greenhouse gases (GHG) into the atmosphere (e.g. through the use of renewable energy, a cleaner mobility system, etc.) Source: European Environment Agency (EEA).
- ² *Adaptation* means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise (e.g. building defences to protect against sea level rise, making behavioural shifts, etc.).

This briefing, prepared for the ENVI committee, analyses whether the principal criteria laid down in the Commission's own Better Regulation Guidelines, as well as additional factors identified by the Parliament in its Impact Assessment Handbook, appear to be met by the IA. It does not attempt to deal with the substance of the proposal.

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