

ASSESSING THE IMPACT ON CLIMATIC FACTORS IN SEA AND EIA

Practical considerations



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Introduction

The comparative studies on [Strategic Environmental Assessments and Climate Change “Assessing the Impacts on Climatic Factors”](#) and on [Assessing the Impact on Climate in Environmental Impact Assessments](#) carried out by Justice & Environment have shown that environmental assessment of effects on climate is still a very abstract topic for all participants in both the Strategic Environmental Assessment (SEA)¹ and the Environmental Impact Assessment (EIA) procedures². Hence, the issue cannot be addressed methodologically like other assessment contents. Assessment of impacts on climatic factors is carried out in the context of uncertainty as well as politically and normatively set objectives. For “mainstreaming” climate change, which includes the integration of climate content into all policies, the SEA is an excellent tool for impact assessment of the highest strategic plans and programmes (PPs) on climate, both climate change mitigation and adaptation.

At this highest strategic level, it is important that strategic aspirations are designed in a way that yields effective contributions to achieving climate goals. That way, the coherence of the plan or programme (PP) will not be aligned only with the Paris Agreement or the EU Green Deal as well as national climate goals, but also with other strategic goals related to climate change (e.g. Agenda 2030 goals and national strategies). Through SEA, the compliance can be ensured. Projects must contribute as much as possible to climate change mitigation and adaptation. At the same time, sufficient resilience of the project itself to the anticipated effects of climate change is important. The EIA analysis showed that all participants in the EIA process need a better understanding of climate change and the reasons for taking it into account when planning projects and in the EIA itself. In a rapid degradation of the environment, facing critical points regarding climate and biodiversity, EIA can be a welcome and desirable instrument, not only contributing to the excellence of the project but to its long-term environmental sustainability. This will also become an important aspect for financing questions, especially the financial risk assessment carried out by banks.

¹ Under the Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L197/2001, p 30.

² Under the Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, OJ L 26, 28.1.2012, p.1-21 and the Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, OJ L 124, 25.4.2014, p. 1-18



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This guidance is focussed on considerations throughout the SEA that are important for assessing the impact of PP at the highest strategic national level on climatic factors as well as for the assessment of the impacts of projects on climate in EIA. The guidance is a complementary reading to the Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment³ and to the Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment.⁴ The other aim of this guidance is to bring climate consideration in the EIA closer to all stakeholders involved in the EIA, to create a meaningful link between climate policy and projects and make it understandable to investors and planners. As such, it is useful also for decision-makers, experts for environmental reports, NGOs and the general public in public consultations. It should be taken into consideration particularly in the SEA and EIA screening phase as critical assessment points.

³ European Commission (2013), available at <https://op.europa.eu/en/publication-detail/-/publication/41f79c6f-9d84-4b1d-b695-9e362f324a9b/language-en> (19 April 2023).

⁴ European Commission (2013), available at <https://op.europa.eu/en/publication-detail/-/publication/3ed0e578-7f24-4073-81c9-f279c6d4b3cf> (19 April 2023).

Climate mainstreaming Plans and Programmes

Mainstreaming or integrating climate change in planning and decision-making processes is a crucial tool to ensure climate change mitigation and adaptation in all policies. The European Parliament has declared a climate and environmental emergency in 2019.⁵ At a national and EU community level we must ensure that all PP and consequently the legislation and budget are fully aligned with the objectives of limiting global warming to below 1.5°C and with reaching climate-neutrality as soon as possible. The leading principle in aligning the national strategic PP with this climate goal must be taking urgent action before it is too late. This must be done in a participatory way, since *“enabling transformative change will require that all areas and levels of government work together and harness the ambition, creativity and power of citizens, businesses and communities”*.⁶

The process of climate mainstreaming encompasses:

- ✓ **integration and verification of the effects of/on climate change** (climate proofing development is viewed through a climate change lens), which should be coherent at different levels of decision-making;
- ✓ **incorporating climate change considerations into existing and emerging governance policies, programmes and strategies**, rather than developing climate change mitigation and adaptation initiatives separately;
- ✓ the **inclusion of "climate" considerations into the objectives of the PP**, ensuring that the planned activities pay the necessary attention to sustainability and social ecosystem resilience increase according to the expected and future conditions;
- ✓ in order to effectively address and integrate these considerations into PP, decisions need to be made on the basis of the **best available knowledge** and the broad involvement of stakeholders, who also contribute practical knowledge (from the field);
- ✓ the PP shall **contribute to the achievement of climate change objectives** (general and sectoral), both at EU level and in the international treaties (Paris Agreement): International, EU, national and sectoral objectives must be clear to the developers. The PP must be clear in explanation, how the PP will contribute to achieving these in relation to the existing situation;
- ✓ addressing climate content in PP based primarily on the **precautionary principle and the principle of sustainable development** as a key guide to modern planning.

⁵ Resolution 2019/2930(RSP).

⁶ European Environmental Agency, The European environment – state and outlook (2020) p. 17, available at <https://www.eea.europa.eu/soer/publications/soer-2020> (19 April 2023).

These aspects should be kept in mind from the beginning of planning. Consideration of climate change must not be rejected or postponed in the decision-making process “for later”, but needs to be accepted as a fact. These circumstances include the long-term and cumulative effects, the complexity of cause-and-effect relationships, and factors of uncertainty.

Special attention must be paid, both in planning and in the SEA process, to the important interconnectivity between climate change and the protection of biological diversity (biodiversity). Biodiversity loss is an equivalent global and threatening problem to climate change, and climate change is one of the five causes of biodiversity loss (in addition to habitat loss and fragmentation, overexploitation of natural resources, pollution, invasive alien species). Measures on climate change must not exacerbate the problem on the side of biodiversity. On the contrary, climate mitigation measures relying on nature-based solutions are the best option.⁷



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⁷ European Commission, Nature protection and nature restoration are the main objectives of the new EU Biodiversity strategy for 2030, COM(2020) 380 fin, available at https://eur-lex.europa.eu/resource.html?uri=cellar:a3c806a6-9ab3-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF (19 April 2023)

State of the environment and climate goals

When we plan strategically and in the SEA or EIA processes, two important areas must be taken into consideration: **What is the state of the environment and what are the climate goals?** A [list of relevant sources](#) that may be helpful in obtaining relevant information is published on the J&E website. As we receive new information every year, users should also consider updated versions of these documents.

Data on the state of the environment in relation to climate change can be drawn from the international, EU and national level:

- ✓ At an international level, the most important reports of the Intergovernmental Panel on Climate Change (IPCC) are the scientific support mechanisms for the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and for national GHG transmission reports.
- ✓ At an EU level, the European Environment Agency prepares an annual report on the state of the environment in Europe. States also report GHG emissions to both EU and UNFCCC bodies. They also prepare reports on the state of the environment at the national level.

The strategic PP bridges the current environmentally and climatically unsuitable situation (and its trends) and the goals needed to remedy the situation. Each project is a final and factual form of planned activities which will influence the environment over the long term. Therefore, we must have clear picture of the climate goals and objectives set on an international, UN and national general and sectoral level. There are **declared climate goals** on an international, EU and national level. Relevant documents include the [UNFCCC Paris Agreement](#),⁸ the [European 2050 Long-Term Strategy](#),⁹ [European Climate Law](#),¹⁰ the [EU Effort-Sharing-Regulation](#),¹¹ the [National Energy and Climate Plans \(NECPs\)](#)¹² and long term strategies. A detailed description can be found in the Annex to this guidance.

Mainstreaming climate change in PP and projects includes GHG reduction as well as **climate change adaptation**. Considering climate change adaptation in the SEA procedure is still underdeveloped and demands more attention. This includes an assessment of the impact/contribution of the PP on/to better adaptation and resilience to climate change at a time

⁸ <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> (19 April 2023)

⁹ https://ec.europa.eu/clima/policies/strategies/2050_en (19 April 2023)

¹⁰ Regulation (EU) 2021/1119 of the European Parliament and the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999

¹¹ Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013, OJ L 156/2018, p 26. (currently in revision)

¹² https://commission.europa.eu/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-energy-and-climate-plans_en (19 April 2023)

of future implementation in a more demanding environment. For climate change adaptation there are more instructions described later during the EIA assessment phase.

Adaptation measures are left to each country, as these need to be determined according to the situation in each area. From EU side, the process of adaptation is supported by the Climate Adaptation Strategy¹³ and the Climate Adapt Platform¹⁴. Several adaptation programmes within the United Nations are on-going. On national level, adaptation strategies should be adopted.

Benefits of projects' compliance with climate goals for investors

The aforementioned points also apply to projects and therefore it is crucial that the project itself is developed in a way that takes climate change into account in the sense of the precautionary principle. This approach is crucial, even though it may seem to some investors that climate change is not a significant issue since some climate risks seem to only affect them in the long term.

Early awareness and consideration of climate change in project development can also bring benefits to the investor:

- ✓ **Better knowledge and understanding of climate change-related risks** and opportunities, **better management of these aspects** and more thoughtful strategic planning of activities, especially as aggravation of environmental and climate requirements is to be expected. Larger companies are already subject to an annual non-financial reporting obligation, which includes reporting on measures taken and implemented in relation to climate change.
- ✓ **Potentially lower cost of capital**: European Commission Action Plan: Financing Sustainable Growth, in order to manage the financial risks arising from climate change, resource depletion, environmental degradation and related social issues, aims to redirect financial flows towards a more sustainable economy. Taking climate change into account in project planning will provide easier financing and better financial risk assessment.
- ✓ **Better reputation of the project and investor, better social acceptability** (responsibility) in the long run.

¹³ Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:82:FIN> (19 April 2023)

¹⁴ <https://climate-adapt.eea.europa.eu/> (19 April 2023)

The EIA procedure can help the investor evaluate risks that might not have been anticipated at first glance, such as:

- **possible negative impact on the climate:** direct GHG emissions, GHG emissions from energy production, GHG emissions from the production of materials by the future plant or emissions from the products themselves;
- **the risk of negative impact on the activity:** political risks (e.g. due to changed policies, new carbon price requirements, energy efficiency, etc.), legal risks (e.g. legal proceedings if the company does not prevent or reduce adverse effects on the climate), technological risks (expected more demanding new technologies in terms of climate impact), market risks (if consumers switch to products with a lower carbon footprint), risk of loss of reputation (for a company identified as climate-damaging or environmentally unfriendly it is more difficult to attract and retain consumers, workers, partners, and investors);
- **physical risks:** risks due to events resulting from climate change (sudden events such as extreme weather events and lasting changes in temperature, water, soil, biodiversity).

It is obvious that it is in the interest of projects' investors to encourage experts to assess the impact of the planned project on the climate as thoroughly as possible and take their recommendations into account. If a project cannot not contribute to climate change mitigation for professional/technical reasons, investors can still contribute to nature restoration in other ways.¹⁵

¹⁵ Carbon offset market, <https://www.offsetguide.org/understanding-carbon-offsets/carbon-offset-programs/mandatory-voluntary-offset-markets/> (19 April 2023)

Early phase of planning – climate change considerations

SCREENING PHASE IN SEA

As the main cause of climate are the ways of production and consumption, i.e. the actions of society as a whole, most strategic plans influence these actions in one way or another. This is the case even if they are not plans for which an SEA is mandatory according to the directive (namely PP for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects). The study showed that the impact of the PP on climate needs to be considered at the highest strategic levels of planning as broadly as possible, as it may also include planning for other areas relevant to climate change. It is not necessary that SEA is applied for each strategic PP, but it is essential that each PP takes climate change into account. This encompasses the necessary impact or contribution of the plan for reaching the climate change mitigation objectives as well as resilience to future changes due to climate change. Therefore, each plan needs to be considered thoroughly, as a potential channel towards climate neutrality. Given that the transition to a climate-neutral society requires comprehensive changes, mainly related to the way of production and consumption, only few strategic PPs can be exempt from the SEA.

Therefore, it is the obligation of bodies that prepare strategic PPs:

- carry out a SEA screening under national law as to whether SEA is required for the PP;
- even if the SEA does not need to be carried out, the planning process should involve environmental experts to guide the preparation of the plan to take climate change, biodiversity and environmental protection into account and the PP contributes to reach the set goals.

In the **screening phase** (Annex II of the SEA Directive), the assessment of the following is, among others, important:

- ✓ the relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development;
- ✓ environmental problems relevant to the plan or programme;
- ✓ the relevance of the plan or programme for the implementation of Community legislation on the environment (e.g. plans and programmes linked to waste management or water protection).

Especially regarding the latter, it is important to strive for climate neutrality, as the PPs guide the entire functioning of society, i.e. from patterns that generate the problem of climate change to patterns that will inhibit climate change and reduce GHG. Strategic PPs are also the basic

national framework for the implementation of EU legislation and international treaties and must ensure the achievement of the set goals.

The **key challenges** in environmental assessment regarding climate change are:

- | | | |
|--|---|--|
| <i>long-term and cumulative effects</i> | → | trends with and without the proposed plan should be considered; |
| <i>complexity of cause-and-effect relationships</i> | → | the impact of the PP on key climate trends and their carriers should be assessed; the “worst-case” and “best-case” scenarios should be applied; |
| <i>uncertainty - the “most difficult” circumstance of assessment</i> | → | the limitations of existing knowledge should be taken into account, both in the screening and scoping phase; limited knowledge and relative certainty of predictions for the future should not be a reason to avoid assessment; the precautionary principle should be fully activated and flexible management and monitoring of measures should be included in the PP in order to respond appropriately to future changes. |

In this context, in the planning process it is necessary to consider the question: To what extent can the PP contribute to the

- a) realization of sustainable development,
- b) implementation of environmental and climate policies and
- c) achievement of adopted goals and fulfilment of environment/climate commitments?

Some additional questions can be of help, such as:

- *Does the PP address issues that are important for reducing GHG emissions or climate change adaptation?*
- *Does the PP contribute to reducing GHG emissions - direct effects?*
- *Does the PP contribute to the reduction of GHG emissions - indirect effects (affects in reducing the energy use, affects more efficient energy use, increases the use of energy from renewable sources)?*
- *Does the PP contribute to changes in mobility towards sustainable mobility (encourages walking, cycling, public transport, car sharing, etc.)?*
- *Does the PP contribute to food self-sufficiency, consumption of home-grown organic food, reduction of food waste?*
- *Does the PP encourage a change in consumption habits: the use of second-hand items, repairs, instead of buying new products, the use of recycled materials?*

- *Does the PP promote the use of recycled materials and the circular economy?*
- *Does the PP promote waste reduction measures, especially plastic ones?*
- *Will the PP contribute to better adaptation to the climate change (increasing the resilience of ecosystems to climate change)?*
- *Does the PP contribute to the achievement of climate goals in a way that does not endanger biodiversity or rather contributes to biodiversity?*
- *Does climate change have a favourable or unfavourable effect on the plan, or can it be directly or indirectly vulnerable to climate change?*
- *Can climate change affect elements of the environment that the plan will potentially affect?*



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If the PP can contribute to the achievement of climate goals, then it should be subject to the SEA process to optimize its climate and environmental impact.

Each of the above questions also explains how the plan will contribute to climate change objectively. Oftentimes the PP is too generic and developed in a narrative form, more as a vision or roadmap rather than an actual strategy. In these cases, it is hard to answer the above questions. Therefore, the task of the drafters of the strategic plan is to clearly define the goals and objectives as well as the ways and actions to achieve them and to measure the progress.

SCREENING PHASE IN EIA

The EIA screening procedure is very important, especially regarding possible impacts on the climate. It is crucial to understand the link between the project and climate goals. It is necessary to identify the current climate targets at both the international and the national as well as on sectoral levels, and to clearly present how the project will contribute to achieving these targets and how it will adapt to future impacts of climate change.

The EIA process is also an instrument that helps the project planning to contribute to the achievement of climate goals. Any deviation from this should be justified by experts already in the screening phase and the competent authority should critically evaluate such assessment and possibly set additional requirements to ensure compliance of the project with environmental, specifically climate objectives (for mitigation and adaptation). If there are strong arguments why a project could not contribute to climate change mitigation, investors can still contribute to nature restoration in other ways.

Already by preparing the documentation for the screening procedure, it is necessary to pay attention to the climatic factors and to identify and present them (for the entire lifetime of the project):

- ✓ how the project will, directly or indirectly, increase or decrease GHG emissions;
- ✓ how climate change will have a beneficial or adverse effect on the project, directly or indirectly (vulnerability, project exposure);
- ✓ how climate change will affect the parts of the environment that will be affected by the project: measures to mitigate the identified impacts and to adapt to climate change.

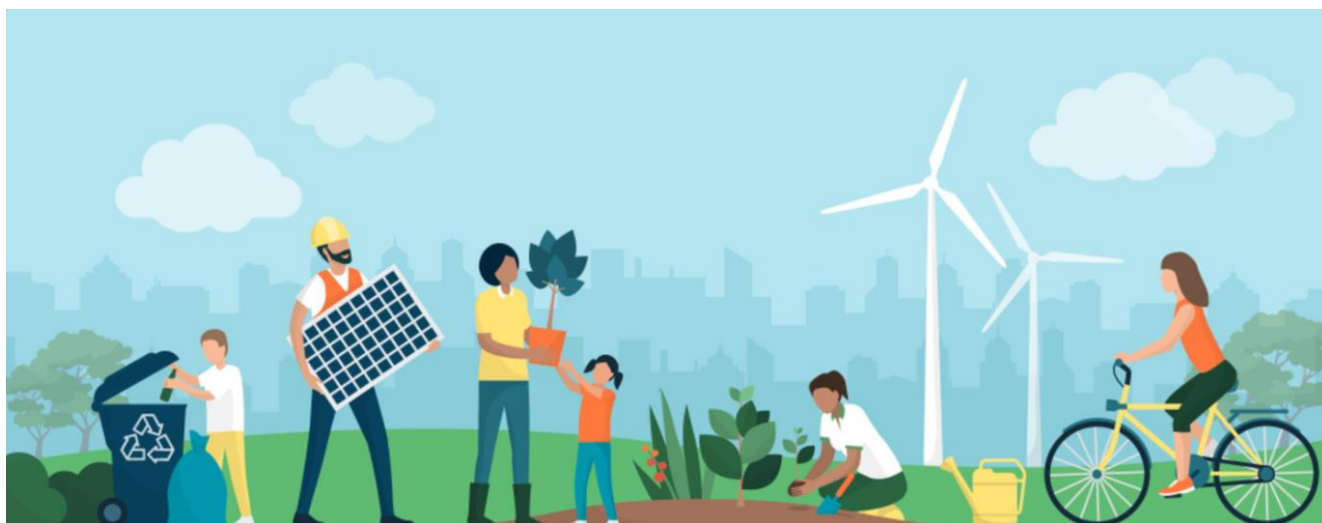
Climate mitigation issues

Regarding GHG emissions, it is necessary to assess the amount and intensity of GHG emissions for each individual element and phase of the project throughout the life cycle, which includes:

- the use of energy, the production of which causes GHG emissions: energy needs, broken down by devices, machinery and equipment, energy sources, display of energy flows; presentation of energy efficiency measures;
- GHG emissions caused by the manufacturing of raw materials required by the plant(carbon footprint of products);
- GHG emissions caused by traffic linked to the operation of the installation, taking into account all mobility (including the arrival of workers at work);

- identification of alternative options to avoid direct or indirect GHG emissions, e.g. other technologies, materials, nature-based solutions (such as green areas, trees, green infrastructure, renewable energy facilities).

The impacts of the project on climate may seem insignificant if we look at them separately, but not if we add them to all the other existing and future ones that are being planned. Therefore, the project's climate impact must always be placed in the context of a master plan or program that addresses the cumulative impacts of each area.



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Climate adaptation issues

The project must contribute to adaptation in the wider area of its intended operation, while also ensuring its own resilience and adaptation to the current and future consequences of climate change. Already in the phase of transitional assessment, it is necessary to identify and evaluate possible ways of adaptation to reduce the effects of climate change over the entire life cycle. Key considerations include:

- what are the possibilities of minimizing the risk, which can even bring benefits under different scenarios;
- "win-win" opportunities that have a positive impact on climate change, biodiversity and the ecosystem;
- reversible and flexible options for action, which can be changed at a later stage if significant climate change impacts occur;
- in the case of new investments, it makes sense to add a "reserve" field to ensure resilience to a range of future effects of climate change;

- soft adaptation strategies to strengthen adaptation capacity to ensure that the possesses a wide range of offset/adjustment possibilities (flexible planning and management based on monitoring);
- installation of nature-based solutions (e.g. unpaved and green areas that absorb rainfall, green areas and trees as a factor in regulating temperature, increasing carbon sinks).

Therefore, it is necessary to conduct project exposure and vulnerability assessments, which include:

- vulnerability of the project in relation to major natural and other disasters and to the effects of climate change (especially in relation to the location of the project);
- vulnerability analysis of the alternatives considered;
- an assessment of the risk exposure of the site and the potential impact zone;
- risk assessment in terms of possible effects;
- a description of the adaptation to the effects of climate change for the planned activity.

Due to all the above, it is very important that the documentation and assessment of the anticipated impacts of the project are prepared comprehensively and in depth at this stage. Only this way can be ensured that the competent body has enough information for quality assessment of whether it is necessary to carry out an EIA due to the anticipated impacts of the project on the climate.

Impact assessment on climatic factors in SEA

In particular, regarding the impact of the PP on climatic factors, it is essential that the SEA assess the PP in the way to ensure they will make a sufficient contribution to achieving the climate goals. Only positive impact of the PP on climate is not sufficient, the main criterion for assessment must be the *necessary* impact on climate change mitigation and adaptation of the PP to achieve the climate goals. **If the strategic PPs are not ambitious enough, it is not possible to expect the climate goals to be achieved at a lower, implementation level.** We need to follow this imperative in the context of the SEA, as we live in extreme environmental and climatic conditions in which it cannot be acceptable to generate further negative impacts on climate factors and biodiversity.

In addition, it is crucial to **assess the impact of the PP on reducing or increasing the impacts (consequences) of climate change on other spatial activities** and the impact of climate change on the PP. All with the utmost consideration for the protection of biodiversity and, of course, other parts of the environment.

Evaluating these impacts is not an easy task. It requires a broad knowledge of strategic planning, the state of the environment, climate goals and documents, and other strategic plans. This work needs to be approached by a team effort with an in-depth analysis in the context of an individual strategic PP, its purpose, and goals. It is necessary to detach focus from searching only the parts of PP that are basis for future projects and shift the view on comprehensive assessment in the view of the changes in society and the environment that the PP wants to develop.

SCOPING PHASE

In this phase, the goals of the plan are selected. It must be evaluated which parts of the plan are likely to have a significant impact on which parts of the environment and in terms of climate and which ones are likely to be (environmental) climate goals to be considered. This evaluation is based on the knowledge of the state of the environment regarding climate change, the trend of these changes and carried out in the context of current climate policies and objectives. GHG emissions are the main, but not the only concern.

In defining environmental-climate goals, it makes sense to consider climate goals and sub-goals independently. The environmental objective can thus be “climate change mitigation and adaptation”, which should have several sub-objectives, such as: greater energy efficiency, higher share of renewable energy sources in final use, lower energy consumption, increased mobility while reducing energy use, significant carbon sinks, increased resilience and adaptability as well as reducing exposure to the effects of climate change. However, other sectoral climate targets (in the fields of agriculture, waste management, widespread use) may also be included.

Criteria for evaluating the impacts of the PP need to be developed ambitiously and with special attention for the context of climate change. An environmental report that sets the criteria for evaluating the effects on climate factors too low will miss its purpose. For example, even if they are not yet normatively defined, it is necessary to consider more ambitious goals that are currently being negotiated. The setting of criteria for climate change is a key part of the SEA process, which influences the most optimal integration of climate change into the plan. The criteria for the highest assessment of the acceptability of the PP's impacts should be based on exceeding the politically set climate targets in each area. According to data and scientific projections it is obvious that politically set climate goals so far are lower than the goals necessary to stop global warming at 1.5°C compared to pre-industrial times.



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EVALUATING THE IMPACT IN THE ENVIRONMENTAL REPORT

If the SEA procedure is started at the earliest stage of strategic planning, the principle of sustainable development will be best integrated into the PP and it will optimize its potential towards climate/environmental goals. Planning should be approached in an integrated, ecosystemic way, considering constraints and thresholds. Due to climate change (and biodiversity protection), effective flexible management/implementation must be incorporated into the PP. In doing so, the SEA process helps to design a plan based on the following considerations:

- What alternatives exist to address climate change? How would their implementation affect climate change?
- How can we avoid negative impacts on the climate change and if we cannot do so, how can they be reduced or offset? How can positive impacts on the climate be maximized?
- How can climate change measures be included in a PP?

The environmental report should clearly explain how findings and provisions concerning climate content, tailored to the specific objectives of the PP, has been identified, how uncertainties have been addressed, how appropriate scenarios have been selected (IPCC reports!) and how considerations of climate change can be (better) integrated into the final PP and should finally include proposals for mitigation measures. The state of the environment (present and expected impacts, vulnerability), indicators and impacts of the PP (how the plan will mitigate climate change, how it affects better adaptation and how the PP is adapted to climate change) must be presented. The attitude towards other plans must be explained.

It is necessary to:

- ✓ **take into account climate change scenarios:** possible extreme weather situations and major surprises that could affect the implementation of PP or worsen their impact on the environment;
- ✓ **analyse evolving baseline trends,** including trends in main content of PP over time, in terms of drivers of change (direct and indirect), constraints, areas that may be particularly affected, critical interdependencies, who gains/loses; vulnerability assessment (with assessment of the region's or sector's ability to adapt to climate change) and identification of the most resilient alternative.
- ✓ assess the **alternatives in terms of different effects on climate change and biodiversity** (through an overview of needs, implementation process, locations, time frames and alternatives that improve ecosystem services); given the uncertainty about the nature of the potential risks, it is better to propose “no-regret” or “low-regret” measures than to risk major problems during the implementation of the PP;
- ✓ **seek the opportunities for improvement** while aligning PP with the relevant objectives and priorities of other climate change and biodiversity policies;
- ✓ assess the **synergic and cumulative effects** of climate change and biodiversity;
- ✓ ensure that climate change mitigation **measures do not have negative effects on adaptation.**

The SEA is an invaluable tool for strategic planners to plan truly sustainably and towards climate neutrality as soon as possible.

Impact assessment on climate in EIA

SCOPING PHASE

If an EIA needs to be carried out, the scoping phase regarding the assessment of the project's climate impacts is crucial, especially due to the uncertainty explained above. If requested, the competent body should provide comprehensive guiding information about the scope and content of the environmental impact report regarding the climate impact assessment. Although this phase is not mandatory, it can bring many benefits: key aspects already foreseen by the investor can be confirmed or new ones can be identified by the competent authority. Moreover, it initiates early thinking about alternatives and mitigation measures. This can save time and money, because later updates to the report become unnecessary and the competent authority is engaged at an early stage. Determining the scope and depth of the environmental impact report also represents some predictability regarding the assessment of the required input (labor, time and financial).¹⁶

EVALUATING THE IMPACT IN THE EIA REPORT

Preparing a climate assessment impact report is by no means an easy task. There are no uniform and comprehensive methodologies for assessing the impact of a whole range of different projects, nor are there (at least visible) examples of good practice that can be followed.¹⁷ It is necessary to approach on a case-by-case basis,¹⁸ reasonably, using the existing knowledge, the precautionary and no-harm principles. All necessary considerations should be set before the report is prepared and are described in the screening chapter. The report itself, however, will require in-depth analysis and evaluation.

The report must include a definition of how the baseline environment will change due to climate change, using multiple climate scenarios and an assessment of the project's impacts on this changing baseline.

¹⁶ Environmental Impact Assessment of Projects, Guidance of Scoping, <https://circabc.europa.eu/ui/group/3b48eff1-b955-423f-9086-0d85ad1c5879/library/38742302-d9d2-41e1-85de-aa88653e7c/details> (19 April 2023)

¹⁷ For more detail see the [J&E summary and recommendations on climate assessments](#).

¹⁸ In separate document a number of [methodological tools and guidelines](#) are collected to help experts who prepare an environmental impact assessment report regarding climate - usually a combination of them is necessary.

To define the evolving baseline, it is necessary to:

- ✓ identify trends and key indicators over time (e.g. GHG emissions, vulnerability indicators, projected frequency of extreme weather events, risk of major accidents);
- ✓ identify drivers of changes (direct and indirect) that may lead to certain trends (e.g. projects already approved (or planned) but not yet implemented);
- ✓ identify critical interdependencies (e.g. water supply and municipal wastewaters treatment systems, flood protection, electricity supply, etc.);
- ✓ compliance with the threshold values - which have already been reached or are expected to be reached;
- ✓ the scenarios also include extreme phenomena, climate consequences, and “big surprises” that will affect the project or lead to a deterioration of its impact on climate, biodiversity, environment.

The assessment of the impact of the project on the climate shall be carried out considering the evolving **baseline environment** thus identified. Both the extent and even more the importance of individual impacts must be taken into account. The complexity of this should not discourage the analysis of direct and indirect impacts. Considering the uncertainty of projections, the expected impacts need to be described: what is known should be defined with a certain degree of probability, and what is relatively little known also stated.

The following general considerations are important for the evaluation of impacts:

- ✓ It is necessary to assess the exposure and vulnerability not only to the effects of climate change itself, but also in terms of which **environmental, social, and economic aspects** are exposed to short-term and long-term changes in climate or extreme weather events.
- ✓ **The long-term and cumulative effects of climate change require attention**, causal chains or networks must be envisaged to understand the interconnections and cumulative effects of project impacts on and between elements (especially positive or negative interactions between climate change and biodiversity).
- ✓ **Identification of alternatives and mitigation measures**: a vulnerability assessment must be built into both the baseline assessment and all alternatives in order to select the most resilient alternative.
- ✓ Regarding climate mitigation, **alternatives must be sought to reduce GHG emissions**, such as other technologies, materials, supply models, protection, restoration and establishment of natural sinks (green infrastructure), planning of offset measures, low carbon footprint production materials, effective measures energy use in all phases, supply of energy from renewable energy sources, reduction of GHG emissions related to transport (choice of location close to public passenger transport, preparation of a mobility plan, promotion of public transport, cycling, walking,
- ✓ Regarding adaptation to climate change, key considerations need to be made not only about the project's adaptation to climate change, but also about **the project's contribution to better adaptation of the wider area** (described in the screening chapter). Measures are likely to be needed regarding rainwater and flood protection to ensure greater soil stability, resistance to wind, hail, high temperatures, then also measures regarding possible forest fires, water availability and air quality.
- ✓ **Monitoring and flexible management**: although not required by the EIA, it is crucial, in particular regarding climate change, to ensure the monitoring, evaluation and action accordingly during the life cycle in terms of flexible management.

ANNEX – Overview on climate goals

At **international level**, according to Paris agreement the target is to keep global warming significantly below 2°C, or rather 1.5°C compared to pre-industrial times. The IPCC special report on 1.5°C has shown that this is a necessary target, as global warming above this limit will have unmanageable consequences of climate change. This commitment was made EU and member states by the Paris Agreement and represents a continuation of the efforts of the signatories of the UNFCCC. It is also part of the 13th of 17 Sustainable Development Goals -: An Agenda for Sustainable Development by 2030 (climate goal). The goal is to take urgent action to combat climate change and its consequences. Among its objectives there is the incorporation of climate change measures into policies, strategies and plans at national level.

The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and its Protocol on Strategic Environmental Assessments (Kiev Protocol) and the Sendai Agreement on Disaster Risk Reduction are also important at the international level in terms of climate change and strategic assessment.

At **EU level**, the European Parliament declared a Resolution on the Climate and Environment Emergency already in 2019. The European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy “Clean Planet for All” has set climate neutrality as a general objective by 2050 and now the European Climate Law stipulates the same approach, even more, it sets that binding 2030 climate target shall be a domestic reduction of net greenhouse gas emissions (emissions after deduction of removals) by at least 55 % compared to 1990 levels by 2030. The European Green Deal calls for the reform of social and economic policies towards a fair transition to a sustainable society and the revision of many climate-related directives and regulations is in the process of revision and change. Countries have adopted national energy and climate plans (NECPs) and are adopting long-term climate strategies.

Achieving climate neutrality (i.e. GHG emissions minus sinks = 0) is crucial for decisive action by 2030. According to the United Nations Emission Gap report (2019),¹⁹ global GHG emissions should be reduced by 7.6 % per year in this decade.

To have clear picture of climate goals and objectives it is important to understand the **baseline year**, i.e. the year on which the GHG emission reductions are measured. The UNFCCC did not set a baseline year until the Kyoto Protocol to the Convention. It set the year 1990 as the starting year, and countries were able to choose a different year. The EU has chosen 2005.

Another important factor in understanding the objectives is the fact that **the EU divided climate action into two parts in 2005**:

¹⁹ <https://www.unenvironment.org/resources/emissions-gap-report-2019> (19 April 2023)

1. The **GHG emissions trading sector (ETS)**, which includes large installations in which the activity that causes GHG (especially energy, industry and commercial aviation) is carried out. The companies receive or buy emission allowances, which they can trade with one another and are responsible to achieve the GHG emission targets.
2. The **non-ETS sector** consists of all other activities that cause GHG emissions - transport, agriculture, buildings, waste management, consumer goods, and other sectors. Member States are responsible for achieving the goals in the ETS sector.

The current targets for reducing GHG emissions by 2030 at EU level are to reduce GHG emissions by 55 % compared to 1990 and the targets for energy from renewable sources (currently still 32 %), and to increase energy efficiency (currently 32.5 %, which applies to the ETS and the non-ETS sector together) are in revision.

On 18 May 2022, the Commission published the **REPowerEU plan**²⁰, which sets out a series of measures to rapidly reduce EU's dependence on Russian fossil fuels well before 2030 by accelerating the clean energy transition. The REPowerEU plan is based on three pillars: saving energy, producing clean energy and diversifying the EU's energy supplies. As part of its scaling up of renewable energy in power generation, industry, buildings and transport, the Commission proposes to increase the target in the directive to 45% by 2030.

For the national level, the current targets are set in the Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030, contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 (**Effort Sharing Regulation**) which is currently under revision. Each Member State, however, set climate goals in the national energy and climate plans, long-term climate strategies and climate acts (if they are adopted). At EU level, sectoral targets for renewable energy sources and energy efficiency are also set, and at national level, other sectoral targets exist.

For reaching climate neutrality the carbon sinks are also important. EU Member States must ensure that greenhouse gas emissions from land use, land use change or forestry are offset by at least an equivalent removal of CO₂ from the atmosphere in the period 2021 to 2030 (the Land Use, Land Use Change and Forestry - LULUCF sector).

A compilation of relevant information can be found in the [J&E info sheet on climate mitigation advocacy](#).

²⁰ https://commission.europa.eu/publications/key-documents-repowereu_en (19 April 2023)

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